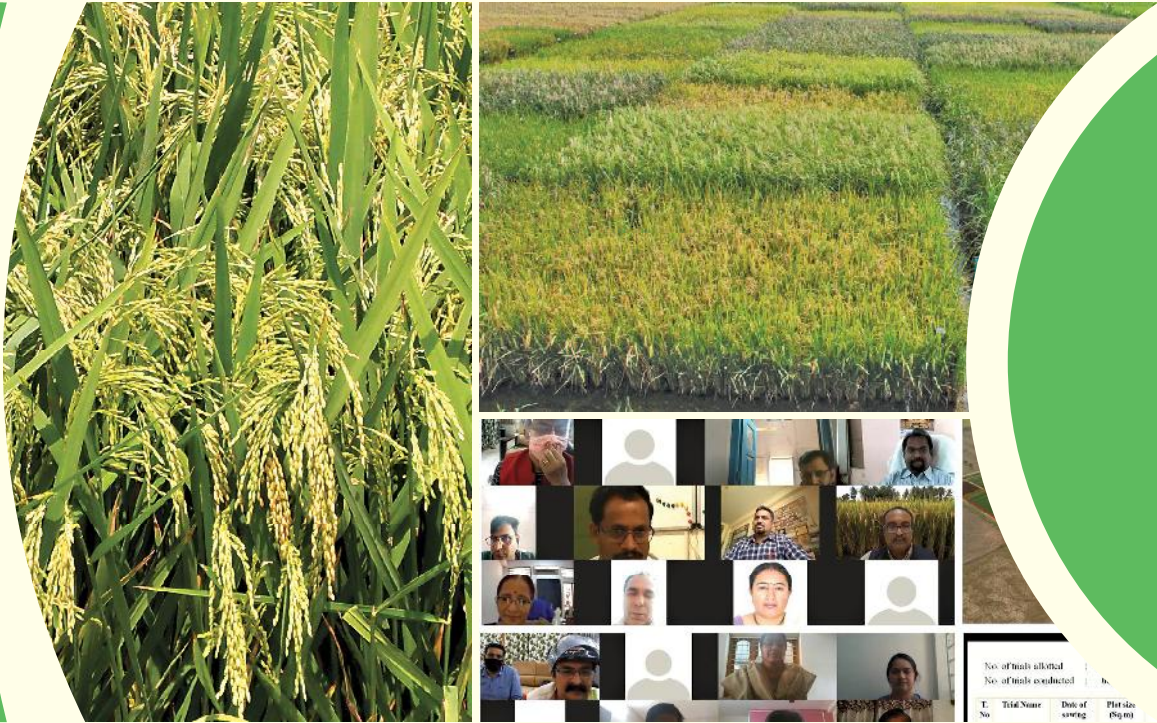




# प्रगति प्रतिवेदन Progress Report

## Volume 1: Varietal Improvement

### अखिल भारतीय समन्वित चावल सुधार परियोजना All India Co-ordinated Rice Improvement Project



# 2020



भाकृअनुप-भारतीय चावल अनुसंधान संस्थान  
भारतीय कृषि अनुसंधान परिषद

**ICAR-Indian Institute of Rice Research**  
Indian Council of Agricultural Research  
Rajendranagar, Hyderabad - 500 030

# **PROGRESS REPORT 2020**

**Vol.1**

## **VARIETAL IMPROVEMENT**

All India Coordinated Rice Improvement Project

**ICAR – Indian Institute of Rice Research**

Rajendranagar, Hyderabad-500030, T.S., India;

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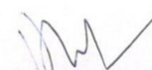
**ICAR-Indian Institute of Rice Research, 2021  
Progress Report, 2020, Vol.1, Varietal Improvement  
All India Coordinated Rice Improvement Project  
ICAR-Indian Institute of Rice Research  
Rajendranagar, Hyderabad – 500 030, T.S, India.**

## PREFACE

ICAR-Indian Institute of Rice Research (IIRR) is a premier rice research institute in the country. ICAR-IIRR through “All India Coordinated Rice Improvement Project (AICRIP)” coordinates the multi-disciplinary and multi-location testing of varietal improvement, crop protection and crop management technologies across diverse ecosystems for increasing and stabilizing rice production in India. ICAR-IIRR, ICAR-NRRI and ICAR-IARI being the nodal agencies facilitates collective planning, supply and exchange of improved germplasm and experimental material, for evaluation, trial monitoring, data collection, compilation, analysis and documentation. ICAR-IIRR, ICAR-NRRI and ICAR-IARI have monitored the conduct of trials at some of the funded and voluntary centres in their respective ecologies both in virtual and physically. More than 300 scientists at 45 funded cooperating research centres and about 72 voluntary centres affiliated to various State Agricultural Universities, State Departments of Agriculture, ICAR Institutions and private sector organizations carried out the planned activities of Breeding, Entomology, Pathology, Agronomy, Soil Science and Plant Physiology disciplines.

The results of 46 breeding and 4 hybrid trials conducted at various locations across the country during *Kharif*, 2020 are presented in this volume. Developing varieties/hybrids with biotic/abiotic stress tolerance and desirable quality that are suitable for the diverse ecologies is a challenging task for the rice breeder which is pursued with utmost perseverance. Determined efforts are being made to usher in green revolution to eastern India by testing and validating suitable varietal technologies for the prevalent fragile ecosystems like rainfed uplands, lowlands, semi-deep and deep water ecologies. Varieties for different soil stresses and cold tolerance for high altitude areas under upland and irrigated conditions is also being addressed. Conventional and molecular breeding approaches are being utilized to break the stagnated yield barrier in the irrigated ecology which contributes >60% of total rice production. Efforts are also underway towards developing rice hybrids with higher heterosis levels among various duration groups, and medium slender grain type hybrids to satisfy the needs of discerning south Indian farmers and consumers. Another priority area is the development of export quality basmati and indigenous short grain aromatic varieties with essential quality characters to meet the preference of both export and domestic markets. Further, Near Isogenic Lines (NILs) developed with resistance to biotic (blast, bacterial blight and gall midge) and abiotic (drought and submergence) stresses are under testing. While emphasis on boro rice improvement continues, efforts to identify material suitable for newly emerging challenges like limited water situation are also being addressed through aerobic trials. Additionally, on pilot basis, trials have been initiated on “New Plant Type (NPT)” and “Nutrient Use Efficiency (NUE) – Nitrogen and Phosphorous”. Breeder seed production of 320 rice varieties was organized at 44 locations as per the DAC indents. ICAR-IIRR also evaluated 34 candidate varieties, 8 Farmers Varieties and 6 extant varieties (VCKs) for DUS testing. Additionally, the strong partnership with IRRI, Philippines provides access to global elite rice germplasm with the exchange of breeding lines through “The International Network for Genetic Evaluation of Rice (INGER)”. Delayed monsoon has been a regular phenomenon owing to climate change therefore; efforts are being made to identify suitable varieties for late sown conditions.

I greatly appreciate the efforts of the principal investigator, scientists, technical, administrative, project and field staff in the Plant Breeding team of this Institute and all the cooperating scientists from both funded and voluntary centres for bringing out this volume.



**(D.Subrahmanyam)**  
Director





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## SUMMARY

All India Coordinated Rice Improvement Project (AICRIP) conducts and coordinates multidisciplinary and multi-location evaluation of elite cultures, crop management and crop protection technologies in different agro-climatic zones of the country to enhance rice production. ICAR-Indian Institute of Rice Research (IIRR) under Irrigated ecology, ICAR-National Rice Research Institute (NRI) under rainfed ecology and ICAR- Indian Agricultural Research Institute (IARI) of basmati, coordinate and conduct these trials. A total of 50 trials (46 varietal trials and 4 hybrid rice trials) were conducted in 806 experiments (654 varietals and 152 hybrid rice) at 123 locations (45 funded, 78 voluntary centres) in 28 states and 2 union Territories across seven zones of the country during 2020 which is the 56<sup>th</sup> year of AICRIP testing. Hybrid rice experiments were conducted by 10 private seed companies. The 50 trials were constituted with 1443 entries (1352 varietal and 91 hybrid rice) including 229 checks. The overall data receipt was 70.59% of which 79.38% and 59.36% data was received from funded and voluntary centres respectively. The Rice AICRIP testing program is structured into a three-tier system of Initial Variety Trial, Advance Variety Trial-1 and Advance Variety Trial-2 so as to identify the best yielding lines across zones in rice growing ecologies. The primary research objective in the unfavourable rainfed lowland is to develop long duration and submergence/drought tolerant high yielding varieties. Major emphasis was laid on identifying the best lines combining high yield with superior grain quality, resistance to diseases and insect pests in irrigated ecology following conventional and heterosis breeding methods.

The MAS products with introgressed genes/QTLs conferring tolerance/ resistance to drought, submergence, salinity, BLB and blast are verified and validated in trials on Near Isogenic Lines. Improvement in grain quality along with high yield potential was focussed in Basmati and Aromatic short grain trials. Alkaline and inland saline as well as coastal saline tolerant variety trials are evaluated to identify the stress tolerant elite cultures. In view of the growing water scarcity, Aerobic trials were constituted to identify appropriate genotypes for aerobic method of rice cultivation. Separate NPT trial was conducted to evaluate the yield performance of entries derived from *indica/tropical japonica* crosses with ideal plant type traits including strong culm, more grain number with low unproductive tillers. The genetic improvement of rice genotypes with tolerance to low phosphorus and nitrogen was addressed to minimize usage of nitrogenous and phosphatic fertilizers thereby reducing cost of rice production.

### LIST OF COORDINATED TRIALS, KHARIF 2020

Varietal Trials				Hybrid Trials
Ecosystem	AVT 2	AVT 1	IVT	IHRT
Rainfed Upland- DS		AVT 1-E DS	IVT-E-DS	
Rainfed shallow lowland		AVT 1-RSL	IVT-RSL	
Semi-deep water		AVT 1-SDW	IVT-SDW	
Deep water			IVT-DW	
Early - TP	AVT 2-E TP	AVT 1-E TP	IVT-E TP	IHRT-E
Mid Early		AVT 1-IME	IVT-IME	IHRT-ME
Medium	AVT 2-IM	AVT1-IM	IVT-IM	IHRT-M
Late		AVT1-Late	IVT-Late	
Boro		AVT 1-Boro	IVT-Boro	
Basmati		AVT 1-BT	IVT-BT	
Aromatic short grain			IVT-ASG	
Saline alkaline		AVT 1-AL & ISTVT	IVT-AL & ISTVT	
		AVT 1-CSTVT	IVT-CSTVT	
Hills		AVT1-E (H)	IVT-E(H)	
		AVT1-M (H)	IVT-M(H)	
		AVT 1-U (H)	IVT-U(H)	
			IVT-LR (H)	

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Varietal Trials				Hybrid Trials
Ecosystem	AVT 2	AVT 1	IVT	IHRT
Aerobic		AVT1-Aerobic	IVT-Aerobic	
Bio-fortification		AVT 1-Biofort	IVT-Biofort	
Medium Slender Grain		AVT 1-MS	IVT-MS	IHRT-MS
Near Isogenic Lines (CS)		AVT 1-NIL (CS)		
Near Isogenic lines (Drt)		AVT 1-NIL (Drt)		
Near Isogenic lines (Sub)		AVT1-NIL (Sub)		
Near Isogenic Lines (Bl, BLB)		AVT 1-NIL (Bl & BLB)		
Low Phosphorus Tolerance		AVT 1-LPT	IVT-LPT	
Low Nitrogen Tolerance		AVT 1-LNT	IVT-LNT	

**Particulars of Zones, States and test Locations**

Region / State	Locations	
	Funded	Voluntary
<b>ZONE I – HILLY AREAS</b>		
<b>North Western Hills</b>		
Jammu & Kashmir	Khudwani (1)	Rajouri, Wadura, Pombay (3)
Himachal Pradesh	Malan (1)	Palampur, Dhaulakhan, Sundernagar, Bajaura (4)
Uttarakhand		Almora, Bageshwar, (2)
<b>North Eastern Hills</b>		
Manipur	Wangbal (1)	Imphal-CAU (1)
Nagaland	Kohima (1)	
Sikkim		Gangtok (1)
Meghalaya	Upper Shillong (1)	ICAR-Umiam, CAU-Umiam (2)
West Bengal		Kalimpong (1)
<b>Southern Hills</b>		
Karnataka	Ponnampet (1)	Sirsi (1)
<b>ZONE II – NORTHERN</b>		
New Delhi		IARI- New Delhi (1)
Uttarakhand	Pantnagar (1)	
Punjab	Ludhiana (1)	Gurdaspur, Kapurthala, Rauni (3)
Haryana	Kaul (1)	Karnal (CSSRI), Palwal, Jind, Kurukshetra, Panipat (5)
Uttar Pradesh	Nagina, Kanpur (2)	
Jammu & Kashmir	Chatha (R.S. Pura) (1)	
Rajasthan	Kota (1)	Banswara (1)
<b>ZONE III – EASTERN</b>		
Orissa	Jeypore, Chiplima (2)	Bhubaneswar, NRRI (Cuttack), (2)
Bihar	Bikramganj (Patna), Pusa (2)	Patna- ICAR, Sabour(2)
Jharkhand	Ranchi (1)	Hazaribagh, Gharkatanga (2)
West Bengal	Bankura, Chinsurah (2)	Canning, Pundibari, Chakdha, Hathwara (4)
Uttar Pradesh	Masodha ,Ghaghrahat, Varanasi (3)	Lucknow, BEDF-Modipuram, Gautam Budha Nagar, SVPUAT, Meerut (4)
<b>ZONE IV – NORTH EASTERN</b>		
Assam	Titabar (1)	Gerua, Karimganj, Shillongani (3)
Manipur	Wangbal (1)	Lamphalpat, (1)
Tripura	Arundhutinagar (1)	Lembucherra (1)
<b>ZONE V – CENTRAL</b>		
Madhya Pradesh	Rewa (1)	Waraseoni, Jabalpur (2)
Chhattisgarh	Raipur, Jagadapur (2)	Bilaspur, Ambikapur (2)
Maharashtra	Sakoli (1)	Sindewahi (1)
<b>ZONE VI - WESTERN</b>		
Maharashtra	Karjat, Tuljapur (2)	Panvel, Radhanagari, Shirgaon, Phondaghat, Vadagaon, Parbhani, Palghar (7),
Gujarat	Nawagam, Navsari (2)	Derol, Vyra, Danti, Dabhoi, (4)
Goa		Goa (1)
<b>ZONE VII - SOUTHERN</b>		
Andaman & Nicobar		Port Blair (1)
Andhra Pradesh	Maruteru (1)	Ragolu, Bapatla, Machilipatnam, Nellore, (4)
Telangana	Rajendranagar, Warangal (2)	IIRR, Jagtial, Kunaram, Rudrur, Kampasagar (5)
Tamil Nadu	Aduthurai, Coimbatore (2)	Trichy, Annamalaiagar, Tirur, (3)
Kerala	Moncompu, Pattambi (2)	Vytila (1)
Karnataka	Mandya, Mugad, Ponnampet, Brahmavar, Gangavati (5)	Sirsi, Malagi, Kumta (3)
Puducherry	Kurumbapet (1)	Karaikal (1)
<b>Total locations</b>	<b>45</b>	<b>78</b>

## **IRRIGATED ECOSYSTEM**

### **Irrigated Early Transplanted**

#### **AVT-2E -TP**

Of thirteen entries evaluated in AVT-2E-TP across 6 zones namely Zone II, III, IV, V, VI and VII, the following nine entries have been identified as promising for different states.

- IET 27892 & IET 26898: Odisha and Bihar (zone 3)
- IET 27866: Odisha, Bihar and West Bengal (zone 3); Maharashtra (zone 5)
- IET 27914: IET 27905 & IET 27880: Bihar and West Bengal (zone 3)
- IET 27332: Bihar, Jharkhand and West Bengal (zone 3)
- IET 27340 & 27329: Jharkhand (zone 3)

#### **AVT-1E -TP**

Of seventeen entries evaluated in AVT-1E-TP across 6 zones namely Zone II, III, IV, V, VI and VII, three entries on overall mean basis, eight entries on zonal mean basis are promoted to AVT-2E-TP and based on duration one entry is shifted to IVT-E (DS) as mentioned below.

- **Overall:** IET Nos. 28332, 28343 and 26790
- **Zone III:** IET Nos., 28354
- **Zone IV:** IET Nos. 28354, 28358, 28356
- **Zone V:** IET Nos. 28329, 28111 (H), 28356, 28115 (H)
- **Shift to IVT-E (DS):** IET 28366

#### **IVT-E-TP**

Of 61 entries evaluated in IVT-E-TP across 5 zones (III, IV, V, VI and VII), one entry on overall mean basis and 3 entries on zonal mean basis are promoted to AVT-1E-TP and 3 entries are shifted to IVT -E (DS), IME, Late; and one entry repeated in IVT-E trial as listed below.

- **Overall basis:** IET 29142
- **Zone V:** IET No. 29177, 29193
- **Zone VI:** IET No. 29140
- **Shift to IVT-IME:** IET No. 29188, 29189
- **Shift to IVT- E(DS):** IET 29197
- **Shift to IVT-Late:** IET 29152
- **Repeat in IVT-E:** IET 29173



## Irrigated Mid Early

**AVT 1-IME:** Of 52 entries evaluated in 6 zones (II, III, IV, V, VI and VII), only one entry IET 28396 was found to be promising (Zone II) and promoted to AVT-2-IME.

A total of 10 Near Isogenic lines (NILs) were tested in AVT 1-IME trial along with their recurrent parents. Three NIL's are in the genetic background of MTU 1010 (Two NILs with *Saltol* QTL and one with *Xa21* and *Pi54*), two NIL's in IR64 Sub1 (Drought QTL *qDTY 2.2*), one NIL in NLR 34449 (*Xa21* and *Pi1*) and four NILs in Naveen background (Two NILs with *qBPH 4.3* and *qBPH 4.4*; Two NILs with herbicide tolerance) were tested in AVT 1-IME. None of the NILs were found to be promising and promoted to AVT 2-IME. NILs in the genetic background of IR 64 Sub 1 were to be repeated as yield data from Bihar state and submergence tolerance data are not available.

**IVT-IME:** Of 61 entries tested across 25 locations in 5 zones (Zone II, III, IV, V and VI).

- **Overall:** none of the entries were found promising with >5% yield gain over the best check and promoted to AVT-1-IME
- **Zone II:** IET Nos. 29229, 29226, 29239, 29251, 29228, 29216, 29219, 29247, 29218, 28380 and 28357
- **Zone III:** IET Nos. 28238, 28374, 28380, 28506, 29212, 29214, 29215, 29216, 29218, 29219, 29229, 29230, 29236, 29238, 29239, 29243, 29246 and 29250
- **Zone IV:** Data not evaluated
- **Zone V:** IET No. 29219
- **Zone VI:** IET Nos. 28353, 28378, 28380, 29212, 29217, 28369, 29230, 29233, 29235, 29236 and 29250
- **Zone VII:** None of the entries were found promising with >5% yield gain over the best check and promoted to AVT-1-IME in zone VII.

## Irrigated Medium

### AVT2-IM

Five entries recorded required yield superiority in eastern (IETs 27263, 27380 [H], 25530, 27387 [H] and 27689) and two entries in southern (IETs 27686 and 27705) zones.

- IET 27263 is discontinued due to low HRR both in 2019 and 2020
- IET 25530 is promising for Odisha and Bihar
- IET 27380 is discontinued due to inconsistency in yield performance
- IET 27387 is promising for Odisha and Chhattisgarh
- IET 27689 is promising for Odisha, hence state proposal may be made
- IET 27686 is promising for Andhra Pradesh and Telangana
- IET 27705 is promising for Andhra Pradesh, Telangana and Karnataka

### **AVT2-IM-NILs**

- IET 28783 is discontinued due to its inferior performance over its RP under salinity stress conditions. Also, it is differing in grain type with RP and has high AC of 26.25% with hard GC of 22 mm (inferior grain quality traits).
- Owing to on par yield performance with RP, BLB resistance, acceptable quality parameters and similarity in the grain type with RP, IET 27280 is promising for the Akshaydhan growing regions of the country.
- IETs 28791 and 28789 were not statistically on par with tolerant check under submergence conditions. Further, IET 28791 differed in grain type with RP and IET 28789 recorded very low HRR of 42.6%, hence both are dropped.
- IET 28017 is significantly inferior to RP in 2018 under rainout shelter and in 2018 and 2019 under moderate stress. It is statistically not on par in performance with TC under drought stress (rain out shelter) in 2020. IET 28018 is significantly inferior to RP in 2018 and 2020 under rainout shelter and in 2018 and 2019 under moderate stress. Further, it is statistically not on par with TC under drought stress in rainout shelter during 2020 and under moderate stress in 2019. Quality wise, both IETs 28017 and 28018 are inferior with high AC 25.75 to 27.22 % and hard GC of 22-25 mm during 2018-2020, hence discontinued.

### **AVT1-IM**

On overall basis, only one hybrid entry IET 28160 (HRI 202) and one varietal entry IET 28481 and on zonal basis 7 entries (4 varietal and 3 hybrid) viz., IETs 27900, 28444, 28439, 28159 (H), 28171 (H), 28163 (H) and 28472 recorded required yield superiority over BVC (and HC in case of hybrid entries).

- IETs 28444, 28159, 28481, 28163 and 28472 recorded low HRR (38.5 to 47.2%), hence dropped.
- IET 28439 is dropped due to high AC (>27%) and low GC (<60 mm)
- IETs 27900, 28171, 28160 with desirable quality traits are promoted.

### **IVT-IM**

In IVT-IM, 3 entries IETs 29284, 29268 and 28383 recorded required yield advantage over BVC on overall basis and additionally 11 entries viz., IETs 27908, 29256, 29257, 29260, 29263, 29264, 29276, 29278, 29290, 29301 and 29302 outperformed the respective BVCs on zonal basis. All the aforementioned 14 entries are promoted to AVT 1-IM.

- Considered as repeat in IVT-IM: IETs 28503, 28523, 29286, 29287, 29288 and 29289

## **Irrigated Late**

**AVT 1-Late:** Of 38 entries evaluated in 5 zones (III, IV, V, VI and VII). Except Zone V, none of the entries found to be promising and promoted to AVT 2-late. In zone V, six entries viz., IET's 28508, 28538, 28501, 28497, 28544 and 28509 were found promising and promoted to AVT 2-Late

A total of 10 NILs were tested in AVT 1-L trial along with their recurrent parents. Five NIL's in the genetic background of Improved Samba Mahsuri, Four NIL's in Samba Mahsuri and one in Rajendra Mahsuri were tested in AVT 1-L. Two entries in first year of testing IET 28801 and IET 29209 were found promising and promoted to second year of testing. Four entries in second year of testing, (i) IET 28784, 28804 and 28801 (Improved Samba Mahsuri) found promising in gazette notified states of Improved Samba Mahsuri and (ii) IET 28014 (Samba Mahsuri with *xa13+Xa21*; *Pi2+Pi54+Pita*) found promising for gazette notified states of Andhra Pradesh and Telangana.

**IVT-L: The following entries are promoted on overall or zonal basis to AVT1-L or shifted to appropriate duration trial**

### **Promoted to AVT1-L**

- **Overall basis: NIL**
- **Zone III: NIL**
- **Zone V: IET 29328**
- **Zone VI: IETs 29347 and 28440**
- **Zone VII: NIL**
- **Shift to IVT-IME: IETs 29343, 29350, 29339 and 29304**
- **Shift to IVT-IM: IETs 29349, 28524, 29351 and 29345**

## **BORO TRIAL**

### **Advanced Variety Trial 1 – Boro**

In Advanced Variety Trial 1 – Boro, a total of seven test entries in the second of testing along with four checks were evaluated in seven location of Zone III and IV. However, none of the test entries showed yield superiority over the best check.

### **Initial Variety Trial -Boro**

In Initial Variety Trial –Boro, a total of 41 test entries along with four checks were evaluated in seven location in zone III and IV. Based on the yield over the best check, a total of 12 test entries namely IET 28840, 28842, 28848, 28849, 28850, 28851, 28852, 28858, 28859, 28864, 28867 and 28876 were promoted to second year of testing.

## HYBRID RICE

During Kharif 2020, totally 74 hybrids were evaluated in four hybrid rice trials viz., IHRT-E, IHRT-ME, IHRT-M, IHRT-MS, in different locations representing North, East, Northeast, Central, West and South zones of the country. Hybrids with more than 10 percent yield advantage over the varietal check and 5 percent over the hybrid check are identified as promising. Details of the top three ranking hybrids in each of the trials are given below.

### Promising hybrids identified in different hybrid rice trials (2020)

Name of the Hybrid	IET No.	DFP	Promising in
<b>IHRT-E</b>			
PHI 20101	28959	88	Overall
HRI 207	28950	85	Overall
JKRH 1601	28956	89	Overall
<b>IHRT-ME</b>			
PHI 20102	28979	93	Overall
KAVERI 7317	28972	90	Zone II & V
RRX 809	28982	93	Zone III
<b>IHRT-M</b>			
PHI 20108	29006	95	Overall
S 7004	29001	98	Overall
HRI 204	28997	99	Overall
<b>IHRT-MS</b>			
RALLI 19608	29017	97	Overall
KAVERI 7623	29019	97	Overall
RRX 708	29021	101	Zone III

### List of public sector institute nominated hybrids (2020)

S.No.	Public sector	Number of hybrids nominated
1	IIRR, Hyderabad	5
3	Iari, New Delhi	3
5	IGKV, Raipur	2
7	TNAU, Coimbatore	1
8	RARS, Jagityal	1
9	RRC PJTSAU, R Nagar	3
	<b>Total</b>	<b>15</b>

## **AROMATIC SHORT GRAIN**

### **IVT-ASG:**

In IVT-ASG, 11 test entries and 5 checks were evaluated across 26 locations. Out of 11 test entries two entries are in second year of testing and remaining nine entries are in first year of testing. In Zone III IETs 29390, 29389, 29385 and 28571 showed required yield advantage. Similarly, in Zone V IETs 29390, 29386 and 29389, in Zone VII IET 29392 and IET 28563 had sufficient yield gain over best varietal check. On over all basis IETs 29390, 29389, 29385, 28563 and 28571 had adequate yield efficiency compared to best varietal check. Due to quality parameters and absence of aroma none of the entries were not qualified for next level of testing except IET 29392. IET 29392 will be repeated in next season, as the quality analysis data is not available due to lack of seed material for quality analysis.

## **SALINE ALKALINE TRIALS**

### **Alkaline and Inland Saline tolerant variety trials**

**AVT1-AL & ISTVT:** Among the 10 test entries, one entry (IET 27077) was in third year of testing, four entries (IET Nos. 27823, 27809, 27807 and 27804) are repeat entries, five entries (IET nos. 28598, 28606, 28591, 28601 and 28608) were promoted from IVT-AL&ISTVT. IET 28608 found promising for both alkalinity stress in zone-II and inland salinity on overall, zone-II and Zone-VI. IET 28606 was found promising on overall, Zone-II and Zone VII under alkaline stress. IET 28608 found promising for both alkaline and inland saline stress conditions on overall, Zone-II and Zone-VI.

Four entries IET Nos. 28608, 28606, 27823 and 27807 were promising and are promoted to AVT2-AL&ISTVT.

**IVT- AL & ISTVT:** Among 14 entries including one hybrid entry, 9 entries namely IET Nos. 29365, 29358, 29356, 29366, 29354, 29364, 29361, 29360 and 29353 recorded the required yield advantage over the best check. Hence, these 9 test entries were promoted to second year of testing

### **Coastal Saline tolerant variety trials**

#### **AVT1 – CSTVT**

A total of 11 test entries in second year of testing and one entry in third year of testing, along with five checks were evaluated in five coastal locations. On basis of salinity tolerance and flower duration in AVT1-CSTVT, a total five test entries IETs 27834, 27851, 27829, 27051 (R), 27836 and IET 27847(H) recorded yield superiority over the best salinity tolerant check and promoted to third year of testing.

## **IVT – CSTVT**

A total of 40 test entries in first year of testing along with five checks were evaluated across five locations. However, none of the test entries recorded yield superiority over the best check.

## **HILLS**

### **Early duration hills**

#### **AVT 1- E (H)**

A total of ten test entries and three checks were tested in 7 locations. Out of ten test entries, three (IETs 27468, 27471 and 27472) were in third year of testing, while seven (IETs 28193, 28200, 28205, 28206, 28196, 28192 and 28202) were in second year of testing.

- **Low Altitude-Northern Hills:** IET 28206 was promoted to AVT2 E (H)
- **Low Altitude - Southern Hills:** IET 28196 was promoted to AVT2 E (H)
- **Medium Altitude – Northern Hills:** IETs 28200 and 28196 were promoted to AVT2 E (H)
- **Third year of testing:** The entry IET 27472 found promising for medium northern elevation.

#### **IVT-E (H)**

The trial was constituted with 22 test entries and three checks and trial was conducted at five locations.

- **Northern Low Elevation:** IET 28890 was promoted to AVT 1 E (H)
- **Southern low elevation:** IET 28890 and IET 28884 were promoted to AVT 1 E (H)
- **Northern medium elevation:** IETs 28883, 28886, 28884, 28895, 28882, 28891 and 28885 were promoted to AVT 1 E (H) for second year of testing

### **Medium duration hills**

#### **AVT 1-M (H)**

The trial was constituted with 9 test entries and 4 checks and tested in 8 locations. None of the entries got promoted in Low altitude Northern, Low altitude Southern, Medium altitude hills. Due to lack of data pertaining to all checks in high altitude locations, trial may be repeated in AVT-1 M (H) at High altitude hills.

#### **IVT – M (H)**

The trial comprised of 18 test entries and four checks and tested in 8 locations.

- **Low altitude Northern:** IET 28907 was promoted to AVT 1 M (H)
- **Medium altitude hills:** IETs 28907 and 28917 were promoted to AVT 1 M (H)
- **High altitude hills:** IETs 28914, 28913 and 28916 were promoted to AVT 1 M (H)



### **AVT 1-U (H)**

Eight test entries (6 entries viz., IET 28231, 28230, 28235, 28229, 28233 and 28236 in 2<sup>nd</sup> year of testing and 2 entries *ie.*, IET 27498 and 27504 in 3<sup>rd</sup> year of testing) were evaluated in AVT1-U (H) across low, medium and high elevation groups. One entry IET 28230 recorded yield superiority of 24% over the best check (Local) and therefore promoted to 3<sup>rd</sup> year of testing under northern low elevated hills of AVT-2U-H.

### **IVT-U (H):**

### **IVT-LR (H):**

A total of 15 landraces and 4 checks were evaluated at 5 locations across Low Northern and Medium Northern elevations. Two landraces namely, IET 28052 (Brojen) and IET 28042 (Tolen) recorded 28% and 12% yield superiority over the best check respectively.

## **AEROBIC TRIALS**

**AVT 1 AEROB** was constituted with 30 test entries and four checks. Among 30 test entries, 29 were in second year of testing and only one entry IET 27951 was in third year of testing. The trial was conducted in 19 locations in 6 zones covering 15 states. On over all mean basis, none of the test entries performed better than the best check. In Zone II, two entries IET 27937 (32%) and IET 28631 (13%) out yielded the best check and promoted to 3<sup>rd</sup> of testing. In Zone V, IET 27937 performed better than best check by 25% and is promoted to third year of testing. In Zone VI, five test entries, viz., IETs 27937, 28631, 28645, 27951 and 28636 surpassed the yield of best check by 27%, 26%, 13%, 7% and 5% respectively, hence promoted to 3<sup>rd</sup> year of testing. Based on 3 years of performance, the entry IET 27951 found promising for Zone II and for Haryana state.

**IVT-AEROB:** In IVT-AEROB of 60 test entries and four checks (NC, ZC, HC and LC) evaluated across 26 locations in the first year of testing. The following entries were promoted to AVT-1 Aerobic trial

- **Overall:** IETs 29412, 29427, 29411, 29398, 29415, 29422, 29424, 29405, 29436, 29423, 29396 and 29448
- **Zone III:** IETs 29396, 29398, 29424, 29436, 29422, 29423, 29446, 29425, 29448, 29421, 29410 and 29444
- **Zone V:** IETs 29396, 29412, 29411, 29405, 29415, 29431, 29426, 29402, 29440 and 29441
- **Zone VI:** IETs 29411 and 29409
- **Zone VII:** IETs 29412, 29394 and 29427

## BIOFORTIFICATION TRIALS

### AVT 1 – Biofort:

Based on the yield advantage of 5% over the BVC (>100 DAF) or 5% over IR 64 ( $\leq 100$  DAF) and also exhibiting  $\geq 24$  ppm Zinc content (or)  $\geq 10$  ppm Iron content (or)  $\geq 10\%$  protein content the following entries have been promoted to AVT 2 - Biofort:

- **Zone VI:** IET 28714

**Note:** The following entries will be repeated as they had  $\geq 24$  ppm Zinc content though they did not exhibit yield superiority:

- **Zone VI:** IET 28703, IET 28714, IET 28694, IET 28704, and IET 28701

### IVT – Biofort:

Based on the yield advantage of 5% over the BVC (>100 DAF) or 5% over IR 64 ( $\leq 100$  DAF) and also exhibiting  $\geq 24$  ppm Zinc content (or)  $\geq 10$  ppm Iron content (or)  $\geq 10\%$  protein content **none of the entries have been promoted to AVT 1 – Biofort.**

**Note:** The following entries will be repeated as they had  $\geq 24$  ppm Zinc content though they did not exhibit yield superiority:

- **Zone III:** IET 29458, IET 29460, IET 29469, IET 29482 and IET 29484
- **Zone VI:** IET 29465, IET 29482 and IET 29484
- **Zone VII:** IET 29482 and IET 29484
- **Overall:** IET 29482 and IET 29484

## MEDIUM SLENDER GRAIN TRIALS

**AVT 1-Medium Slender:** Of 22 entries evaluated in 6 zones (II, III, IV, V, VI and VII). Four entries IET's 28757 (zone: III, V, VI and VII), 28746 (III, V and VI), 28754 (V) and 28730 (V) were promoted to AVT 2-MS. Two entries are in third year of testing IET 27394 (TMRH-139), a hybrid entry, discontinued due to inconsistent performance across the years in any zone or state and IET 27438 MTU 1281(MTU 2385-187-1-1-1), varietal entry was found promising for the states of Odisha, Andhra Pradesh, Telangana and Tamil Nadu.

**IVT-MS:** In IVT-MS, of 60 test entries evaluated across 11 locations in the first year of testing, following entries under different conditions i.e.

- **Overall:** IET 29506 and IET 29506
- **Zone V:** IET Nos. 29485, 29489, 29490, 29494, 29502, 29503, 29506, 29508, 29511, 29514, 29515, 29523, 29526, 29527, 29534, 29535, 29536, 29537, 29538, 29539, and 29543
- **Zone VI:** IET Nos. 29487, 29490, 29492, 29494, 29495, 29502, 29503, 29506, 29515, 29519, 29523, 29524, 29527, 29536, and 29538 achieved required yield

advantage over the best check and have been promoted for second year of testing in respective zones.

- **Zone VII:** None of the entries out yielded the best check (LC) with > 5% yield gain and hence none are promoted in this zone to 2nd year of testing.

## **PHOSPHORUS AND NITROGEN TRIALS**

### **AVT 1- LPT**

The trial was constituted with 11 test entries in second year of testing, with four checks. The data received from 2 locations (ICAR-IIRR and Raipur). Interaction effect of phosphorus level and advanced cultures on grain yield was found to be non-significant at ICAR-IIRR, but the results of Raipur location were found to be significant. At Raipur, under no application of phosphorus, three entries, IET 27641, IET 28818 and IET 28816 performed better than the best check Swarna. Hence these are promoted to AVT 2 for third year of performance. Among the NILs, IET 28061 performed better than corresponding recurrent parent Improved Samba Mahsuri. Other three NILs (IETs 28066, 28821 and 28065) under the back ground of MTU 1010 an KMR 3 will be repeated with corresponding recurrent parents.

### **IVT -LPT**

The trial was constituted with 19 test entries and four checks. The trial was sent to 6 four locations. Due to the corona virus pandemic, the data from only one location ICAR-IIRR was obtained. Hence the trial will be recommended for repeat in Kharif 2021.

### **AVT 1- LNT**

The trial was constituted with 9 test entries and 6 checks and data was received from two locations ICAR-IIRR and Raipur. Under no application of nitrogen, the check Varadhan yielded highest grain at ICAR-IIRR where as the check Swarna yielded highest grain at Raipur. Under 50% of nitrogen application, the entry IET 28084 yielded highest grain yield of 6.06 t/ha at ICAR-IIRR. This is the only entry which yielded 5% better than the best check at ICAR-IIRR and hence promoted to AVT 2 for third year of testing.

### **IVT -LNT**

The trial was constituted with 22 test entries and six checks. The trial was sent to 6 four locations. Due to the corona virus pandemic, the data from only one location ICAR-IIRR was obtained. The data from ICAR – IIRR consisted of many missing data due to poor germination or non germination of many entries. Hence the trial will be recommended for repeat in Kharif 2021.

## **RAINFED UPLAND**

### **AVT 1- E DS:**

Among 15 test entries 1 entry was in the 3<sup>rd</sup> year of testing and 5 were NIL entries. Trials were conducted in 12 locations distributed in Zone III, V, VI and VII.

- **Based on three year testing IET 27523 is found promising in drought prone locations in zone VI (Gujarat) and zone III (Jharkhand and Odisha). However due to inconsistency in location it is repeated.**
- **IET 28248 is promoted for 3<sup>rd</sup> year of testing in zone VI.**
- **IET 28241 is found promising in drought prone areas and promoted on overall basis for the 3<sup>rd</sup> year of testing**
- **NIL: IET 26753 (RP Varalu) was not found promising in trait verification trial. Hence discontinued.**
- **IET 28836 is repeated**

### **IVT E DS:**

Among 33 entries tested in 13 locations in 4 Zones (Zone III, V, VI, VII) the following entries are promoted.

- **On Overall and Zone III basis:** IET 29036, 29045, 29054 and 29063
- **Zone III:** IETs 29038, 29039, 29040, 29044, 29045, 29046, 29047, 29048, 29052, 29054, 29060, 29063 and 29067
- **Zone V:** IET 29036

## **RAINFED LOWLAND ECOSYSTEM**

During Kharif 2020 rainfed lowland trials were evaluated under three ecologies namely rainfed shallow lowland (RSL), semi deep water (SDW) and deep water (DW) ecology. A total of 110 test entries were evaluated along with suitable checks in five trials namely AVT1 -RSL (20 test entries), IVT -RSL (41 test entries), AVT 1-SDW (15 test entries), IVT-SDW (27 test entries) and IVT-DW (7 test entries).

### **Rainfed Shallow Lowland**

**AVT 1-RSL:** Of 20 test entries (eight inbreds, one hybrid and 11 NIL entries) across 2 zones (III, VII), **IET 27547 was found promising. Two** entries were found superior and promoted to AVT-2-RSL.

- **Zone III: IET 28281**
- **Zone VII: IET 27538**
- **AVT- NIL- Sub: IET 29026, 29031 and 29032**

## Repeats

- **IET 26744** as the recurrent parent was released for 5 states viz., Odisha, MP, Assam, Tripura and West Bengal. However, it could be tested only for Odisha. Hence, it is repeated for 2<sup>nd</sup> year of testing (AVT 2-NIL DRT)
- **IET 28276** was promising, however due to single location data it is repeated.

**IVT-RSL:** In IVT-RSL, 41 test entries evaluated across 10 locations. The only test entry **IET 29100** achieved required yield advantage over the best check and have been promoted for second year of testing in Zone VII.

## Semi Deep and Deep Water

A total of 49 test entries were evaluated in three trials (AVT 1-SDW, IVT-SDW and IVT-DW) under lowland ecology. The salient findings of lowland trials are summarized below.

**AVT 1-SDW:** A total 15 test entries were tested over 8 locations in Zone III and Zone IV. All were in the 2<sup>nd</sup> year of testing.

- The following genotypes are promoted to the AVT-2.
- **Zone III: IET 28311, IET 28291 and IET 28299, IET 28296, IET 28313, IET 28315** based on yield performance.

**IVT-SDW:** In IVT-SDW, out of 27 test entries evaluated in 8 location across three zones (Zones III, IV, VII), 6 entries, IET 29114, 29115, 29121, 29122, 29132, and 29135 have achieved required yield advantage over the best check and desirable plant type and are promoted to second year of testing.

- Overall basis: IET 29115, IET 29132
- Zone III: IET 29114, IET 29121, IET 29122, IET 29132, IET 29135
- The following entries will be repeated in AVT-1  
IETs 29111, 29116, 29118, 29119, 29128, 29129, 29134 and 29137

**IVT-DW:** Among 7 test entries five entries were in first year of testing, one test entry was in second year of testing and one entry was in the third year of testing. **IET 28318** is promoted to second year of testing.

## BASMATI TRIAL

- **AVT 1-BT** constituted of 32 entries including ten varietal test entries; two hybrid entries; thirteen Near isogenic lines; four recurrent parents namely, Pusa Basmati 1, Pusa Basmati 6, Pusa Basmati 1121 and Pusa Basmati 1509; five checks namely Pusa Basmati-1 (Yield Check), Pusa Basmati 1121 (Yield and Quality Check), Taraori Basmati (Quality Check), Pusa RH10 (Hybrid Check) and local check. Out of 32 test entries one entry namely, IET 27720 is in 3<sup>rd</sup> year of testing, 24 entries including 13 NILs were in second year of testing, while the remaining seven entries were checks and the respective recurrent parents.

- Based on three years performance of entries, IET 27720 showed an overall superiority of more than 5% for yield performance. However, this entry showed marginally low amylose content, even though it possessed most favourable GC and ASV.
- Among thirteen near isogenic lines (NIL's), seven NILs namely IET 28806, IET28807 (in the background of PB 1121); IET28810, IET28811, IET 27722 (in the background of PB 1509); IET28808, IET 28809 (in the background of PB 6) possessing two genes each for bacterial leaf blight (*xa13+Xa21*) and blast (*Pi2+Pi54*) resistance were found to be promising. Four NIL entries with tolerance to Imazethapyr herbicide, two each in the genetic background of Pusa Basmati 1121 (IET28812 and IET 28813) and Pusa Basmati 1509 (IET 28814 and IET 28815) were found promising with herbicide tolerance trait verified under dry directed seeded condition.
- Two drought NILs in the genetic background of Pusa Basmati 1 namely, IET 28787 and IET 28788 were found to show superiority over the recurrent parent, PB 1 under normal irrigated condition. However, sufficient data is not available for performance under reproductive stage drought stress in the rainout shelters. Therefore, these entries are to be repeated for trait verification (tolerance to reproductive stage drought stress under rainout shelter) during *Kharif* 2021.
- Out of 11 test entries which include 9 varieties and two hybrid entries, seven varietal test entries namely, IET 28589, IET 28572, IET 28583, IET 28574, IET 28575, IET 28577 and IET 28586 showed superior yield performance over best varietal check and the hybrid IET 28579 was superior over best varietal as well as hybrid check. However, only four entries namely, IET 28589 (PAU 5089-3-7-2-1-1-2), IET 28583 (UPR 4088-1-1-1), IET 28577 (UPR 4079-10-1-1-1) and IET 28586 (UPR 4084-14-1-1-1); and a hybrid entry IET 28579 (TAJ) meeting the minimum standards for Basmati grain and cooking quality have been promoted to AVT-2 for third year of testing. One entry, IET 28572 did not meet the minimum standards for KLAC, ER and AC, however it will be repeated in AVT1-BT again during *Kharif* 2021.
- **In IVT- BT** trial, out of 20 test entries, only three varietal entries (IET 28938, IET 28943 and IET 28945) out yielded the best varietal check with required yield advantage. However, only one entry, IET28938 was promoted to AVT1-BT as the other entries could not meet the minimum standards of grain and cooking quality for Basmati rice.



## IRRIGATED TRIALS

With the introduction of high yielding varieties there has been remarkable progress in production and productivity of rice in the irrigated areas which account for almost 60% of rice production in the country. However, the production and productivity gains achieved in this ecology need to be sustained with the decreasing land, labour and water and also required to be insulated against the biotic stresses simultaneously improving the grain quality. Since the demand for food especially rice is still expected to increase with the ever escalating population in the years to come, it is necessary to break the yield barrier through conventional methods using diverse germplasm base, ideotype breeding and exploitation of hybrid vigour through strong hybrid rice breeding. In addition, with the advent of biotechnological tools, marker assisted selection for incorporating the target traits has become quite feasible in varietal improvement programmes. In view of the existing concerns and opportunities available there is a need to identify high yielding genotypes suitable for the vast irrigated ecology.

ICAR-Indian Institute of Rice Research (IIRR) conducts and coordinates multidisciplinary and multi-location evaluation of elite cultures, crop management and crop protection technologies in different agro-climatic zones of the country under All India Coordinated Rice Improvement Project (AICRIP) to enhance rice production. A total of 39 trials (35 varietal trials and 4 hybrid rice trials) were conducted in 712 experiments (560 varietal and 152 hybrid rice) at 123 locations (45 funded, 78 voluntary centres) in 28 states and 2 union Territories across seven zones of the country during 2020 which is the 56<sup>th</sup> year of AICRIP testing. Hybrid rice experiments were conducted by 10 private seed companies. The 39 trials were constituted with 1153 entries (1062 varietal and 91 hybrid rice) including 161 checks. The overall data receipt was 75.34% of which 80.4% and 58.2% data was received from funded and voluntary centres respectively. The chapter outlines the results obtained trial wise which are discussed below.

### ADVANCE VARIETY TRIAL 2-EARLY – TRANSPLANTED (AVT 2- E TP)

**Locations: 37** **Test Entries: 13**  
**Checks: CO-51 (National); PR 124 (Northern), Narendra 97 (Eastern), Luit (North Eastern), Sahbhagidhan (Central & Western), MTU 1153 (Southern)- Zonal; US 314 (Hybrid) and local check** **Table:1.1**

Advance Variety Trial-2 Early Transplanted (AVT 2- E TP) constituted with 13 (3<sup>rd</sup> year) entries and four checks namely CO-51 (National Check), PR 124 (Northern), Narendra 97 (Eastern), Luit (North Eastern), Sahbhagidhan (Central & Western), MTU 1153 (Southern) Zonal Checks, US 314 (Hybrid check) and local check. This trial was sent to 40 locations; however, data was not received from 3 locations namely Bhubaneswar (Odisha),

Arundhutinagar and Lembucherra (Tripura). Data from 7 centres was excluded from analysis viz., Pantnagar, Chinsurah, Masodha, Wangbal, Rewa, Sakoli and Brahmavar due to either low CV (< 5%) or high CV (>20%) or low experimental mean grain yield (< 3000 Kg/ha).

#### The details on data inclusion/ non-inclusion for analysis

Data status	Zone/ State/ Location/	Total no. of locations
Data not included (Low/High CV)	<b>Zone 2:</b> PNT (UT). <b>Zone 3:</b> CHN (WB), MSD (UP). <b>Zone 4:</b> WBL (MN). <b>Zone 5:</b> REWA (MP), SKL (MA).	6
Low CV and low experimental mean	<b>Zone 7:</b> BRM (KA)	1
Data not received	<b>Zone 3:</b> BBN (OD) <b>Zone 4:</b> ARD, LMB (TR)	3
Data included in analysis	<b>Zone 2:</b> LDN (PU), KUL (HA). <b>Zone 3:</b> CTK, JYP (OD), BKG, SBR, PTN (BI), RCI, HZB (JH), HTW (WB). <b>Zone 4:</b> TTB (AS). <b>Zone 5:</b> RPR, JDP, BLP (CH), SND (MA). <b>Zone 6:</b> KJT, SHR (MA), NWG, DBI, VYR (GU). <b>Zone 7:</b> MTU (AP), KNM, WGL, JGL (TE), ADT, CBT (TN), MNC, PTB (KE), MND, GNV (KA)	30
	<b>Total number of locations</b>	40

The experimental mean yield across the locations ranged from 3650 kg/ha (Vyara) to 8240 kg/ha (Gangavathi) while CV ranged from 5.15% (Bikramganj) to 17.77% (Ranchi). Overall mean yield of the entries ranged from 4555 kg/ha (CO-51) to 5460 kg/ha (IET 27329); days to 50% flowering from 84 days (CO-51 & US314) to 90 days (IET 27920). Among the varietal checks local check was the highest yielder check (4828 kg/ha), followed by zonal check (4690 kg/ha) and national check (4555 kg/ha). The data pertaining to grain yield, days to 50% flowering, plant height, panicles/m<sup>2</sup> and quality are presented in tables 1.2, 1.3, 1.4, 1.5 and 1.6.

#### Zonal performance of the entries

##### Zone II (Northern)

The trial was evaluated in Zone II at three locations viz., Pantnagar, Ludhiana and Kaul. However, data from Pantnagar was not included in analysis owing to high CV (25.27%). The experimental mean yield of the locations ranged from 4630 kg/ha (Ludhiana) to 5039 kg/ha (Kaul). Mean grain yield of the entries ranged from 3678 kg/ha (IET 27920) to 5887 kg/ha (IET 27332). Local check showed highest yield (5422 kg/ha) followed by zonal check (4287 kg/ha) and national check (3930 kg/ha). Although two entries (IET 27332 and 27328) exhibited yield gain of >5% over hybrid check, they could not *show yield improvement of >10% over the best varietal check and so none of the entries are found promising.*

**Performance of entries in Zone II**

Rank	IET No/ Designation / Cross Combination	GY/ DFF/ GT	% yield increase NC/ZC/HC/LC	Performance across states			
				State/rank	Yield	%BCV	%HC
1	27332 <i>NPH-X1(Hybrid)</i>	5887	50	PU – 2	5826	-	46
		84	37	HA - 1	5947	20	32
		SB	39				
			9				
2	27328 <i>SHX-015</i> <i>(Hybrid)</i>	5614	43	PU – 5	5363	-	35
		85	31	HA - 2	5865	19	30
		LB	32				
			4				
	National Check (NC)	3930 77					
	Zonal Check (ZC)	4287 85					
	Hybrid Check (HC)	4239 84					
	<b><i>Local Check (LC)</i></b>	<b>5422 84</b>					

**Bold & Italics:** Best check & over the best check; NC-National Check; ZC-Zonal Check; HC-Hybrid Check; LC-Local Check; GY: Grain Yield; DFF: Days to 50% flowering; GT: Grain Type; BCV: Best Varietal Check.

**Zone III (Eastern)**

The trial was conducted at eleven locations Bhubaneswar, NRRI-Cuttack, Jeypore, Bikramganj, Sabour, Patna-ICAR, Ranchi, Hazaribagh, Chinsurah, Hathwara and Masodha covering five states. However, the data from Bhubaneswar was not received and the data from Chinsurah; low CV (4.21 %), and Masodha; low CV (3.21%) were not considered while analysing the data. The mean yield of entries in this zone ranged from 3349 kg/ha (Zonal check) to 5480 kg/ha (IET 27866). Among the varietal checks, national check is the top yielder (4377 kg/ha) followed by local check (4015 kg/ha) and zonal check (3349 kg/ha).

***A set of thirteen entries (4 hybrids and 9 entries) showed yield superiority over the best varietal as well as hybrid check.*** Four hybrid entries *ie.*, IET 27340, IET 27328, IET 27329 and IET 27332 were found promising as they recorded yield superiority of 23, 20, 18 and 17% over the best varietal check and 12, 9, 8 and 7 % over hybrid check respectively. Additionally, ***nine varietal entries viz., IET 27866, IET 27920, IET 27892, IET 27880, IET 27914, IET 27869, IET26898, IET 27883 and IET 27905 exhibited yield improvement of 25, 21, 17, 17, 16, 13, 8, 8 and 5 % over the best varietal check respectively.***

**Performance of entries in Zone III**

Rank	IET No/ Designation / Cross Combination	GY/ DFF/ GT	% yield increase NC/ZC/HC/LC	Performance across states			
				State/ rank	Yield	%BCV	%HC
1	27866 HKR 16-1-1R 14L521/ IR 09L272 / IR 10L146	5480 86 LS	<b>25</b> 64 14 36	OD- 2 BI- 5 JH-10 WB-3	6355 5302 4408 6409	20 60 9 49	- - - -
2	27340 <i>US-319</i> (Hybrid)	5394 87 LB	<b>23</b> 61 12 34	BI- 3 JH-1	5564 5792	68 43	6 34
3	27920 AD 16028 WGL 14377 / MDU 5	5276 88 LB	<b>21</b> 58 10 31	BI- 4 JH-9 WB-2	5434 4569 6440	64 13 49	- - -
4	27328 <i>SHX-015</i> (Hybrid)	5237 86 LB	<b>20</b> 56 9 30	JH- 5	5217	29	23
5	27329 <i>MP-3050</i> (Hybrid)	5173 86	<b>18</b> 54 8 29	BI- 1 JH- 7	5707 4976	72 23	9 17
	<b>National Check (NC)- Best check</b>	<b>4377 80</b>					
	Zonal Check (ZC)	3349 79					
	Hybrid Check (HC)	4800 82					
	Local Check (LC)	4015 81					

**Zone IV (North eastern)**

The north eastern zone was represented by four locations namely Titabar, Wangbal, Arundhutinagar and Lembucherra. Data from Arundhutinagar and Lembucherra was not received. The data was not included from Wangbal centre due to low CV (2.21%). Hence the data from a single location (Titabar) is considered for analysis. Zonal check is the best performing check (5736 kg/ha) followed by local check (5382 kg/ha) and national check (4851 kg/ha). A set of four entries outyielded the varietal and hybrid checks in the trial. Among them two hybrid entries namely IET 27340 (1<sup>st</sup> rank) and IET 27329 (4<sup>th</sup> rank) failed to outyield the hybrid check by > 15% and best varietal check (ZC) by >20% while two varietal entries IET 27905 (2<sup>nd</sup> rank) and IET 26898 (3<sup>rd</sup> rank) failed to outperform the best varietal check (ZC) by >15%. **Hence None of the entries were found promising in zone IV.**

**Performance of entries in Zone IV.**

Rank	IET No/ Designation / Cross Combination	GY/ DFP/ GT	% yield increase NC/ZC/HC/LC	Performance across states			
				State rank	Yield	%BCV	%HC
1	27340 <i>US-319</i> (Hybrid)	6022 93 LB	24 <b>5</b> 18 12	AS - 1	6022	5	18
2	27905 NP 9968 PRN 8 / PRN 85	5996 85 MS	23 <b>5</b> 18 11	AS -2	5996	5	-
3	26898 HURS 17-7-IR 95786- 9-2-1-2/ IR 10 L-149/ IR 10 L 152	5900 86 LS	21 <b>3</b> 16 10	AS -3	5990	4	-
4	27329 <i>MP-3050</i> (Hybrid)	5742 90 LB	18 - 13 7	AS -4	5742	-	13
	National Check (NC)	4851 86					
	<b>Zonal Check (ZC)</b>	<b>5736</b> <b>78</b>					
	Hybrid Check (HC)	5100 87					
	Local Check (LC)	5382 85					

**Zone V (Central)**

The trial was conducted at six locations Rewa, Raipur, Jagadapur, Bilaspur, Sakoli and Sindewahi representing three states. However, Rewa and Sakoli locations data was not included in analysis due to high CV (41.11 %) and low CV (4.79 %) respectively. The mean yield of entries in this zone ranged from 3975 kg/ha (National check) to 5128 kg/ha (IET 27340).

Among the varietal checks zonal check (4203 kg/ha) is the top yielder followed by local check (4091 kg/ha) and national check (3975 kg/ha). None of the hybrid entries showed required yield superiority over the hybrid check (5119 kg/ha). Therefore, not found promising. *The entries IET 27866, IET 27914, IET 27880, IET 26898 and IET 27920 showed yield gain of 21, 12, 9, 9 and 6% over the best varietal check.*

**Zone VI (Western)**

The zone consisted of 5 locations Karjat, Shirgaon, Nawagam, Dabhoi and Vyara. The mean grain yield of entries ranged from 4106 kg/ha (Zonal check) to 5213 kg/ha (IET 27328). Among the varietal checks local check is the best check (4308 kg/ha) followed by national check (4218 kg/ha) and zonal check (4106 kg/ha). *Eight entries* (4 hybrids and 4 varietal entries) surpassed the best varietal check and hybrid check and hence found

promising. *Four hybrid entries IET 27328, IET 27329, IET 27340 and IET 27332 showed yield gain of 21, 17, 16 and 15% over the best varietal check and 27, 22, 21 and 20 % over hybrid check respectively. The four varietal entries IET 27866, IET 27880, IET 27905 and IET 27869 showed yield advantage of 11, 10, 8 and 5 % over the best varietal check respectively.*

#### Performance of entries in Zone VI

Rank	IET No/ Designation / Cross Combination	GY/ DFP/ GT	% yield increase NC/ZC/HC/LC	Performance across states			
				State/ rank	Yield	%BVC	%HC
1	27328 SHX-015 (Hybrid)	5213	24	MA -2	5283	19	15
		71	27	GU - 2	5167	19	36
		LB	27				
			21				
2	27329 MP-3050 (Hybrid)	5042	20	MA -3	5034	14	10
		71	23	GU - 4	5047	16	33
		LB	22				
			17				
3	27340 US-319 (Hybrid)	4977	18	MA -4	4623	4	1
		73	21	GU - 1	5214	20	37
		LB	21				
			16				
4	27332 NPH-X1 (Hybrid)	4942	18	MA -1	5295	20	16
		71	20	GU - 7	4708	8	24
		SB	20				
			15				
5	27866 HKR 16-1-IR14L521 IR 09L272/IR 10L146	4778	13	MA -7	4464	0.7	-
		71	16	GU - 5	4987	15	-
		LS	16				
			11				
	National Check (NC)	4218 72					
	Zonal Check (ZC)	4106 79					
	Hybrid Check (HC)	4117 69					
	Local Check (LC)	4308 75					

#### Zone VII (Southern)

The trail was evaluated at eleven locations namely Maruteru, Kunaram, Warangal, Jagtial, Aduthurai, Coimbatore, Moncompu, Pattambi, Mandya, Brahmavar and Gangavati. The data from Brahmavar was not included due to low CV (3.09 %) and low experimental mean. The zonal check occupied 2<sup>nd</sup> rank (6177 kg/ha). Although the 1<sup>st</sup> ranking entry (Hybrid) IET 27332 (NPH-X1) outperformed the hybrid check with the required yield gain (>5%), it could not outyield the best varietal check by >10%. Therefore, none of the entries found promising.



**Three years performance of the varietal and hybrid entries**

Nine varieties *ie.*, IET Nos. 27892, 27866, 27914, 27905, 27883, 27869, 26898, 27880 and 27920; four hybrids *ie.*, IET Nos. 27332, 27340, 27328 and 27329 have completed 3 years of testing (2018 to 2020) and their performance is discussed below.

S. No.	IET No/ Designation	Year	Zonal mean yield FD/GT	Yield adv. (%) over the BC	Zone rank	State (No. of locations) / Rank	% BC
1	27892 (RCPR 58-IR 93827-29-1-1-3)	2020	5116 84s LS	17(NC)	ZIII- 7	OD (2)-1 BI (3)	26 12
			4292 88 LS	-	ZV-	MH (1)-8	6
		2019	5747 87 LS	-	ZIII-	OD (2) BI (1)	- 23
			5269 86 LS	12(NC)	ZV-4	MH (1) -5	6
		2018	5932 84 LS	17(NC)	ZIII-6	OD (2)-2 BI (2)	5 10
			4774 83 LS	8(ZC)	ZV-	MH (1)	14

IET 27892 (RCPR 58-IR 93827-29-1-1-3) derived from the cross IR 81039-B-173-U-3-3 / IR 81063-B-94-U-3-1 was tested for 3 years (2018 to 2020). It outyielded the best varietal check in the first year and 3<sup>rd</sup> year (2018: 17% and 2020: 17%) in Zone III. State wise it showed yield gain over the best varietal check in 1<sup>st</sup> year (2018: 10%) and 3<sup>rd</sup> year ((2020: 12%) in Bihar. Similarly, in Odisha it could excel the best varietal check for 2 years (3<sup>rd</sup> year: 26% and 1<sup>st</sup> year: 5%). *Hence it is identified for the states of Odisha and Bihar in zone 3.*

SNo	IET No/ Designation	Year	Zonal mean yield FD/GT	Yield adv. (%) over the BC	Zone rank	State (No. of locations) / Rank	% BC
2	IET 27866 (HKR 16-1-IR14L521)	2020	4979 85 LS	-	Z II-7	HA (1)-4	15
			5480 86 LS	25(NC)	ZIII-1	OD (2)-2 BI (3)-5 WB (1)-3	20 30 49
			5086 88 LS	21(ZC)	ZV-3	MH (1)-4	17
			4778 71 LS	11(LC)	Z VI-5	GU (3)-5	15

SNo	IET No/ Designation	Year	Zonal mean yield FD/GT	Yield adv. (%) over the BC	Zone rank	State (No. of locations) / Rank	% BC
		2019	5645 85 LS	12 (NC)	Z II-8	UK (1)-8	12
			6248 87 LS	12(LC)	ZIII-6	OD (2)-6 BI (1) WB (2)-5	11 26 5
			5058 86 LS	7(NC)	ZV-7	MH (1)-9	-
			5018 87 LS	-	Z VI-6	GU (2)-3	8
		2018	7208 97 LS	15(LC)	Z II-1	HA (1)-3	7
			5880 89 LS	16(NC)	ZIII-7	OD (2) BI (2) WB (1)	- 24 7
			4836 85 LS	9(ZC)	ZV-	MH (1)-8	17
			5285 89 LS	-	Z VI	GU (2)	-

IET 27866 (HKR 16-1-IR14L521) derived from the cross IR 09L272 / IR 10L146 exhibited yield improvement over the best varietal check continuously for 3 years (2020:25%, 2019:12 % and 2018:16 %) in Zone III. State wise it showed superiority over the best varietal check for 2 years (3<sup>rd</sup> and 2<sup>nd</sup> year) in Odisha (2020:20%, 2019: 11%). In Bihar it topped the best varietal check during 3 continuous years (3<sup>rd</sup> year: 30%, 2<sup>nd</sup> year 26 % and 1<sup>st</sup> year: 24%). In West Bengal it excelled the best varietal check for 2 years (3<sup>rd</sup> year: 49%, 2<sup>nd</sup> year: 5 %) but failed to give >15% yield gain over BVC in 1<sup>st</sup> year ( 7%).

In Zone V it outyielded the best varietal check in 3 contiguous 3 years (2020: 21 %, 2019: 7 and 2018: 9%). State wise it showed superiority over the best varietal check for 2 years (3<sup>rd</sup> and 1st year) in Maharashtra (2020:17%, 2018: 17%). In Z VI, it was superior to BVC in 3<sup>rd</sup> year (11%) only. However, state wise it recorded yield improvement in Gujarat during 2020 and 2019 (3<sup>rd</sup> year: 15%, 2<sup>nd</sup> year: 8%). **Hence it is identified for the states of Odisha, Bihar in Zone 3; Maharashtra in zone 5 and Gujarat in zone 6.**

S.No.	IET No/ Designation	Year	Zonal mean yield FD/GT	Yield adv. (%) over the BC	Zone rank	State (No. of locations) / Rank	% BC
3	27914 (CRR 807-1)	2020	5081 84 LS	16(NC)	ZIII-9	BI (3)-7 WB (1)-4	28 48
		2019	5450 88 LS	-	ZIII	BI (1) WB (2)	- -
		2018	5528 88 LS	9(NC)	ZIII-	BI (2) WB (1)	24 17

IET 27914 (CRR 807-1) derived from the cross IR 10L146 / IR 10L137 outperformed the best varietal check in the first year and third year (2018: 9%, 2020: 16%) in Zone III. State wise it outperformed the best varietal check for 2 years (3<sup>rd</sup> and 1<sup>st</sup> year) in Bihar (2020:28% and 2018: 24%). In West Bengal also it exhibited yield advantage over the best varietal check for 2 years (3<sup>rd</sup> year: 48%, and 1<sup>st</sup> year: 17%). **Hence it is identified for the states of Bihar and West Bengal in Zone 3.**

S.No.	IET No/ Designation	Year	Zonal mean yield FD/GT	Yield adv. (%) over the BC	Zone rank	State (No. of locations) / Rank	% BC
4	27905 (NP 9968)	2020	4598 84 MS	5 (NC)	ZIII-	BI (3) WB (1)-6	6 26
		2019	5077 82 MS	-	ZIII-	BI (1) WB (2)	7 -
		2018	5425 84 MS	7(NC)	ZIII-	BI (2) WB (1)-2	- 28

IET 27905 (NP 9968) derived from the cross PRN 8 / PRN 85 recorded yield improvement over the best varietal check in the first year and third year (2018: 7%, 2020: 5%) in Zone III. Statewise it was superior to the best varietal check for one year in Bihar (3<sup>rd</sup> year: 2020:6%) but failed to exhibit the required yield gain of >15% over hybrid check in 2019 (7%) whereas in West Bengal it topped the best varietal check for 2 years (3<sup>rd</sup> year: 26%, and 1<sup>st</sup> year: 28%). **Hence it is identified for West Bengal in Zone 3**

S.No.	IET No/ Designation /	Year	Zonal mean yield FD/GT	Yield adv. (%) over the BC	Zone rank	State (No. of locations) / Rank	% BC
5	27883 (CR 4009-4-2- GSR IR1- DQ 138-LI1-Y1)	2020	4714 86 LS	8(NC)	ZIII-	BI (3)-9	22
		2019	5711 85 LS	-	ZIII-	BI (1)-1	47
		2018	5572 85 LS	10(NC)	ZIII-	BI (2)	23

IET 27883 (CR 4009-4-2-GSR IR1-DQ 138-LI1-Y1) derived from the cross GSR IR1-8-S6-S3-Y2 / GSR IR1-8-Y7-D2-S1 recorded consistent yield gain during 3<sup>rd</sup> year and 1<sup>st</sup> year in Zone 3 (2020: 8% and 2018: 10%). State wise it excelled the best varietal check for 2 years (3<sup>rd</sup> year: 22%, and 1<sup>st</sup> year: 23%). **Therefore, it is identified for the state of Bihar in Zone 3.**

S.No.	IET No/ Designation	Year	Zonal mean yield FD/GT	Yield adv. (%) over the BC	Zone rank	State (No. of locations) / Rank	% BC
6	27869 (JGL 25958)	2020	4391 88 LS	-	ZV-	MH (1)-5	13
			4531 70 LS	5(LC)	ZVI-8	GU (3)-8	6
		2019	5496 87 LS	16(NC)	ZV-3	MH (1)-10	-
			5025 87 LS	-	ZVI-5	GU (2)-7	-
		2018	5037 84 LS	14(ZC)	ZV-8	MH (1)	11
			6059 88 LS	-	ZVI-9	GU (2)-6	18

IET 27869 (JGL 25958) derived from the cross MTU 1010 / NLR 34449 indicated yield gain over the best varietal check in the first and second years (2018: 14% and 2019: 16%) in Zone V. But in 3<sup>rd</sup> year (2020) it could not outyield the best varietal check. In zone 6, the entry topped the best varietal check in a single year (3<sup>rd</sup> year: 5%) only. However, state wise it is superior to BVC by 6% and 18% during 3<sup>rd</sup> year (2020) and 1<sup>st</sup> year (2018) respectively in Gujarat. **Hence it is identified for Gujarat as a promising entry.**

S.No.	IET No/ Designation	Year	Zonal mean yield FD/GT	Yield adv. (%) over the BC	Zone rank	State (No. of locations) / Rank	% BC
7	26898 (HURS 17-7- IR 95786-9-2-1-2)	2020	4717 84 LS	8(NC)	ZIII-	OD (2)-3 BI (3)	5 14
		2019	5928 86 LS	6(LC)	ZIII-	OD (2)-5 BI (1)-4	13 37
		2018	5590 89 LS	10(NC)	ZIII-	OD (2) BI (2)	- 18

IET 26898 (HURS 17-7- IR 95786-9-2-1-2) derived from the cross IR 10 L-149 / IR 10 L 152 surpassed the best varietal check in yield performance during three consecutive

years (2018: 10%, 2019: 6% and 2020: 8%) in Zone III. State wise it exhibited yield superiority over the best varietal check for 3<sup>rd</sup> year and 2<sup>nd</sup> year in Odisha (2020:5% and 2019: 13%). In another state i.e., Bihar it could excel the best varietal check for all 3 years (3<sup>rd</sup> year: 14%, 2<sup>nd</sup> year: 37% and 1<sup>st</sup> year: 18%). ***So it is identified for the states of Odisha and Bihar in Zone 3.***

S.No.	IET No/ Designation	Year	Zonal mean yield FD/GT	Yield adv. (%) over the BC	Zone rank	State (No. of locations) / Rank	% BC
8	27880 ORJ 1346 (TP 27626)	2020	5106 83 LB	17(NC)	ZIII-8	BI (3)-10 WB (1)-1	21 53
		2019	6310 90 LB	13(LC)	ZIII-5	BI (1) WB (2)	19 -
		2018	6475 86 LB	28(NC)	ZIII-1	BI (2)-3 WB (1)-6	41 22

IET 27880 (ORJ 1346 (TP 27626) derived from the cross IR 78875-176-B-2 / IR 78875-207-B-3 outyielded the best varietal check continuously for three years (2018: 28%, 2019: 13% and 2020: 17%) in Zone III. State wise it showed yield superiority over the best varietal check for 3 years in Bihar (2020:21%, 2019: 19% and 2018: 41). In West Bengal it recorded yield advantage over the best varietal check during 3<sup>rd</sup> year (53%), and 1<sup>st</sup> year (22%). ***Therefore, it is identified for the states of Bihar and West Bengal in Zone 3.***

S.No	IET No/ Designation	Year	Zonal mean yield FD/GT	Yield adv. (%) over the BC	Zone rank	State (No. of locations) / Rank	% BC
9	IET 27920 (AD 16028)	2020	5276 88 LB	21 (NC)	Z III -3	BI (3)-4 WB (1)-2	33 50
		2019	5094 92 LB	8 (NC)	Z V-6	MP (1)-10 CH (1)-5 MH (1)-3	11 5 9
		2018	5177 92 LB	-	Z III	BI (2) WB (1)	22 7

IET 27920 (AD 16028) derived from the cross WGL 14377 / MDU 5 topped the best varietal check during 2020 (21%) and 2019 (8%) in Zone V. Statewise it showed yield superiority over the best varietal check in the 3<sup>rd</sup> year (33%) and 1<sup>st</sup> year (22%) in Bihar. Hence it is identified as promising in Bihar.

S.No.	IET No/ Designation	Year	Zonal mean yield/ FD/GT	Yield adv. (%) over BC/HC	Zone Rank	State (No. of locations)/Rank	% BC	% HC
10	27332 (NPH-X1 Hybrid)	2020	5137	17	ZIII-6	BI (3)-2	37	7
			86	7		JH (2)-4	31	24
			SB			WB (1)-5	33	12
		2019	6586	18	ZIII-3	BI (1)-3	42	19
			86	6		JH (1)-1	20	22
			SB			WB (2)-3	11	12
		2018	7795	30	ZIII-	WB (1)-9	35	-
			89	17				
			SB					

IET 27332 (NPH-X1), a hybrid entry was tested for three years (2018-2020). It has out yielded the best varietal check continuously for 3 years (2018:30%, 2019:18% and 2020:17% respectively) and the hybrid check for 3 years 2020 (3<sup>rd</sup> year: 7%), 2019 (2<sup>nd</sup> year: 6%) and 2018 (1<sup>st</sup> year: 17%) in Zone III. State wise it showed superiority over the best varietal and hybrid check during 2<sup>nd</sup> year (2019- BC: 42% and HC: 19%) and 3<sup>rd</sup> year (2020- BC: 37% and HC: 7%) in Bihar. In Jharkhand it excelled the best varietal and hybrid check during 2<sup>nd</sup> year (2019- BC: 20% and HC: 22%) and 3<sup>rd</sup> year (2020- BC: 31% and HC: 24%). **Hence it is identified for the states of Bihar, Jharkhand in zone 3.**

S.No.	IET No/ Designation	Year	Zonal mean yield/ FD/GT	Yield adv (%) over BC/HC	Zone rank	State (No. of locations)/ Rank	%BC	% HC
11	27340 (US-319 Hybrid)	2020	5394	23	ZIII-2	JH (2)-1	43	36
			87	12				
			LB					
		2019	6563	17	ZIII-4	JH (1)-2	19	21
			92	6				
			LB					
		2018	7138	19	ZIII-	JH (1)	12	-
			88	7				
			LB					

IET 27340 (US-319), a hybrid entry recorded yield gain over the checks during 3<sup>rd</sup> year: 2020 (BVC: 16% , HC:20%) and in 1<sup>st</sup> year: 2018 (BVC: 17% & HC: -) in zone VI. Statewise it is superior to BVC and HC by 20% and 37% during 2020 while 30% and 7% yield gain in 2018 over BVC and HC respectively in Gujarat. **Hence it is identified for Gujarat in zone 6.**

S. No	IET No/ Designation	Year	Zonal mean yield/ FD/GT	Yield adv (%) over BC/HC	Zone rank	State (No. of locations)/ Rank	%BC	% HC
12	27328 (SHX-015 Hybrid)	2020	5237 86 LB	20 9	ZIII-4	JH (2)- 5	29	23
		2019	6592 87 LB	18 6	ZIII-2	JH (1)- 5	-	-
		2018	7226 92 LB	20 9	ZIII-	JH (1)-	-	-

IET 27328 (SHX-015), a hybrid entry outperformed the checks for 2 years (2020: BVC: 21% & HC: 27%; and 2018: BVC: 21%, HC: -) in Zone VI. Statewise it showed yield superiority over the best varietal check (19%) and hybrid check (15%) during 3<sup>rd</sup> year in Maharashtra. Also in 1<sup>st</sup> year (2018) it was superior to BVC by 27% and HC by 14%. **Hence it is found promising for Maharashtra in zone 6.**

S.No.	IET No/ Designation	Year	Zonal mean yield/ FD/GT	Yield adv (%) over BC/HC	Zone rank	State (No. of locations)/ Rank	%BC	% HC
13	27329 (MP-3050 Hybrid)	2020	5173 86 LB	18 8	ZIII-5	JH (2)-7	23	17
		2019	6926 90 LB	24 12	ZIII-1	JH (1)-10	-	-
		2018	7420 92 LB	23 12	ZIII-	JH (1)	16	6

IET 27329 (MP-3050) a hybrid entry outperformed both the best varietal check and hybrid check during 1<sup>st</sup> year (2018 - BC: 23%, HC: 12%), 2<sup>nd</sup> year (2019- BC: 24% HC: 12%) and 3<sup>rd</sup> year of testing (2020- BC:18%, HC: 8%) in Zone III. State wise it showed yield improvement over the best varietal check in 2 years (2018:16% and 2020:23%) and over the hybrid check for 2 years (2018:6% and 2020:17%) in Jharkhand. However, in 2018 (1<sup>st</sup> year) it could not show the required yield improvement of >15% over HC and >20% over BCV in Jharkhand wherein the trial was evaluated in a single location. Hence it is discontinued.

## ADVANCE VARIETY TRIAL 1-EARLY TRANSPLANTED (AVT1 E -TP)

Locations: 35

Test Entries: 17

**Checks:** CO-51 (National); PR 124 (Northern), Narendra 97 (Eastern), Luit (North Eastern), Sahbhagidhan (Central & Western), MTU 1153 (Southern)- Zonal; US 314 (Hybrid) and local check

Advance variety trial - Early Transplanted (AVT-1- E- TP) was constituted with 17 test entries and 4 checks namely CO-51 (National check), PR 124 (Northern), Narendra 97 (Eastern), Luit (North Eastern), Sahbhagidhan (Central & Western), MTU 1153 (Southern) as Zonal checks, US 314 (Hybrid check) and a local check. The trial was sent to 42 locations however data was not received from seven locations namely Wangbal, Arundhutinagar, Lembucherra, Dabhoi, Bhubaneswar, Brahmavar and Kurumbapet. Data from ten centers was excluded from analysis viz., Pantnagar, Ludhiana, Kaul, Bikramganj, Patna, Ranchi, Hazaribagh, Masodha, Maruteru and Mandya due to either low (<5%) /high CV (> 20%) or low experimental yield (< 3000 Kg/ha).

### The information on data inclusion/exclusion in analysis

Data status	Zone/location/state	Total no. of locations
The centres from which data is not included in analysis (Low/high CV)	<b>Zone 3:</b> BKG & PTN (BI), HZB (JH) <b>Zone 7:</b> MTU (AP), MND (KA),	5
The centres from which data is not included in analysis (Low experimental mean)	<b>Zone 2:</b> PNT (UT), LDN (PU), KUL (HA) <b>Zone 3:</b> RCI (JH)	4
The centres from which data is not included in analysis (Low CV and low experimental mean)	<b>Zone 3:</b> MSD (UP)	1
The centres from which data is not received	<b>Zone 4:</b> WBL (MN), ARD & LMB (TR), <b>Zone 6:</b> DBI (GU) <b>Zone 7:</b> KBP (PO), MND & BRM (KA)	7
The centres from which data is included in analysis	<b>Zone 3:</b> CTK & JYP (OD); SBR (BI); CHN & HTW (WB) <b>Zone 4:</b> TTB (AS) <b>Zone 5:</b> REW (MP), RPR, JDP & BLP (CH); SND & SKL (MH) <b>Zone 6:</b> KJT, VDG & SHR (MH); NWG & VYR (GU) <b>Zone 7:</b> KNM, JGL and WGL (TE), ADT & CBT (TN); MNC & PTB (KE); GNV (KA)	25
	<b>Total number of locations</b>	<b>42</b>

Location-wise mean grain yield ranged from 4008 kg/ha (Sabour) to 8261 kg/ha (Coimbatore) while CV ranged from 5.6 % (Pattambi) to 17.7% (Nawagam). Overall mean grain yield of the entries ranged from 4680 kg/ha (CO 51) to 5596 kg/ha (IET 28119); days to 50% flowering from 84 days (IET 28356) to 90 days (IET 28111). Among the varietal checks, local check was the highest yielder (4967 Kg/ha) followed by zonal check (4830 Kg/ha) and National check (4680 kg/ha). The data pertaining to yield, days to 50% flowering,



plant height, panicles/m<sup>2</sup> and quality are presented in tables 1.8, 1.9, 1.10, 1.11 and 1.12 respectively.

### Performance of the entries based on overall mean grain yield

The trial was conducted at 35 locations across 9 states. On overall mean basis six entries (3 inbreds: IET 28322, 28343 and 26790 and 2 hybrids: IET 28119, 28122) surpassed the best varietal check or hybrid check in grain yield. The three varietal entries namely IET 28322, 28343 and 26790 showed yield gain of 11%, 9% and 8% respectively over the best varietal check (Local). Similarly, two hybrid entries viz., IET 28119 (HRI - 201) and IET 28122 (RH-169269) outyielded the best inbred check (Local) by 13% and 12% respectively while over hybrid check (US 314) 13% and 12% yield gain respectively. However due to poor grain quality, two hybrids *ie.*, IET 28119 and 28122 were dropped. ***On overall mean basis, three varietal entries namely IET 28332, IET 28343 and IET 26790 are promoted to AVT-2 E-TP.***

### Overall performance of entries in AVT 1- E- TP, Kharif 2020

Rank	IET No/Designation/ Cross Combination	GY/DFP/GT	% Yield advantage over NC/ZC / HC/ LC	Remarks
1	IET 28119 (Hybrid) HRI - 201	5596 88	20 16 <b>13</b> <b>13</b>	Dropped (Poor quality)
2	IET 28122 (Hybrid) RH-169269	5581 86	19 13 <b>12</b> <b>12</b>	Dropped (Poor quality)
3	IET 28332 KNM 7048 KPS 3219 / KNM 118	5535 85 LS	11 15 18 <b>11</b>	Promoted to AVT 2-E-TP
4	IET 28343 KNM 6965 MTU 1010 / KNM 118	5398 86 LS	9 12 15 <b>9</b>	Promoted to AVT 2-E-TP
5	IET 26790 MTU 1273 MTU 1010 / FL478 // *3 MTU 1010	5380 86	8 11 15 <b>8</b>	Promoted to AVT 2-E-TP
	National check (CO 51)	4680 84		
	Zonal Check (ZC)	4830 87		
	Hybrid Check (US 314)	4966 84		
	<b>Local check - Best check</b>	<b>4967</b> <b>86</b>		

### Performance of entries across zones in AVT 1- E TP, Kharif 2020

On zonal mean basis one entry (IET No.28354) in Zone 3; three entries (IET Nos. 28354, 28358, 28356) in Zone IV and 4 entries (IET Nos. 28329, 28111 (H), 28356 and

28115 (H) in Zone 5 were promoted to AVT-2-E-TP. On overall mean basis 3 entries (IET Nos. 28332, 28343 and 26790) were promoted. On the basis of flowering duration, IET 28366 is shifted to IVT-E (DS).

### Mean performance of entries across the Zones in AVT-1-E-TP, Kharif, 2020

S. No	IET No	Zone III (5L)			Zone IV (1 L)			Zone V (6 L)			Zone VI (5 L)			Zone VII (8 L)			Overall (25 L)			Remarks
		%BC	%HC	DFF	%BC	%HC	DFF	%BC	%HC	DFF	%BC	%HC	DFF	%BC	%HC	DFF	%BC	%HC	DFF	
1	26790	10		82	14	-	79	13	-	86			-	-	-	8	-	86	Promoted to AVT-2-ETP	
2	28119 (H)	22	-	83	56	94	83	19	14	88	11	-	90	-	20	92	13	13	88	Dropped (Low HRR (51.5%))
3	28329	-		84	-	-	84	10	-	88	-	-	86	-	-	89	-	-	87	Promoted to AVT-2-ETP
4	28377	-		82	12		81	-		87	-		87	-		89	-		86	Dropped (Single location)
5	28354	14		83	29		84	-		89	-		86	-		94	-	-	88	Promoted to AVT-2-E-TP
6	28343	11		81	29		79	10		86	10		85	-		91	9	-	86	Promoted to AVT-2-ETP
7	28358	-		86	28		86	-		90	-		86	-		93	-		89	Promoted to AVT-2-E-TP
8	28111 (H)	-	-	86	-	29	83	12	7	91	15	-	89	-	14	94	-	-	90	Promoted to AVT-2-E-TP
9	28366	-		83	11		78	-		85	-		86	-		89	-		86	Shift to IVT-E-DS
10	28332	12		81	9		79	14		85	8		84	-		88	11	-	85	Promoted to AVT-2 E
11	28114 (H)	8	-	84	9	36	79	-	-	89	-	-	87	-	10	92	-	-	88	Dropped (Single location)
12	28333	-		83	13		82	-		87	-		88	-		90	-		87	Dropped (Single location)
13	28118 (H)	-	-	84	-	-	81	7	-	89	9	-	90	-	27	92	-	-	89	Dropped
14	28120 (H)	9	-	81	-	-	75	11	6	85	8	-	87	-	23	88	7	7	85	Dropped (LowHRR: 53.4%)
15	28356	-		80	24		80	10		84	-		81	-		88	-		84	Promoted to AVT-2-E-TP
16	28122 (H)	6	-	83	54	92	79	24	19	86	8	-	84	-	28	88	12	12	86	Dropped (Low HRR: 50.2%)
17	28115 (H)	12	-	82	-	-	76	10	5	83	-	-	85	-	6	90	-	-	85	Promoted to AVT-2-E-TP
<b>Checks</b>																				
	NC			80			79			84			84			88			84	
	ZC			78			69			91			91			90			87	
	LC			83			79			86			87			89			86	
	Mean (VC)			80			76			87			87			89			86	
	HC			81			80			85			81			87			84	

### List of entries promoted or shifted

**Overall:** IET Nos. 28332, 28343 and 26790

**Zone III:** IET Nos., 28354

**Zone IV:** IET Nos. 28354, 28358, 28356

**Zone V:** IET Nos. 28329, 28111 (H), 28356, 28115 (H)

**Shift to IVT-E (DS):** IET 28366.

## INITIAL VARIETY TRIAL - EARLY TRANSPLANTED (IVT – E TP)

**Locations:** 30

**Test Entries:** 61

**Checks:** CO-51 (National); PR 124 (Northern), Narendra 97 (Eastern), Luit (North Eastern), Sahbhagidhan (Central & Western), MTU 1153 (Southern)- Zonal; and local check. **Table:1.13**

Initial variety trial - Early Transplanted (IVT - E TP) was constituted with 61 test entries and 3 checks: CO-51 as National check, PR 124- Northern, Narendra 97-Eastern, Luit- North Eastern, Sahbhagidhan- Central & western, MTU 1153- Southern as Zonal checks and a local check. The trial was sent to 30 locations however data was not received from fifteen locations namely Bhubaneswar, Cuttack, Sabour, Patna, Chinsurah, Masodha, Titabar, Rewa, Raipur, Jagadapur, Nawagam, Dabhoi, Kunaram, Jagityal and Brahmavar. Fifteen locations have sent data among which data from five centers was excluded from analysis namely Lembucherra, Kampasagar, Pattambi, Bikramganj and Jeypore due to either low or high CV (5-20%) or low experimental yield (< 3000 Kg/ha). Overall mean yield of the entries ranged from 3683 kg/ha (IET 29162) to 5696 kg/ha (IET 29197); days to 50% flowering from 72 days (IET 29197) to 95 days (IET 29173, 29180 & 29188). Among the checks, local check was the highest yielder (5289 Kg/ha) followed by national check (5215 Kg/ha) and zonal check (4573 kg/ha). The data pertaining to yield, days to 50% flowering, plant height and panicles/m<sup>2</sup> are presented in tables 1.14, 1.15, 1.16 and 1.17 respectively.

### Performance of the entries on overall mean basis

Local check was the superior check (5289 kg/ha) among the checks. Three entries (3 inbreds: IET 29197, 29142 & 29188) outyielded the best check by 8%, 6% & 6% respectively. Among them IET 29142 promoted to AVT- 1 E- TP while IET 29197 shifted to IVT-E (DS) and IET 29188 shifted to IVT-IME.

IET 29197 ranked first on overall basis with 5696 kg/ha mean yield, 72 days to 50% flowering. It recorded 9%, 25% and 8% yield superiority over national, zonal and local check (Best check) respectively.

IET 29142 ranked second on overall basis with an overall mean yield of 5598 kg/ha and 85 days flowering duration. It was superior to national check, zonal check and local check by 7%, 22% and 6% yield improvement respectively.

IET 29188 ranked second on overall mean basis with mean yield of 5598 kg/ha and 95 days flowering duration. It was found to show yield advantage of 7%, 22% and 6% over national check, zonal check and local check respectively.

### Overall performance of entries in IVT - E TP, Kharif 2020

Rank	IET No/Designation/ Cross Combination	GY/DFP/ GT	% Yield advantage over NC/ ZC/ LC	Remarks
1	29197 ORJ 1349 (TP 30457) IR 09L272 / IR 10L105	5696 72 LB	9 25 8	Shift to IVT-E (DS)
2	29142 JGL 35085 (JGL 20171 / NLR 34449) / JGL 20171	5598 85 LS	7 22 6	Promoted to AVT-1-E-TP
2	29188 WGL-1355 WGL-347 / HKR -06-47	5598 95 LS	7 22 6	Shift to IVT-IME
	National Check (NC)	5215 83		
	Zonal Check (ZC)	4573 83		
	<b>Local check - Best check</b>	<b>5289</b> <b>85</b>		

**Bold & Italics:** Best check & over the best check; NC-National Check; ZC-Zonal Check; HC-Hybrid Check; LC-Local Check; GY: Grain Yield; DFP: Days to 50% flowering; GT: Grain Type; BCV: Best Varietal Check.

### Performance of the entries in overall mean

Two entries (IET No. 29177, 29193) in Zone 5, one entry (IET No. 29140) in Zone VI and one entry (IET 29142) in overall mean were promoted to AVT-1-E-TP. Depending on the duration two entries (IET No. 29188, 29189) shifted to IVT-IME, IET 29152 to IVT-Late while IET 29197 shifted to IVT- E(DS) and one entry ie., IET 29173 repeated in IVT-E-TP.

**Mean performance of entries across the Zones in IVT-E-TP, Kharif, 2020**

S No.	IET No.	Zone V (2L)		Zone VI (1L)		Zone VII (7L)		Overall (10L)		Remarks
		BC%	DFP	BC%	DFP	BC%	DFP	BC%	DFP	
1	29140	-	89	23	88	-	84	-	86	Promoted to AVT-1-E
2	29141	-	73	-	86	-	85	-	83	Drop
3	29142	19	77	-	-	-	-	6	85	Promoted to AVT-1-E TP
4	29143	-	73	-	83	-	84	-	81	Drop
5	29144	-	74	-	84	-	86	-	83	Drop
6	29145	-	74	-	82	-	85	-	82	Drop
7	29146	-	82	-	87	-	93	-	90	Drop
8	29147	-	92	-	86	-	84	-	85	Drop
9	29148	-	78	-	82	-	88	-	85	Drop
10	29149	-	71	-	82	-	85	-	82	Drop
11	29150	-	88	-	86	-	92	-	90	Drop
12	29151	-	85	-	86	-	89	-	88	Drop
13	29152	-	88	11	111	-	92	-	93	Shifted to IVT-Late
14	29153	-	76	-	84	-	84	-	83	Drop
15	29154	-	73	-	82	-	83	-	81	Drop
16	29155	-	78	-	114	-	87	-	88	Drop
17	29156	-	81	-	86	-	86	-	85	Drop
18	29157	-	88	-	88	-	92	-	91	Drop
19	29158	-	82	-	85	-	84	-	83	Drop
20	29159	-	77	-	85	-	84	-	82	Drop
21	29160	-	78	-	85	-	87	-	85	Drop
22	29161	-	81	6	88	-	89	-	87	Drop (Single location)
23	29162	-	76	-	89	-	87	-	85	Drop
24	29163	-	71	-	82	-	81	-	79	Drop
25	29164	-	73	-	83	-	83	-	81	Drop
26	29165	-	76	-	90	-	85	-	84	Drop
27	29166	-	78	-	89	-	85	-	84	Drop
28	29167	-	77	-	113	-	85	-	86	Drop
29	29168	-	80	9	87	-	86	-	85	Drop (Single location)
30	29169	-	73	-	88	-	84	-	82	Drop
31	29170	-	77	-	87	-	83	-	82	Drop
32	29171	-	77	-	86	-	86	-	84	Drop
33	29172	-	72	-	86	-	83	-	81	Drop
34	29173	8	78	21	113	-	94	-	95	Repeat in IVT-E
35	29174	-	80	-	89	-	91	-	89	Drop
36	29175	-	79	-	90	-	88	-	86	Drop
37	29176	-	81	-	87	-	84	-	83	Drop
38	29177	8	82	9	88	-	91	-	88	Promoted to AVT-1-E TP
39	29178	-	87	-	86	-	94	-	92	Drop
40	29179	-	74	-	92	-	89	-	87	Drop
41	29180	-	87	-	111	-	95	-	95	Drop

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S No.	IET No.	Zone V (2L)		Zone VI (1L)		Zone VII (7L)		Overall (10L)		Remarks
		BC%	DFP	BC%	DFP	BC%	DFP	BC%	DFP	
42	29181	-	79	-	90	-	85	-	84	Drop
43	29182	-	79	-	87	-	85	-	84	Drop
44	29183	-	74	-	86	-	85	-	83	Drop
45	29184	-	75	-	109	-	87	-	87	Drop
46	29185	-	73	6	84	-	87	-	84	Drop (Single location)
47	29186	-	79	-	85	-	87	-	85	Drop
48	29187	-	78	-	88	-	87	-	85	Drop
49	29188	5	89	-	-	6	96	6	95	Shift to IVT-IME
50	29189	13	90	-	88	-	91	-	91	Shift to IVT-IME
51	29190	-	91	5	88	-	95	-	94	Drop (Single location)
52	29191	-	78	-	86	-	90	-	87	Drop
53	29192	-	76	-	85	-	89	-	86	Drop
54	29193	11	81	-	86	-	90	-	87	Promoted to AVT-1-E TP
55	29194	-	80	-	85	-	86	-	85	Drop
56	29195	-	82	-	84	-	85	-	84	Drop
57	29196	-	68	-	83	-	79	-	77	Drop
58	29197	-	-	-	-	9	66	8	72	Shift to IVT-E (DS)
59	29198	-	77	-	86	-	89	-	86	Drop
60	29199	-	87	-	83	-	84	-	84	Drop
61	29200	-	79	-	86	-	86	-	84	Drop
	National check (NC)	-	77	-	88	-	84	-	83	
	Zonal check (ZC)	-	78	-	85	-	84	-	83	
	Local Check (LC)	-	78	-	91	-	86	-	85	
	Mean FD of checks		78		88		85		84	
	SEM		2		0.9		0.3		0.5	
	Mean FD plus SEM		80		89		85		85	

The following entries are promoted to AVT1-E on the basis of overall mean or zonal mean or shifted to the suitable duration trial

**Overall basis:** IET 29142

**Zone V:** IET No. 29177, 29193

**Zone VI:** IET No. 29140

**Shift to IVT-IME:** IET No. 29188, 29189

**Shift to IVT- E(DS):** IET 29197

**Shift to IVT-Late:** IET 29152

**Repeat in IVT-E:** IET 29173.

**Table No 1.1: Composition of entries in Advance Variety Trial 2–Early Transplanted (AVT 2E-TP), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>3<sup>rd</sup> year of testing:</b>				
3501	27892	RCPR 58-IR 93827-29-1-1-3	IR 81039-B-173-U-3-3 / IR 81063-B-94-U-3-1	LS
3502	27866	HKR 16-1-IR14L521	IR 09L272 / IR 10L146	LS
3503	27914	CRR 807-1	IR 10L146 / IR 10L137	LS
3504	27905	NP 9968	PRN 8 / PRN 85	MS
3505	<b>Local Check</b>			
3506	<b>CO-51 (NC)</b>			
3507	27883	CR 4009-4-2- GSR IR1-DQ 138-LI1-Y1	GSR IR1-8-S6-S3-Y2 / GSR IR1-8-Y7-D2-S1	LS
3508	27869	JGL 25958	MTU 1010 / NLR 34449	LS
3509	26898	HURS 17-7- IR 95786-9-2-1-2	IR 10 L-149 / IR 10 L 152	LS
3510	<b>PR 124-Northern, Narendra 97-Eastern, Luit -North Eastern, Sahbhagidhan- Central &amp; Western, MTU 1153-Southern-- ZC</b>			
3511	27332	<i>NPH-X1 (Hybrid)</i>	-	SB
3512	27340	<i>US-319 (Hybrid)</i>	-	LB
3513	27328	<i>SHX-015 (Hybrid)</i>	-	LB
3514	<b>US 314 (HC)</b>			
3515	27880	ORJ 1346 (TP 27626)	IR 78875-176-B-2 / IR 78875-207-B-3	LB
3516	27920	AD 16028	WGL 14377 / MDU 5	LB
3517	27329	<i>MP-3050 (Hybrid)</i>	-	LB

**Table No. 1.2: Grain Yield (Kg/ha) of entries in AVT 2 – E TP, Kharif 2020**

Entry No.	IET NO.	ZONE II								ZONE III			
		UK		PU (1)		HA (1)		Zone II (2)		OD			
		@PNT	LDN	KUL		Mean				CTK		JYP	
3501	27892	3332	5422	4883	5153	6	#	22%	8420	2*	#	4975	5 #
3502	27866	3880	7 4283	5674	4979	7	#	17%	8446	1*	#	4263	7 #
3503	27914	3672	8 4013	5865	4939	8	#	17%	5541			2403	
3504	27905	2697	4625	8 16% 5101	4863	9	#	15%	5563	10		2314	
3505	Local Check (LC)	3200	5906	1 4937	5422	3			5455			3838	
3506	CO-51 (NC)	2086	3631	4228	3930				5602	9		5018	4
3507	27883	2813	3849	5237	4543	7	6%#	16%	6623	6*		3426	#
3508	27869	2937	4965	6 # 25% 4446	4706	#		11%	6840	4*		4055	8 #
3509	26898	3345	5458	3 # 37% 5101	5280	4	#	25%	7195	3*		3981	10 #
3510	Zonal Check (ZC)	4016	6 4481	9 4092	4287				4745			2671	
3511	27332	4256	5 5826	2 # 46% 5947	5887	1*	20%#	32%	3727			4294	6 #
3512	27340	5350	1 4372	5265	4819	10	#	14%	5255			5060	3 #
3513	27328	4421	3 5363	5 # 35% 5865	5614	2	#	32%	5260			5196	2 #
3514	US 314 (HC)	5174	2 3977	4501	4239				6671	5		2396	
3515	27880	4343	4 4481	9 13% 4910	4696	#		11%	5870	8		4052	9 #
3516	27920	3377	10 3372	3983	3678				6623	6*		3706	#
3517	27329	3521	9 4698	7 18% 5646	5172	5	#	22%	4056			5516	1 #
<b>Exp. Mean</b>		<b>3672</b>	<b>4631</b>	<b>5040</b>	<b>4835</b>				<b>5994</b>			<b>3951</b>	
CD		1543.19	862	570.54	437.75				868.13			853.77	
CV%		25.27	11.19	6.81	5.44				8.71			12.99	
D/S		14-07-2020	14-07-2020	16-07-2020					27-07-2020			12-07-2020	
D/P		07-08-2020	07-08-2020	15-08-2020					28-08-2020			07-08-2020	
Local Check Name		Govind	PR 126	HKR-48					Naveen			Mandakini	

\* Superior to Best Check %Superior over Best Check @not included in means #Superior to Hybrid Check %Superior over Hybrid Check

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**Table No.1.2 contd.: Grain Yield (Kg/ha) of entries in AVT 2 – E TP, Kharif 2020**

Entry No.	IET NO.	ZONE III																
		OD (2)				BI				BI (3)			JH					
		Mean				BKG		SBR		PTN		Mean			RCI		HZB	
3501	27892	6698	1*	26% #	48%	3865		4188		5607	7*	4553	*	12%	4044	8	4659	
3502	27866	6355	2*	20% #	40%	4568	5*	5577	6* #	5760	6*	5302	5*	30%	4711	3*	4104	
3503	27914	3972				4541	6*	5116	8*	6047	4*	5235	7*	28%	4711	3*	5914	4* #
3504	27905	3939				3730		4583		4607		4307		6%	4667	5*	5914	4* #
3505	Local Check (LC)	4647				3788		3953		4370		4037			1889		4534	
3506	CO-51 (NC)	5310		5		3865		3941		4440		4082			3311		4767	10
3507	27883	5025	9		11%	4324	9	5776	4* #	4820		4973	9*	22%	3978	10	4516	
3508	27869	5448	4	#	20%	3973		4552				4263			4733	2*	5305	8* #
3509	26898	5588	3	5% #	23%	4122	10	4376		5450	9*	4649	*	14%	3867		4032	
3510	Zonal Check (ZC)	3708				4108		3236		4227		3857			1689		1810	
3511	27332	4011				5081	2* #	5479	7*	6240	3*	5600	2*	37% #	4511	6*	6057	3* #
3512	27340	5158	8	#	14%	4351	8	6429	2* #	5913	5*	5564	3*	36% #	5956	1* #	5627	6* #
3513	27328	5228	6	#	15%	4590	3*	5717	5* #	5380	*	5229	8*	28%	3911		6523	1* #
3514	US 314 (HC)	4534				4588	4	4840	10	6293	2	5240		6	3844		4659	
3515	27880	4961		10		4432	7	4946	9*	5473	8*	4950	10*	21%	4000	9	5484	7* #
3516	27920	5165	7	#	14%	4027		5807	3* #	6467	1*	5434	4*	33%	4156	7	4982	9
3517	27329	4786				5255	1* #	6472	1* #	5393	10*	5707	1*	40% #	3822		6129	2* #
Exp. Mean		4972				4306		4999		5405		4881			3988		5001	
CD		585.97				368.78		728.9		468.72		262.94			1174.27		490.8	
CV%		7.09				5.15		8.77		5.2		3.24			17.7		5.9	
D/S						25-07-2020		13-07-2020		22-07-2020					06-07-2020		08-07-2020	
D/P						24-08-2020		06-08-2020		20-08-2020					25-07-2020		05-08-2020	
Local Check Name						R.Bhagwati		Sabour Deep		Sahbhagi Dhan					BVD-110		Sahbhagi dhan	

**Table No. 1.2 contd.: Grain Yield (Kg/ha) of entries in AVT 2 – E TP, Kharif 2020**

Entry No.	IET NO.	ZONE III																	
		JH (2)			WB			WB (1)			UP		Zone III (8)						
		Mean			@CHN		HTW	Mean			@MSD		Mean						
3501	27892	4352		8%	6138	5	5172	8	5172	8	20%	1817		5116	7*	17% #			
3502	27866	4408		10	9%	6296	1	6409	3*	6409	3*	49%	25%	3083		5480	1*	25% #	14%
3503	27914	5313	2*	32% #	25%	5026		6372	4*	6372	4*	48%	25%	3163		5081	9*	16% #	
3504	27905	5291	3*	31% #	24%	5217		5406	6	5406		6	26%	3844	2 #	4598		5%	
3505	Local Check (LC)	3212				6208	4	4291		4291				3270	9	4015			
3506	CO-51 (NC)	4039				5079		4069		4069				3200	10	4377			
3507	27883	4247		5%		6032	8	4248		4248				3917	1* #	4714	*	8%	
3508	27869	5019	6*	24% #	18%	5220		5076	10	5076		10	18%	3183		4933	10*	13%	
3509	26898	3950				5820	10	4716		4716			9%	2020		4717	*	8%	
3510	Zonal Check (ZC)	1750				4780		4307		4307				3717	3	3349			
3511	27332	5284	4*	31% #	24%	6272	2	5707	5*	5707	5*	33%	12%	3517	4	5137	6*	17% #	
3512	27340	5792	1*	43% #	36%	6233	3	4559		4559			6%	3353	8	5394	2*	23% #	12%
3513	27328	5217	5*	29% #	23%	6014	9	5316	7	5316		7	23%	3000		5237	4*	20% #	
3514	US 314 (HC)	4252				6123	6	5107	9	5107			9	3517	4	4800			
3515	27880	4742	8*	17%	12%	6095	7	6591	1* #	6591	1*	53% #	29%	2217		5106	8*	17% #	
3516	27920	4569		9	13%	5795		6440	2*	6440	2*	50%	26%	3407	7	5276	3*	21% #	
3517	27329	4976	7*	23% #	17%	5785		4737		4737			10%	3450	6	5173	5*	18% #	
Exp. Mean		4495				5773		5207		5207				3157		4853			
CD		612.64				404.23		1363.82		1363.82				168.69		279.45			
CV%		8.2				4.21		15.75		15.75				3.21		3.46			
D/S						09-07-2020		10-07-2020						09-07-2020					
D/P						11-08-2020		31-07-2020						14-08-2020					
Local Check Name						Ajit		Lalat						Shushk Smrat					



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**Table No. 1.2 contd.: Grain Yield (Kg/ha) of entries in AVT 2 – E TP, Kharif 2020**

Entry No.	IET NO.	ZONE IV								ZONE V					
		AS		AS (1)		MAN		Zone IV (1)		MP		CH			
		TTB		Mean		@WBL		Mean		@REWA		RPR	JDP		
3501	27892	4596		4596		4044	#	4596		1662		4220	6	3296	
3502	27866	4040		4040		4133	2 #	4040		3821	5	4443	5	3998	
3503	27914	3113		3113		2667		3113		3020	10	4464	4	3953	
3504	27905	5996	2 #	5996	2 # 18%	4089	5 #	5996	2 # 18%	3534	8	3108		4225	8
3505	Local Check (LC)	5382	6	5382	6	4022		5382	6	2952		4036	9	3277	
3506	CO-51 (NC)	4851	10	4851	10	4067	9 #	4851	10	2041		2964		4121	10
3507	27883	4320		4320		4156	1 #	4320		3382	9	4491	3	4151	9
3508	27869	4469		4469		4067	9 #	4469		4133	3	3950		3598	
3509	26898	5900	3 #	5900	3 # 16%	4089	5 #	5900	3 # 16%	2218		3824		4663	5
3510	Zonal Check (ZC)	5736	5	5736	5 12%	4067	9 #	5736	5	624				3886	
3511	27332	4609		4609		4067	9 #	4609		4394	2	4038	8	5101	2
3512	27340	6022	1 #	6022	1 # 18%	4089	5 #	6022	1 # 18%	2353		4565	2	4936	3
3513	27328	4456		4456		4133	2 #	4456		3914	4	4049	7	4383	6
3514	US 314 (HC)	5100	9	5100	9	2733		5100	9	2783		4015	10	5713	1
3515	27880	5278	7	5278	7	4000	#	5278	7	3796	6	3671		4097	
3516	27920	5258	8	5258	8	4044	#	5258	8	3585	7	3944		4821	4
3517	27329	5742	4	5742	4 13%	4067	9 #	5742	4 13%	4993	1	4669	1	4231	7
<b>Exp. Mean</b>		<b>4992</b>		<b>4992</b>		<b>3914</b>		<b>4992</b>		<b>3130</b>		<b>4028</b>		<b>4262</b>	
CD		728.65		728.65		143.82		728.65		2140.05		942.3		1079.56	
CV%		8.78		8.78		2.21		8.78		41.11		14.03		15.23	
DIS		10-08-2020				17-07-2020				08-07-2020		01-07-2020		03-07-2020	
DIP		15-09-2020				10-08-2020				07-08-2020		23-07-2020		24-07-2020	
Local Check Name		Disang				Sana-Phou				JR767		Indira Aerobic 1		Samleshwari	

**Table No. 1.2 contd.: Grain Yield (Kg/ha) of entries in AVT 2 – E TP, Kharif 2020**

Entry No.	IET NO.	ZONE V													
		CH		CH (3)		MA (1)			MA1 (1)			Zone V (4)			
		BLP		Mean		@SKL	SND		Mean		Mean				
3501	27892	5222		4246		4984	3*	4429	8	4429	8	6%	4292		
3502	27866	7022	2*	5154	5 11%	5213	1*#	4881	4	4881	4	17%	5086	3* 21%	
3503	27914	6000	6	4806	7	4958	4*	4359	10	4359	10		4694	7 12%	
3504	27905	5600	7	4311		5090	2*	4027		4027			4240		
3505	Local Check (LC)	4889		4067		4254		4161		4161			4091		
3506	CO-51 (NC)	4644		3910		4566	9	4170		4170			3975		
3507	27883	4667		4436		4562	10	3456		3456			4191		
3508	27869	5289		4279		4489		4726	5	4726	5	13%	4391		
3509	26898	5444	10	4644	9	4532		4411	9	4411	9	6%	4586	9 9%	
3510	Zonal Check (ZC)	5400		4643	10	4577	8	3322		3322			4203		
3511	27332	5511	9	4883	6 5%	4392		4889	3	4889	3	17%	4885	6* 16%	
3512	27340	6044	5	5182	4 12%	4616	7	4965	2*	4965	2*	19%	5128	1* 22%	
3513	27328	7267	1*#	5233	3 13%	4395		4324		4324			5006	5* 19%	
3514	US 314 (HC)	6156	4	5295	1	4798	5	4592	7	4592	7		5119	2	
3515	27880	5533	8	4434		4503		5108	1*	5108	1*	22% 11%	4602	8 9%	
3516	27920	5356		4707	8	4634	6	3677		3677			4450	10 6%	
3517	27329	6822	3*	5241	2 13%	4499		4612	6	4612	6	11%	5084	4* 21%	
<b>Exp. Mean</b>		<b>5698</b>		<b>4675</b>		<b>4651</b>		<b>4359</b>		<b>4359</b>			<b>4589</b>		
CD		1059.09		694.53		370.34		735.01		735.01			594.46		
CV%		11.18		8.93		4.79		10.14		10.14			7.79		
DIS		02-07-2020				01-07-2020		07-07-2020							
DIP		24-07-2020				29-07-2020		29-07-2020							
Local Check Name		Chandrasahini				Sakoli-6		SYE-1							

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Table No. 1.2 contd.: Grain Yield (Kg/ha) of entries in AVT 2 – E TP, Kharif 2020

Entry No.	IET NO.	ZONE VI										
		MA2 (2)				MA2 (2)			MA(3)	GU (3)		
		KJT		SHR		Mean			Mean	NWG		
3501	27892	4321		3363		3842			4038		5177	
3502	27866	4580	8	4348	10	4464	7		4603	6 7.90%	6274	5 #
3503	27914	4556	9	4259		4408			4391	10	5136	
3504	27905	4901	2 #	3156		4029			4028		7035	2 * #
3505	Local Check (LC)	4704	5	3933		4319			4266		5391	9
3506	CO-51 (NC)	4815	4	3230		4023			4072		5470	8
3507	27883	3802		4400	9	4101			3886		5475	7
3508	27869	4074		4748	6	4411	10		4516	9 5.86%	5618	6
3509	26898	4136		5089	3 *	4613	5		4545	8 6.55%	4564	
3510	Zonal Check (ZC)	4852	3	4007		4430	9		4060		4411	
3511	27332	4685	6	5904	2 * #	5295	1 * 20% # 16%		5159	1 * 20.90% #12.52%	5250	
3512	27340	4630	7	4615	8	4623	4		4737	4 * 11.03%	6427	3 #
3513	27328	5654	1 * #	4911	5 *	5283	2 * 19% # 15%		4963	2 * 16.34%	6340	4 #
3514	US 314 (HC)	4148		5015	4	4582	6		4585	7	4725	
3515	27880	4148		4741	7	4445	8		4666	5 9.36%	5173	
3516	27920	4543	10	4067		4305			4096		5303	10
3517	27329	4037		6030	1 * #	5034	3 * 14%		4893	3 * 14.69%	7161	1 * #
Exp. Mean		4505		4460		4482			4441		5584	
CD		643.55		816.21		507.28			444.52		1483.3	
CV%		8.59		11		6.8			6.03		12.53	
D/S		11-07-2020		08-07-2020							16-07-2020	
D/P		01-08-2020		03-08-2020							28-08-2020	
Local Check Name		Karjat 7		Ratnagiri 1							Mahisgar	

Table No. 1.2 contd.: Grain Yield (Kg/ha) of entries in AVT 2 – E TP, Kharif 2020

Entry No.	IET NO.	ZONE VI										Zone VII		
		GU (3)				GU (3)			Zone VI (5)			AP (1)		
		DBI		VYR		Mean			Mean			MTU		
3501	27892	5033	2 #	3398		4536	10 # 19%		4258			5295	3 # 17%	
3502	27866	4918	3 #	3768	6 #	4987	5 15% # 31%		4778	5 * 11% # 16%		4716	8	
3503	27914	4216		2698		4017			4173			4782	6	
3504	27905	4627	7	3587	9	5083	3 * 17% # 34%		4661	7 8% # 13%		4341		
3505	Local Check (LC)	4464		3050		4302			4308			5192	4	
3506	CO-51 (NC)	4673	5	2903		4349			4218			4651	9	
3507	27883	3235		3747	7 #	4152			4132			4720	7	
3508	27869	4614	8	3602	8 #	4611	8 6% # 21%		4531	8 5% 10%		4533		
3509	26898	4660	6	3284		4169			4347	10		4276		
3510	Zonal Check (ZC)	4216		3046		3891			4106			4471		
3511	27332	5294	1 #	3579	10	4708	7 8% # 24%		4942	4 * 15% # 20%		5571	1 7% # 23%	
3512	27340	4608	9	4607	3 * #	5214	1 * 20% # 37%		4977	3 * 16% # 21%		4464		
3513	27328	4588	10	4574	4 * #	5167	2 * 19% # 36%		5213	1 * 21% # 27%		4625	10	
3514	US 314 (HC)	3889		2807		3807			4117			4521		
3515	27880	4918	3 #	4627	2 * #	4906	6 13% # 29%		4721	6 10% # 15%		5360	2 # 19%	
3516	27920	3824		4651	1 * #	4593	9 6% # 21%		4478	9		4533		
3517	27329	3853		4128	5 * #	5047	4 16% # 33%		5042	2 * 17% # 22%		4843	5	
Exp. Mean		4449		3650		4273			4428			4758		
CD		981.19		782.05		708.13			419.78			417.63		
CV%		10.403		12.88		9.96			5.7			5.28		
D/S		03-07-2020		13-07-2020								20-07-2020		
D/P		23-07-2020		10-08-2020								14-08-2020		
Local Check Name		GAR-13		GR-7								MTU 1156		

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**Table No. 1.2 contd.: Grain Yield (Kg/ha) of entries in AVT 2 – E TP, Kharif 2020**

Entry No.	IET NO.	Zone VII																
		TE			TE (3)			TA			TA (2)			KE				
		KNM	WGL	JGL	Mean			ADT	CBT		Mean			MNC				
3501	27892	5969	8	3887		4899	7 #	4918	10	5625	10	6665	8	6145	9	4412		
3502	27866	6239	4	3268		5175	4 #	4894		5938	6 #	7262	6 #	6600	6 #	15%	4683	
3503	27914	4719		3062		4603	9	4128		5108		9019	2 #	7064	5 #	23%	5253	
3504	27905	5970	7	5435	4 #	5661	2 #	5689	2 #	6000	5 #	9221	1 #	7611	2 #	33%	3398	
3505	Local Check (LC)	5220		4644	9	5069	5	4978	9	5833	8	8883	3	7358	3		5880	10
3506	CO-51 (NC)	5285	10	4403		4444		4711		5542		6437		5990			5101	
3507	27883	4964		3922		4561		4482		5063		6159		5611			6561	5
3508	27869	5542	9	4988	7	5026	6 #	5185	8	6021	4 #	6107		6064			6942	3* #
3509	26898	6472	3	5160	5	4413		5348	4 #	4875		5934		5405			5987	9
3510	Zonal Check (ZC)	6801	1	7774	1	5968	1	6848	1	5063		6707	7	5885			4949	
3511	27332	6039	6	5160	5	4593	10	5264	6	6438	3 #	7865	5 #	7152	4 #	25%	6970	2* #
3512	27340	4941		3715		4577		4411		6667	2* #	8740	4 #	7704	1 #	34%	6038	8
3513	27328	4405		4885	8	4720	8	4670		6688	1* #	6278		6483	7 #	13%	6896	4* #
3514	US 314 (HC)	6112	5	4438		3788		4779		5063		6418		5741			5569	
3515	27880	4990		6261	3 #	4381		5211	7	4688		6443		5566			6382	7
3516	27920	4827		6605	2 #	5458	3 #	5630	3 #	5896	7 #	6495	10	6196	8		6483	6
3517	27329	6782	2	4610	10	4450		5281	5	5667	9	6578	9	6123	10		8604	1* #
<b>Exp. Mean</b>		<b>5605</b>		<b>4836</b>		<b>4811</b>		<b>5146</b>		<b>5657</b>		<b>7130</b>		<b>6394</b>			<b>5889</b>	
CD		1230.62		905.36		981.82		550.13		775.54		632.07		470.66			994.77	
CV%		13.2		11.26		9.62		6.43		8.24		5.33		4.43			10.16	
DIS		02-07-2020		06-07-2020		03-07-2020				23-09-2020		13-07-2020					30-09-2020	
DIP		02-08-2020		31-07-2020		15-08-2020				21-10-2020		07-08-2020					15-10-2020	
Local Check Name		KNM 118		KNM-118		JGL 18047				ADT 53		CO 51					MO 21 (Prathyasa)	

**Table No. 1.2 contd.: Grain Yield (Kg/ha) of entries in AVT 2 – E TP, Kharif 2020**

Entry No.	IET NO.	Zone VII																				
		KE	KE (2)			KA			KA (2)			Zone VII (10)			Overall (30)							
		PTB	Mean			MND	@BRM	GNV	Mean			Mean			Mean							
3501	27892	6208	5*	5310		4840	7	4	8465	8	6653	7	5627		5019	10*						
3502	27866	6278	4*	5481		5235	8	4	7837		6536	8	5663		5290	5* 10% #						
3503	27914	5218	8	5236		4889	6	7	7583		6236		5424		4917							
3504	27905	6005	6*	4702		4700	3		7583		6142		5831	9 #	5036	9*						
3505	Local Check (LC)	5079		5480		4462	53	1	8343	9	6403		5861	5	4828							
3506	CO-51 (NC)	5074		5088		5347	4	7	5641		5494		5193		4555							
3507	27883	5153	9	5857	6	7%	5277	7	6	7	7250		6264		5363	4739						
3508	27869	6366	2*	6654	2*	21% #	12%	5298	6	4	8673	7	6986	6	5950	4 #	5108	8* 6%				
3509	26898	5241	7	5614		8	5430	3	11	2	7615		6523	9	5540		4989					
3510	Zonal Check (ZC)	5056		5003			5490	2	5	10	9487	3	7489	2	6177	2	4690					
3511	27332	4847		5909	5	8%	5311	5	6	7	9212	4	7262	3	12%	6201	1 #	12%	5458	2* 13% #	10%	
3512	27340	5102	10	5570		9	5007	10	5	10	9208	5	7108	5	5846	7 #	5422	3* 12% #				
3513	27328	4972		5934	4	8%	5156	9	6	7	9952	1 #	7554	1 #	17%	5858	6 #	5408	4* 12% #			
3514	US 314 (HC)	6315	3	5942		3	4952		4		7997	10	6475		5517		4940					
3515	27880	4681		5532		10	4758		7	4	9615	2 #	7187	4	11%	5756	10	5170	6* 7% #			
3516	27920	5074		5779	7	5%	4322		3		8708	6	6515	10	5840	8 #	5114	7* 6% #				
3517	27329	6431	1*	7518	1*	37% #	27%	5901	1 #	3	6923		6412		6079	3 #	10%	5460	1* 13% #	11%		
<b>Exp. Mean</b>		<b>5476</b>		<b>5683</b>			<b>5081</b>		<b>8</b>		<b>8241</b>		<b>6104</b>		<b>5687</b>		<b>5032</b>					
CD		631.55		532.94			947.63		17.8		1406.9		856.66		279.61		171.26					
CV%		6.93		5.64			11.21		3.09		8.05		8.44		2.96		2.05					
DIS		07-09-2020					31-07-2020		09-07-2020		27-07-2020											
DIP		08-10-2020					28-08-2020		24-07-2020		20-08-2020											
Local Check Name		Kanchana					KMP-105 (Raksha)		Mahaveera		GNV 10-89											

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**Table No. 1.3: Days to 50% Flowering of entries in AVT 2 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE II				ZONE III													
		UK	PU (1)	HA (1)	Zone II (2)	OD			BI			BI (3)		JH		JH (2)		WB	
		@PNT	LDN	KUL	Mean	CTK	JYP	Mean	BKG	SBR	PTN	Mean	RCI	HZB	Mean	@CHN	HTW		
3501	27892	83	88	83	86	97	91	94	88	62	90	80	82	90	86	91	77		
3502	27866	83	88	82	85	96	95	95	90	61	88	79	86	92	89	89	77		
3503	27914	83	88	81	85	96	91	94	90	59	87	79	78	88	83	83	82		
3504	27905	82	88	80	84	98	92	95	84	61	85	76	84	89	87	84	81		
3505	Local Check (LC)	73	87	81	84	96	91	94	91	60	81	77	65	84	75	83	76		
3506	CO-51 (NC)	76	78	76	77	97	91	94	84	55	85	75	73	84	78	82	75		
3507	27883	84	87	85	86	97	94	96	86	68	91	81	82	91	86	85	81		
3508	27869	85	86	82	84	97	96	96	85	59		72	84	90	87	88	80		
3509	26898	82	86	82	84	97	94	96	87	61	86	78	79	90	85	89	79		
3510	Zonal Check (ZC)	88	89	82	85	97	88	93	84	55	83	74	73	77	75	77	74		
3511	27332	82	88	81	84	97	93	95	90	62	90	81	86	90	88	87	81		
3512	27340	88	91	85	88	97	95	96	89	62	90	81	89	93	91	90	83		
3513	27328	84	89	81	85	97	96	96	89	64	89	81	86	93	90	92	75		
3514	US 314 (HC)	80	88	81	84	98	89	93	84	59	84	76	77	87	82	83	76		
3515	27880	84	90	80	85	97	89	93	86	60	85	77	79	87	83	92	78		
3516	27920	91	96	86	91	97	96	97	89	67	91	82	86	93	90	93	83		
3517	27329	81	88	81	85	99	95	97	88	62	87	79	84	92	88	85	78		
Exp. Mean		83	88	82	85	97	93	95	87	61	87	78	81	89	85	87	79		
SEM		0.74	0.94	0.49	0.58	0.58	0.70	0.51	0.57	0.40	0.75	0.38	0.36	0.46	0.26	0.40	0.50		

**Table No. 1.3 contd.: Days to 50% Flowering of entries in AVT 2 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE III			ZONE IV			ZONE V								
		WB (1)	UP	Zone III (8)	AS (1)	MAN	Zone IV (1)	MP	CH			CH (3)	MA (1)	MA1 (1)	Zone V (4)	
		Mean	@MSD	Mean	TTB	@WBL	Mean	@REWA	RPR	JDP	BLP	Mean	@SKL	SND	Mean	Mean
3501	27892	77	94	84	85	86	85	92	85	100	84	90	84	83	83	88
3502	27866	77	72	86	96	94	96	94	86	101	83	90	80	81	81	88
3503	27914	82	91	84	93	95	93	93	87	100	82	90	83	81	81	88
3504	27905	81	92	84	85	97	85	93	84	103	80	89	81	81	81	87
3505	Local Check (LC)	76	81	81	85	95	85	93	90	96	86	91	73	79	79	88
3506	CO-51 (NC)	75	91	80	86	90	86	91	82	97	82	87	71	75	75	84
3507	27883	81	96	86	88	95	88	97	91	106	86	94	76	84	84	92
3508	27869	80	90	84	86	96	86	94	88	102	84	91	81	80	80	88
3509	26898	79	92	84	86	90	86	93	87	97	84	89	80	82	82	87
3510	Zonal Check (ZC)	74	91	79	78	95	78	93		103	110	107	89	82	82	98
3511	27332	81	95	86	89	95	89	94	90	102	85	92	84	85	85	91
3512	27340	83	93	87	93	97	93	97	91	104	88	94	83	86	86	92
3513	27328	75	92	86	86	96	86	95	84	100	83	89	76	81	81	87
3514	US 314 (HC)	76	93	82	87	90	87	92	84	96	84	88	76	79	79	86
3515	27880	78	93	83	87	91	87	92	86	97	84	89	79	82	82	87
3516	27920	83	96	88	88	98	88	98	95	104	88	96	86	87	87	94
3517	27329	78	97	86	90	90	90	94	85	97	85	89	75	82	82	87
Exp. Mean		79	91	84	88	93	88	94	87	100	86	91	80	82	82	89
SEM		0.50	4.92	0.23	2.95	0.52	2.95	0.60	0.69			0.68	0.58	1.96	1.96	1.01

**Table No. 1.3 contd.: Days to 50% Flowering of entries in AVT 2 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE VI								ZONE VII					
		MA2 (2)		MA2 (2)	MA(3)	GU (3)			GU (3)	Zone VI (5)		AP	AP (1)	TE	
		KJT	SHR	Mean	Mean	NWG	DBI	VYR	Mean	Mean	Mean	MTU	Mean	KNM	WGL
3501	27892	78	86	82	82	90	81	89	87	71	84	84	91	91	
3502	27866	81	87	84	83	89	81	89	86	71	84	84	91	92	
3503	27914	78	85	81	81	95	82	91	89	72	85	85	92	92	
3504	27905	78	84	81	81	88	77	86	84	69	81	81	83	95	
3505	Local Check (LC)	84	87	85	83	89	104	86	93	75	85	85	83	89	
3506	CO-51 (NC)	80	86	83	80	87	95	86	89	72	79	79	81	90	
3507	27883	82	83	83	83	96	78	87	87	71	84	84	84	83	
3508	27869	78	85	82	81	89	78	88	85	70	82	82	84	86	
3509	26898	79	89	84	83	86	78	89	84	70	82	82	87	89	
3510	Zonal Check (ZC)	106	83	95	90	99	102	85	95	79	85	85	88	91	
3511	27332	82	88	85	85	87	78	89	85	71	83	83	92	90	
3512	27340	82	92	87	87	90	82	90	87	73	86	86	93	91	
3513	27328	76	87	82	81	94	78	93	88	71	85	85	84	91	
3514	US 314 (HC)	78	84	81	80	88	78	86	84	69	79	79	83	84	
3515	27880	78	86	82	82	90	81	85	85	70	84	84	87	87	
3516	27920	81	91	86	86	88	82	92	87	72	87	87	93	92	
3517	27329	79	86	82	82	93	76	92	87	71	81	81	83	87	
Exp. Mean		81	86	84	83	90	83	88	87	72	83	83	87	89	
SEM		0.63	0.49	0.39	0.80	0.96	0.24	0.79	5.38	0.44	0.62	0.62	0.43	0.78	

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**Table No. 1.3 contd.: Days to 50% Flowering of entries in AVT 2 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE VII														Overall (30)
		TE	TE (3)	TA		TA (2)		KE		KE (2)		KA		KA (2)	Zone VII (10)	
		JGL	Mean	ADT	CBT	Mean	MNC	PTB	Mean	MND	@BRM	GNV	Mean	Mean	Mean	
3501	27892	102	95	89	94	91	80	95	88	94	109	88	91	91	87	
3502	27866	99	94	89	95	92	81	96	89	92	111	86	89	90	88	
3503	27914	101	95	88	92	90	80	95	88	91	109	86	88	90	87	
3504	27905	97	92	90	91	91	80	96	88	99	106	86	92	90	86	
3505	Local Check (LC)	99	90	87	89	88	83	97	90	89	100	83	86	88	86	
3506	CO-51 (NC)	95	89	88	90	89	79	95	87	87	109	86	87	87	84	
3507	27883	108	92	89	97	93	86	96	91	97	114	89	93	91	88	
3508	27869	100	90	88	94	91	80	96	88	89	115	85	87	88	86	
3509	26898	103	93	89	94	91	80	95	88	86	111	89	87	89	86	
3510	Zonal Check (ZC)	104	94	88	96	92	81	95	88	88	112	89	88	90	88	
3511	27332	103	95	91	97	94	85	96	90	97	110	90	93	92	88	
3512	27340	105	96	92	99	95	86	96	91	99	110	93	96	94	90	
3513	27328	108	94	94	98	96	83	95	89	97	110	88	93	92	88	
3514	US 314 (HC)	98	88	83	87	85	80	95	88	88	108	83	86	86	84	
3515	27880	102	92	84	89	86	80	96	88	89	107	89	89	89	86	
3516	27920	107	97	90	92	91	83	96	89	94	108	90	92	92	90	
3517	27329	102	91	89	99	94	86	95	91	97	106	88	92	91	87	
	<b>Exp. Mean</b>	<b>102</b>	<b>93</b>	<b>89</b>	<b>93</b>	<b>91</b>	<b>82</b>	<b>96</b>	<b>89</b>	<b>93</b>	<b>109</b>	<b>87</b>	<b>90</b>	<b>90</b>	<b>87</b>	
	<b>SEM</b>	<b>0.94</b>	<b>0.60</b>	<b>0.73</b>	<b>0.34</b>	<b>0.42</b>	<b>0.23</b>	<b>0.43</b>	<b>0.28</b>	<b>0.28</b>	<b>0.94</b>	<b>2.01</b>	<b>0.85</b>	<b>0.24</b>	<b>0.26</b>	

**Table No 1.4: Plant Height (cm) of entries in AVT 2 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE II					ZONE III								
		UK	PU (1)	HA (1)	Zone II (2)	OD	OD (2)	BI			BI (3)	JH		JH (2)	
		@PNT	LDN	KUL	Mean	CTK	JYP	Mean	BKG	SBR	PTN	Mean	RCI	HZB	Mean
3501	27892	100.00	99.33	83.00	91.17	93.72	99.60	96.66	107.00	101.67	112.58	107.08	104.00	108.33	106.17
3502	27866	99.00	84.67	92.00	88.33	91.94	91.33	91.64	110.00	103.67	101.89	105.19	102.67	100.33	101.50
3503	27914	93.00	86.33	92.00	89.17	87.63	94.80	91.22	97.67	101.33	100.40	99.80	102.00	103.67	102.83
3504	27905	97.00	99.67	93.00	96.33	93.19	82.80	88.00	94.33	105.33	97.38	99.01	104.00	97.00	100.50
3505	Local Check (LC)	86.00	83.33	93.00	88.17	98.23	97.47	97.85	119.33	112.74	115.68	115.92	125.00	111.33	118.17
3506	CO-51 (NC)	105.00	88.67	91.00	89.83	92.44	91.93	92.19	96.33	105.67	101.96	101.32	106.33	100.00	103.17
3507	27883	111.00	92.00	86.00	89.00	99.14	92.20	95.67	103.00	112.33	101.36	105.56	108.67	106.00	107.33
3508	27869	110.00	98.33	91.00	94.67	94.30	88.53	91.42	113.00	106.52		109.76	103.67	102.67	103.17
3509	26898	111.00	100.00	97.00	98.50	104.39	99.00	101.70	117.67	107.00	114.74	113.14	109.00	105.00	107.00
3510	Zonal Check (ZC)	89.00	87.67	75.00	81.33	75.07	68.07	71.57	97.33	94.00	84.78	92.04	83.67	78.33	81.00
3511	27332	113.00	98.67	85.00	91.83	94.66	101.20	97.93	115.33	109.19	114.57	113.03	108.33	113.33	110.83
3512	27340	107.00	90.33	83.00	86.67	97.79	97.20	97.50	106.67	111.67	113.49	110.61	112.67	116.33	114.50
3513	27328	96.00	89.00	77.00	83.00	86.21	83.53	84.87	103.33	98.81	96.03	99.39	96.67	92.67	94.67
3514	US 314 (HC)	108.00	89.33	85.00	87.17	92.10	89.20	90.65	110.67	110.15	100.72	107.18	104.33	108.00	106.17
3515	27880	121.00	105.33	104.00	104.67	100.86	100.47	100.66	107.33	111.15	113.61	110.70	115.00	115.00	115.00
3516	27920	102.00	89.00	89.00	89.00	99.42	92.73	96.08	95.67	110.48	100.39	102.18	103.67	104.00	103.83
3517	27329	105.00	95.33	96.00	95.67	90.82	92.40	91.61	100.67	111.33	103.94	105.31	113.00	107.67	110.33
	<b>Exp. Mean</b>	<b>103.12</b>	<b>92.76</b>	<b>88.94</b>	<b>90.85</b>	<b>93.64</b>	<b>91.91</b>	<b>92.78</b>	<b>105.61</b>	<b>106.65</b>	<b>104.59</b>	<b>105.72</b>	<b>106.04</b>	<b>104.10</b>	<b>105.07</b>

**Table No. 1.4 contd.: Plant Height (cm) of entries in AVT 2 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE III					ZONE IV				ZONE V				
		WB		WB (1)	UP	Zone III (8)	AS (1)	MAN	Zone IV (1)	MP	CH			CH (3)	
		@CHN	HTW	Mean	@MSD	Mean	TTB	@WBL	Mean	@REWA	RPR	JDP	BLP	Mean	
3501	27892	124.00	125.20	125.20	108.00	106.51	102.87	82.00	102.87	91.00	110.72	95.47	121.00	109.06	
3502	27866	121.33	112.60	112.60	114.00	101.80	82.13	90.00	82.13	99.00	110.87	87.33	110.00	102.74	
3503	27914	108.00	110.20	110.20	108.00	99.71	84.60	80.00	84.60	83.00	104.31	85.60	11.00	66.97	
3504	27905	111.00	115.80	115.80	111.00	98.73	96.80	80.00	96.80	93.00	108.27	93.80	114.00	105.36	
3505	Local Check (LC)	107.00	115.40	115.40	118.00	111.90	103.73	80.00	103.73	99.00	108.26	98.33	89.00	98.53	
3506	CO-51 (NC)	105.33	109.00	109.00	105.00	100.46	86.07	90.00	86.07	90.00	101.61	93.27	109.00	101.29	
3507	27883	128.67	115.40	115.40	123.00	104.76	92.87	86.00	92.87	105.00	109.00	94.67	121.00	108.22	
3508	27869	105.33	116.00	116.00	104.00	103.53	97.87	94.00	97.87	95.00	110.51	90.80	114.00	105.10	
3509	26898	125.33	120.40	120.40	134.00	109.65	95.47	84.00	95.47	96.00	109.27	96.33	122.00	109.20	
3510	Zonal Check (ZC)	87.33	90.00	90.00	109.00	83.91	93.96	90.00	93.96			104.60	144.00	124.30	
3511	27332	119.67	120.20	120.20	125.00	109.60	99.77	80.00	99.77	101.00	109.05	100.53	124.00	111.19	
3512	27340	107.33	126.00	126.00	104.00	110.23	93.13	90.00	93.13	96.00	109.87	98.67	129.00	112.51	
3513	27328	101.67	107.00	107.00	115.00	95.53	98.07	80.00	98.07	97.00	95.95	88.00	111.00	98.32	
3514	US 314 (HC)	116.67	121.60	121.60	107.00	104.60	87.80	88.00	87.80	97.00	106.76	96.53	110.00	104.43	
3515	27880	123.33	132.40	132.40	120.00	111.98	104.86	94.00	104.86	105.00	111.35	103.13	125.00	113.16	
3516	27920	114.33	124.80	124.80	116.00	103.89	101.07	86.00	101.07	99.00	101.54	93.80	115.00	103.45	
3517	27329	117.33	117.00	117.00	116.00	104.60	89.96	98.00	89.96	103.00	107.37	97.00	119.00	107.79	
	<b>Exp. Mean</b>	<b>113.16</b>	<b>116.41</b>	<b>116.41</b>	<b>113.94</b>	<b>103.61</b>	<b>94.77</b>	<b>86.59</b>	<b>94.77</b>	<b>96.81</b>	<b>107.17</b>	<b>95.17</b>	<b>111.06</b>	<b>104.80</b>	



**Table No. 1.5 contd.: Panicles/M<sup>2</sup> of entries in AVT 2 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE III		Zone IV			ZONE V								
		UP	Zone III (7)	AS (1)	MAN	Zone IV (1)	MP	CH		CH (2)		MA (1)		MA1 (1)	Zone V (3)
		@MSD	Mean	TTB	@WBL	Mean	@REWA	RPR	JDP	Mean	@SKL	SND	Mean	Mean	
3501	27892	205	273	227	330	227	196	233	201	217	210	214	214	216	
3502	27866	261	286	203	461	203	225	183	224	204	216	251	251	219	
3503	27914	267	285	245	245	245	231	260	222	241	209	323	323	268	
3504	27905	312	278	245	333	245	221	138	180	159	259	213	213	177	
3505	Local Check (LC)	272	263	305	303	305	167	172	170	171	199	221	221	188	
3506	CO-51 (NC)	315	289	298	322	298	187	169	221	195	188	319	319	237	
3507	27883	328	273	237	319	237	225	140	225	183	179	245	245	203	
3508	27869	269	269	243	301	243	215	146	178	162	218	231	231	185	
3509	26898	212	279	250	320	250	218	168	222	195	245	233	233	207	
3510	Zonal Check (ZC)	308	286	225	301	225			192	192	145	229	229	210	
3511	27332	302	288	273	326	273	198	177	264	221	151	209	209	217	
3512	27340	281	286	228	320	228	222	180	292	236	169	222	222	231	
3513	27328	278	286	228	350	228	221	249	237	243	177	220	220	235	
3514	US 314 (HC)	315	269	225	286	225	178	223	222	222	174	211	211	218	
3515	27880	223	257	207	270	207	225	228	208	218	166	180	180	205	
3516	27920	287	269	213	315	213	229	190	240	215	227	219	219	216	
3517	27329	294	299	237	326	237	232	208	271	240	192	216	216	232	
Exp. Mean		278	279	241	319	241	212	191	222	207	195	233	233	216	

**Table No. 1.5 contd.: Panicles/M<sup>2</sup> of entries in AVT 2 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE VI									ZONE VII		
		MA2 (2)		MA2 (2)	MA (3)	GU (3)			Zone VI (5)	AP (1)	TE		
		KJT	SHR	Mean	Mean	NWG	DBI	YVR	Mean	Mean	MTU	KNM	WGL
3501	27892	311	154	233	227	282	229	296	269	254	263	255	396
3502	27866	241	167	204	219	287	297	304	296	259	276	253	415
3503	27914	333	138	235	264	280	302	303	295	271	284	286	410
3504	27905	278	148	213	213	292	257	266	272	248	271	273	399
3505	Local Check (LC)	331	143	237	232	280	297	315	297	273	262	301	402
3506	CO-51 (NC)	275	152	213	249	281	304	359	314	274	301	266	385
3507	27883	238	147	192	210	283	226	299	269	238	265	253	398
3508	27869	257	155	206	214	287	216	290	264	241	297	249	404
3509	26898	235	165	200	211	283	215	251	250	230	285	235	387
3510	Zonal Check (ZC)	274	145	209	216	276	235	337	283	253	265	249	387
3511	27332	261	153	207	208	280	209	326	272	246	275	251	404
3512	27340	266	145	206	211	289	225	280	265	241	303	198	405
3513	27328	284	150	217	218	288	230	291	270	249	286	224	385
3514	US 314 (HC)	212	145	179	189	278	213	303	265	230	265	240	386
3515	27880	226	149	188	185	282	236	245	254	227	315	238	397
3516	27920	215	143	179	192	282	227	282	264	230	286	271	403
3517	27329	246	156	201	206	295	302	298	298	259	296	235	378
Exp. Mean		264	150	207	216	284	248	297	276	249	282	252	397

**Table No. 1.5 contd.: Panicles/M<sup>2</sup> of entries in AVT 2 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE VII													
		TE	TE (3)	TA		TA (2)	KE		KE (2)	KA			KA (2)	Zone VII (10)	Overall (28)
		JGL	Mean	ADT	CBT	Mean	MNC	PTB	Mean	MND	@BRM	GNV	Mean	Mean	Mean
3501	27892	405	352	325	352	339	282	366	324	224	156	437	330	330	280
3502	27866	414	360	333	436	384	207	448	327	256	153	420	338	346	288
3503	27914	398	365	303	347	325	312	357	335	224	162	424	324	335	294
3504	27905	427	366	245	382	314	196	494	345	231	143	365	298	328	276
3505	Local Check (LC)	438	380	296	302	299	370	252	311	231	168	440	336	329	280
3506	CO-51 (NC)	418	356	363	347	355	213	439	326	256	120	358	307	335	293
3507	27883	414	355	323	335	329	227	365	296	213	143	392	302	318	272
3508	27869	433	362	363	313	338	227	348	287	231	145	436	334	330	273
3509	26898	400	341	273	384	329	306	471	388	260	135	330	295	333	278
3510	Zonal Check (ZC)	420	352	311	322	316	169	355	262	213	128	336	275	303	274
3511	27332	436	363	354	292	323	180	342	261	218	158	384	301	313	278
3512	27340	387	330	364	305	334	191	362	277	240	158	378	309	313	274
3513	27328	381	330	313	328	321	251	460	356	227	165	462	344	332	284
3514	US 314 (HC)	444	357	320	300	310	249	366	307	224	168	446	335	324	271
3515	27880	374	336	362	318	340	211	471	341	238	153	431	334	335	270
3516	27920	427	367	397	308	353	222	490	356	224	143	420	322	345	279
3517	27329	407	340	415	263	339	235	430	333	251	155	459	355	337	292
Exp. Mean		413	354	333	331	332	238	401	320	233	150	407	320	329	280

**Table No. 1.6: Grain quality characteristics of entries in AVT 2-E TP, kharif 2020**

Entry No.	Designation / IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
3501	27892	76.1	63.0	58.6	6.78	2.00	3.39	LS	VOC	7.0	24.25	45
3502	27866	79.0	64.0	42.0	6.75	1.81	3.72	LS	VOC	7.0	24.17	50
3503	27914	80.5	69.4	60.1	6.96	1.99	3.49	LS	VOC	7.0	26.78	65
3504	27905	83.3	74.5	68.1	5.39	1.81	2.97	MS	VOC	4.0	25.93	60
3505	Local Check	80.3	66.0	56.4	6.22	1.96	3.17	LS	VOC	3.0	16.07	100
3506	CO-51 (NC)	78.1	69.9	66.4	5.38	1.93	2.78	MS	VOC	4.0	26.69	57
3507	27883	78.6	65.4	54.0	6.42	1.93	3.32	LS	VOC	7.0	23.08	52
3508	27869	80.2	68.8	56.2	6.20	1.97	3.14	LS	VOC	4.0	22.29	81
3509	26898	79.6	66.0	60.4	6.91	1.96	3.52	LS	VOC	5.5	26.81	56
3510	Zonal Check	82.3	67.4	57.6	5.78	1.97	2.93	MS	VOC	4.0	25.34	77
3511	27332	77.4	65.7	49.9	5.54	2.45	2.26	SB	VOC	4.0	24.49	22
3512	27340	70.5	57.0	43.2	6.31	2.31	2.73	LB	VOC	5.3	22.29	48
3513	27328	82.4	69.9	65.3	6.28	2.30	2.73	LB	VOC	4.0	26.13	42
3514	US-314 (HC)	81.6	65.2	57.2	5.42	2.01	2.69	MS	VOC	5.1	22.20	60
3515	27880	76.2	66.3	57.6	6.14	2.24	2.74	LB	VOC	4.0	23.17	56
3516	27920	78.9	69.4	53.8	6.12	2.22	2.75	LB	OC	4.0	23.81	26
3517	27329	78.1	67.8	50.3	6.09	2.23	2.73	LB	VOC	7.0	23.55	28

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB:Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

**Table No. 1.7: Composition of entries in Advance Variety Trial 1–Early Transplanted (AVT 1E-TP), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>2<sup>nd</sup> year of testing:</b>				
3601	26790 (R)	MTU 1273	MTU 1010 / FL478 // *3 MTU 1010	LS
3602	28119	<i>HRI-201 (Hybrid)</i>	-	LS
3603	28329	RCPR 60-IR 97073-26-1-1-3	IR10L146 / IR10L137	LS
3604	28377	NVSR 2098	Gurjari / PAU 201	LS
3605	28354	CR 4073-1339-3-5-1-1-3	IET 22296 / RR 2-6	MS
3606	28343	KNM 6965	MTU 1010 / KNM 118	LS
3607	<b>US 314 (HC)</b>			
3608	28358	RP 5599-212-56-3-1	MTU 1010 / KMR 3	LS
3609	28111	<i>LP-19201 (Hybrid)</i>	-	LS
3610	28366	MTU 1312 (MTUAST 2-5-29-5)	(MTU 1010/MTU 1081) // *2 MTU 1010	LS
3611	28332	KNM 7048	KPS 3219 / KNM 118	LB
3612	28114	<i>RRX-719 (Hybrid)</i>	-	LS
3613	<b>PR 124-Northern, Narendra 97-Eastern, Luit -North Eastern, Sahbhagidhan- Central &amp; Western, MTU 1153-Southern-- ZC</b>			
3614	28333	AD 16003	ADT 47 / IR 50	MS
3615	28118	<i>MR-8222 (Hybrid)</i>	-	SB
3616	<b>CO-51 (NC)</b>			
3617	28120	<i>RH-169035 (Hybrid)</i>	-	LS
3618	28356	KNM 7037	KNM 606 / KNM 118	LS
3619	28122	<i>RH-169269 (Hybrid)</i>	-	LB
3620	28115	<i>US-317 (Hybrid)</i>	-	MS
3621	<b>Local Check</b>			



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**Table No. 1.8: Grain Yield (Kg/ha) of entries in AVT 1 – E TP, Kharif 2020**

Entry No.	IET NO.	ZONE II						ZONE III												
		UK		PU		HA		OD		OD (2)		BI		BI						
		@PNT	@LDN	@KUL	CTK	JYP	Mean	@BKG	SBR	@PTN										
3601	26790	1381	8	2809	7	2646	3	5723	6124	1 #	5924	6	7%	5028	6	3952	*	7140	2	
3602	28119	1521	5	2188	10	2700	2	6416	5507	3	5962	5	7%	5194	3	5215	2 * #	7127	3	
3603	28329	1431	6	3438	3	2455	7	6165	3280		4723			4667		3054		7233	1	
3604	28377	250		1738		3410	1	6139	4169		5154			4361		4469	6 *	4530		
3605	28354	1539	4	1846		1882		8489	1 * #	4275	10	6382	1 *	15%	4306		4315	7 *	5993	
3606	28343	1306	9	3284	4	2019		6329	4505	8	5417	10		4778	9	4030	*	6767	8	
3607	US 314 (HC)	1708	3			2510	5	7212	3	5148	5	6180	2	11%	4778	9	4148	10 *	6813	6
3608	28358	3319	1	1929	11	1637		7195	4	3538		5367			3722		3413		6797	7
3609	28111	1056	10			1882		4680		3260		3970			5306	2	4992	3 * #	6120	10
3610	28366	564		2926	6	2428	8	6983	9	3972		5478	9		4722		3945	*	5540	
3611	28332	2083	2	3611	2	2073		7043	6	3582		5313			4889	8	3978	*	7040	5
3612	28114	75		1460		2346	9	6991	8	3195		5093			5083	5	4290	8 *	6690	9
3613	Zonal Check (ZC)	367		2265	9	1882		7043	6	3314		5179			3556		2791		3747	
3614	28333	431		2209	10	4355		3544		3950		3950			3861		3684		5533	
3615	28118	910		1648		1882		3909		4542	7	4226			5194	3	5309	1 * #	7080	4
3616	CO-51 (NC)	504		2698	8	1718		6247		4002		5125			4417		3278		5063	
3617	28120	342		1836		2510	5	6909	10	4737	6	5823	7		4722		4237	9 *	2260	
3618	28356	903		3775	1	2046		6424		5525	2	5975	4	8%	4306		3023		5540	
3619	28122	542		1685		2046		7065	5	3041		5053			5472	1	4515	5 *	6093	
3620	28115	306				2046		7762	2	4393	9	6078	3	10%	4944	7	4609	4 *	5229	
3621	Local Check (LC)	1403	7	3188	5	2591	4	5654		5439	4	5547	8		3636		2940		4690	
Exp. Mean		1045		2490		2234		6416		4243		5329			4616		4009		5858	
CD				323.19		703.3		952.15		750.55		637.55			330.73		654.67		409.43	
CV%				8.76		16.98		8.99		10.72		7.25			4.34		9.9		4.24	
D/S		30-07-2020		22-07-2020		26-07-2020		27-07-2020		16-07-2020					25-07-2020		21-07-2020		22-07-2020	
D/P		21-08-2020		17-08-2020		17-08-2020		28-08-2020		16-08-2020					24-08-2020		12-08-2020		20-08-2020	
Local Check Name		Govind		PR 126		HKR-48		Naveen		Mandakini					R. Bhagwati		Sabour Deep		Sahbhagi Dhan	

**Table No.1.8 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – E TP, Kharif 2020**

Entry No.	IET NO.	ZONE III															
		BI (1)		JH		WB		WB (2)		UP (1)							
		Mean	@RCI	@H2B	CHN	HTW	Mean	@MSD									
3601	26790	3952	*	21%	1603	5370	9	5608	9	5136	5372	9	6%	3489	7		
3602	28119	5215	2 *	59% #	26%	1032	6815	1	7019	1 * #	5236	10	6128	2 *	21%	3800	4
3603	28329	3054			1625	4556		6102	3 *	4495	5299			2991	10		
3604	28377	4469	6 *	36%	1120	4870		4504		5208	4856			3611	5		
3605	28354	4315	7 *	32%		5870	5	6120	2 *	4303	5212			3822	3		
3606	28343	4030	*	23%		5815	6	5619	8	6358	2 *	5989	3 *	19%	3444	8	
3607	US 314 (HC)	4148	10 *	27%	2262	3	4667	5661	6	6303	3 *	5982	4 *	18%	3889	2	
3608	28358	3413			1932	5	5296	5697	5	4916	5307	10	5%	3904	1		
3609	28111	4992	3 *	52% #	20%	1735	5370	9	5591	10	5495	7	5543	6	10%	2222	
3610	28366	3945	*	20%	1823	10	4667	4607		5569	5	5088		2298			
3611	28332	3978	*	21%	2547	1	5574	8	5640	7	6821	1 *	6231	1 *	23%	2333	
3612	28114	4290	8 *	31%	1493		6037	4	5785	4 *	5814	4	5800	5 *	15%	2200	
3613	Zonal Check (ZC)	2791			1757		2463	4515		4093	4304			2478			
3614	28333	3684		12%	1471		4213	4709		5066	4888			2467			
3615	28118	5309	1 *	62% #	28%	1845	8	4848	5273	5542	6	5408	8	7%	2336		
3616	CO-51 (NC)	3278			2547	1	5741	7	4268	4073	4171			2233			
3617	28120	4237	9 *	29%	1845	8	6204	3	5072	5318	9	5195		2324			
3618	28356	3023			2064	4	6389	2	4533	4982	4758			3500	6		
3619	28122	4515	5 *	38%	1845	8	3481	5556		5335	8	5446	7	8%	2562		
3620	28115	4609	4 *	41%	11%	1910	6	4611	5220	5079	5150			2720			
3621	Local Check (LC)	2940			1471		5093	5256		4843	5050			3433	9		
Exp. Mean		4009			1786		5140	5350		5237	5294			2955			
CD		654.67			590.3		382.26	506.78		1076.65	586.77			101.27			
CV%		9.9			19.96		4.51	5.74		12.46	6.72			2.08			
D/S						27-07-2020		17-07-2020		16-07-2020		15-07-2020			20-07-2020		
D/P						26-08-2020		06-08-2020		11-08-2020		10-08-2020			14-08-2020		
Local Check Name						LALAT		Sahbhagi dhan		Ajit		Lalat			Shushk Smart		

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**Table No. 1.8 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – E TP, Kharif 2020**

Entry No.	IET NO.	Zone III (5)		ZONE IV (1)			ZONE V						CH (3)					
		Mean		AS (1)			MP (1)			CH			Mean					
		TTB	TTB	TTB	REWA	RPR	JDP	BLP	CH	CH	CH	CH	CH					
3601	26790	5309	7* 10%	4737	6	14% # 42%	4268	17%	3220	4108	5433	4254	8%					
3602	28119	5879	1* 22%	6464	1*	56% # 94%	4555	7	25%	4377	3	5262	1 #	6800	1* #	5480	1*	39% # 20%
3603	28329	4619		2278			4588	6	26%	4398	2	3950		5000		4449	10	13%
3604	28377	4898		3731	12%		2986					3098		5700	7	4399		12%
3605	28354	5500	3* 14%	5331	4*	29% # 60%	4251	17%	2995		4223	10	4533		3917			
3606	28343	5368	6* 11%	5346	3*	29% # 60%	4487	10	23%	3887	7	4124		6067	4*	4693	5*	19%
3607	US 314 (HC)	5694	2* 18%	3335			3644			4155	4	3932		5667	8	4585	6*	17%
3608	28358	4952		5291	5*	28% # 59%	3812			3029		3846		4900		3925		
3609	28111	4804		4306	10	# 29%	4791	4	6% 31%	4149	5	4706	4	5267		4707	4*	20%
3610	28366	5015		4584	7	11% # 37%	3053			3287		4065		5400		4251		8%
3611	28332	5413	4* 12%	4522	9	9% # 36%	4065	12%		3447		3395		6700	2* #	4514	7	15%
3612	28114	5215	9	8% 4531	8	9% # 36%	4706	5	29%	2994		4260	8.5	5600	10	4285		9%
3613	Zonal Check (ZC)	4351		3131								3683		1533		2608		
3614	28333	4272		3764	13%		3677			3354		4888	2	4900		4381		11%
3615	28118	4915		2382			3188			3545	10	4874	3	5767	6*	4729	3*	20%
3616	CO-51 (NC)	4374		4068	22%		4538	8	25%	2498		4399	7	4867		3921		
3617	28120	5255	8* 9%	3257			5651	1	25% # 55%	3991	6	3579		5967	5*	4512	8	15%
3618	28356	4897		4128	24%		4521	9	24%	3130		4642	5	5200		4324		10%
3619	28122	5102	10	6% 6397	2*	54% # 92%	5634	2	24% # 55%	4757	1*	4586	6	6500	3*	5281	2*	34% # 15%
3620	28115	5413	4* 12%	3362			5415	3	19% # 49%	3546	9	4260	8.5	5667	8	4491	9	14%
3621	Local Check (LC)	4826		4148	24%		3576			3626	8	3630		4533		3930		
Exp. Mean		5051		4243			4270			3599		4167		5333		4364		
CD		401.35		924.71			1170.32			899.89		1095.52		855.39		593.76		
CV%		4.82		13.21			16.58			15.1		15.93		9.72		8.25		
D/S				27-07-2020				17-07-2020		08-07-2020		09-07-2020		09-07-2020				
D/P				25-08-2020				18-08-2020		23-07-2020		30-07-2020		30-07-2020				
Local Check Name				Disang				JRB1		Indira Aerobic 1		Samleshwari		Chandrasini				

**Table No.1.8 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – E TP, Kharif 2020**

Entry No.	IET NO.	ZONE V						ZONE VI												
		MA1		MA1 (2)		Zone V (6)		MA2			MA2 (3)									
		SKL	SND	Mean	Mean	Mean	KJT	SHR	VDG	Mean	Mean	Mean								
3601	26790	5490	2* #	4918	2 #	5204	1*	25% # 29%	4573	4*	13%	4346	3963	5674	7*	4661	10			
3602	28119	3429		4624	4	4027			4841	2*	19% # 14%	4519	4000	5682	6*	4734	9			
3603	28329	4698	6* #	4094		4396	7	5%	4455	10*	10%	4642	9	3926		5062		4543		
3604	28377	4861	4* #	3802		4332	8		4089			4025		3907		4972		4301		
3605	28354	3939		4199		4069			4023			4716	7	3787		5379	10	4627		
3606	28343	4378	9* #	3887		4133			4472	9*	10%	4741	6	4500	8	5883	4*	5041	5	
3607	US 314 (HC)	3809		4274	9	4042			4247			4642	9	4315		6085	2*	5014	6	
3608	28358	4460	8* #	4461	8	4461	4	7% # 10%	4085			4889	5	4000		4215		4368		
3609	28111	3403		4881	3 #	4142			4533	5*	12%	4988	4	4370	9	5944	3*	5101	3	
3610	28366	4644	7* #	3919		4282	9		4061			4000		3843		5573	8	4472		
3611	28332	5726	1* #	4476	7	5101	2*	22% # 26%	4635	3*	14% #	4333		4593	7	5750	5*	4892	8	
3612	28114	3495		3808		3652			4144			4025		4046		5376		4482		
3613	Zonal Check (ZC)	3030		3718		3374			2991			3160		4843	6	4193		4065		
3614	28333	4275	10	3794		4035			4148			4667	8	4241		4318		4409		
3615	28118	3689		5119	1* #	4404	6	5%	4364	7%		5185	2*	5306	3 #	5442	9	5311	2	7%
3616	CO-51 (NC)	3586		4490	5	4038			4063			4000		6065	1 #	4856		4974	7	
3617	28120	3374				3374			4512	6*	11%	5185	2*	5019	4	6238	1*	5481	1*	10% #
3618	28356	5122	3* #	4266	10	4694	3*	12% # 16%	4480	7*	10%	4247		4037		4266		4183		
3619	28122	4763	5* #	4068		4416	5	6%	5051	1*	24% # 19%	5778	1* #	4963	5	4421		5054	4	
3620	28115	3809		4172		3991			4478	8*	10%	4037		5333	2 #	4001		4457		
3621	Local Check (LC)	3879		4478	6	4179	10		3954			4346		4324	10	4812		4494		
Exp. Mean		4184		4272		4207			4295			4499		4447		5150		4698		
CD		484.75		588.79		388.37			378.98			624.21		830.31		731.97		396.4		
CV%		7.02		8.34		5.59			5.35			11.1		11.32		8.61		5.11		
D/S		08-07-2020		07-07-2020								14-07-2020		13-07-2020		10-07-2020				
D/P		29-07-2020		30-07-2020								02-08-2020		03-08-2020		07-08-2020				
Local Check Name				Sakoli-6		SYE-1						Karjat-7		Ratnagiri 1		Sahyadri-4				

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**Table No.1.8 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – E TP, Kharif 2020**

Entry No.	IET NO.	ZONE VI										ZONE VII												
		MA (5)		GU			GU (2)		Zone VI (5)			AP (1)		TE										
		Mean		NWG	VYR	Mean		Mean			@MTU	KNM	WGL	JGL										
3601	26790	4878	4	6.01%	6107	5	4163	5135	10	4851	10	5377	2	6511	2	6682	5	5045	7	#				
3602	28119	4451			6492	3	5817	2*	6155	1	19%	5302	3*	11%	4725	6	5418	9	6074	6	4080			
3603	28329	4484	10		3760		4803	10	4282			4439			4713	7	5073		3449		5543	3	#	
3604	28377	4313			5871	9	4173		5022			4590			4227		5920	7	4251		4304			
3605	28354	4404			5668	10	4684		5176	8		4847			3875		4435		4600		4170			
3606	28343	4678	7		6774	2	4345		5560	4	8%	5249	4*	10%	4565	10	5286	10	7137	4	5364	5	#	
3607	US 314 (HC)	4625	8		6335	4	5170	5	5753	3	11%	5309	2*	12%	4778	4	5101		4908		4068			
3608	28358	4405			5549		4559		5054			4642			4583	9	6556	1	3871		4789	9		
3609	28111	4717	6		6905	1	5140	6	6023	2	17%	5469	1*	15%	6449	1	4802		5357	10	3359			
3610	28366	4396			5928	7	4138		5033			4696			4778	4	5171		7958	3	4898	8		
3611	28332	4976	1*	7.58	#	6003	6	4922	8	5463	6	6%	5120	8	8%	3542		6062	6	7967	2	5785	2	#
3612	28114	4150			5128		5857	1*	5493	5	6%	4886	9		3806		3929		4866		5204	6	#	
3613	Zonal Check (ZC)	3789			5395		2890		4143			4096			3741		6244	5	8028	1	7286	1	#	
3614	28333	4259			3493		3893		3693			4122			3566		5567	8	5629	9	5524	4	#	
3615	28118	4948	3*	7.60	#	4783		5210	4*	4997		5185	5	9%	3190		4465		3342		4515	10		
3616	CO-51 (NC)	4599	9		2502		3940		3221			4273			3778		4443		4792		3978			
3617	28120	4954	2	7.90%	#	4402		4902	9	4652		5149	6	8%	3032		5071		5311		4189			
3618	28356	4388			2929		3841		3385			3864			4593	8	6442	4	6013	7	4291			
3619	28122	4799	5		4943		5542	3*	5243	7		5129	7	8%	3486		6503	3	5830	8	4406			
3620	28115	4270			4815		4936	7	4876			4624			3167		4370		3785		3570			
3621	Local Check (LC)	4368			5898	8	4426		5162	9		4761			4905	3	4626		4927		4023			
Exp. Mean		4517			5223		4636		4842			4760			4232		5333		5466		4685			
CD		321.46			1529.12		782.16		1028.44			459.43			314.76		770.48		757.98		962.98			
CV%		4.3			17.74		10.22		12.87			5.85			4.51		8.75		8.4		12.45			
D/S					16-07-2020		09-07-2020								20-07-2020		24-07-2020		08-07-2020		09-07-2020			
D/P					18-08-2020		12-08-2020								20-08-2020		24-08-2020		31-07-2020		21-08-2020			
Local Check Name					Mahisagar		GR-7								MTU 1156		KNM 118		KNM-118		JGL 18047			

**Table No.1.8 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – E TP, Kharif 2020**

Entry No.	IET NO.	ZONE VII																						
		TE (3)		TA			TA (2)		KE															
		Mean		ADT	CBT	Mean		MNC	PTB															
3601	26790	6079	3	#	30%	4938		6847	#	5893		7328	3	4546		#								
3602	28119	5191	9	#	11%	6125	6	6954	#	6540	14%	5344		5171		10	#							
3603	28329	4688				5417	10.5	7938	#	6678	#	16%	4610		3662									
3604	28377	4825				5063		8033	#	6548	14%	5611		5009		#								
3605	28354	4402				6458	1*	8485	10	#	7472	1	6%	#	30%	6685	5	4620		#				
3606	28343	5929	5	#	26%	5333		7928	#	6631	#	15%	4545		5083		#							
3607	US 314 (HC)	4692				5750	7			5750		6327		10	3435									
3608	28358	5072	10			6396	2	8089	#	7243	4	#	26%	8026	2*	#	6167	5	#					
3609	28111	4506				5292		8663	7	#	6978	#	21%	4637		4731		#						
3610	28366	6009	4	#	28%	4500		8982	3	#	6741	#	17%	6400	8	5255	9	#						
3611	28332	6605	2	#	41%	5417	10.5	8932	4	#	7175	5	#	25%	6290		6569	2*	#					
3612	28114	4666				5583	9	6825	#	6204		4862		6611		1*	#							
3613	Zonal Check (ZC)	7186	1	#	53%	5625	8	8518	9	#	7072	9	#	23%	4876		4903		#					
3614	28333	5573	8	#	19%	5083		8754	6	#	6919	#	20%	5037		6287	4	#						
3615	28118	4107				6229	4	8633	8	#	7431	2	#	29%	8898	1*	#	6523	3	#				
3616	CO-51 (NC)	4404				4938		9038	2	#	6988	10	#	22%	6455	6	5583	8	#					
3617	28120	4857				6242	3	7978	#	7110	6	#	24%	5849		6144	6	#						
3618	28356	5582	6	#	19%	4917		9262	1	#	7090	7	#	23%	7163	4	4889		#					
3619	28122	5580	7	#	19%	6167	5	8379	#	7273	3	#	26%	6373	9	5023		#						
3620	28115	3908				4625		8194	#	6410	11%	6299		4773		#								
3621	Local Check (LC)	4525				5375		8789	5	#	7082	8	#	23%	6414	7	6069	7	#					
Exp. Mean		5240				5499		8261		6820		6097		5288										
CD		474.4				792.89		1564.88		854.84		1301.26		493.91										
CV%		5.49				8.74		11.46		7.6		12.93		5.66										
D/S						23-09-2020		13-07-2020				30-09-2020										07-09-2020		
D/P						21-10-2020		07-08-2020				15-10-2020										08-10-2020		
Local Check Name						ADT 53		CO 51				(MO 21) Prathyasa										Kanchana		

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**Table No. 1.8 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – E TP, Kharif 2020**

Entry No.	IET NO.	ZONE VII											Overall (25)	
		KE (2)			KA			KA (1)			Zone VII (8)			
		Mean	@MND	GNV	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean		
3601	26790	5937	8 # 22%	6436	9	9625	1 # 9625	1* 16% # 67%	6440	6 # 27%	5380	5* 8% #		
3602	28119	5258		6444	7	9321	2 # 9321	2 13% # 62%	6061	# 20%	5596	1* 13% # 13%		
3603	28329	4136		5481		7724	# 7724	# 34%	5427		4708			
3604	28377	5310		5217		8824	6 # 8824	6 7% # 53%	5877	# 16%	4943			
3605	28354	5653	# 16%	6047		7381	# 7381	# 28%	5854	# 16%	5122			
3606	28343	4814		6391		9006	4 # 9006	4 9% # 56%	6210	9 # 23%	5398	4* 9% #		
3607	US 314 (HC)	4881		6205		5769		5769		5051		4966		
3608	28358	7097	2* 14% # 45%	5329		7740	# 7740	# 34%	6454	5 # 28%	5176	8		
3609	28111	4684		6651	2	9192	3 # 9192	3 11% # 59%	5754	# 14%	5156	10		
3610	28366	5828	9 # 19%	5966		8599	8 # 8599	8 # 49%	6470	3 # 28%	5171	9		
3611	28332	6430	3 # 32%	6443	8	6346	# 6346	10%	6671	2 # 32%	5535	3* 11% # 11%		
3612	28114	5737	10 # 18%	6590	3	6635		6635	15%	5564	# 10%	4977		
3613	Zonal Check (ZC)	4890		6489	6	8269	10 # 8269	10 # 43%	6719	1 # 33%	4830			
3614	28333	5662	# 16%	6172		5981		5981		5983	# 18%	4739		
3615	28118	7711	1* 24% # 58%	5709		8513	9 # 8513	9 # 48%	6390	8 # 27%	5207	7* #		
3616	CO-51 (NC)	6019	6 # 23%	6588	4	6090	# 6090		5665	# 12%	4680			
3617	28120	5997	7 # 23%	6547	5	8821	7 # 8821	7 7% # 53%	6201	10 # 23%	5310	6* 7% #		
3618	28356	6026	5 # 23%	5500		8160	# 8160	# 41%	6392	7 # 27%	5038			
3619	28122	5698	# 17%	7303	1	8984	5 # 8984	5 9% # 56%	6458	4 # 28%	5581	2* 12% # 12%		
3620	28115	5536	13%	6403	10	7372	# 7372	# 28%	5374		4936			
3621	Local Check (LC)	6242	4 # 28%	5590		8141	# 8141	# 41%	6046	# 20%	4967			
Exp. Mean		5693		6167		7928		7928		6020		5076		
CD		680.22		470.5		1317.49		1317.49		408.33		221.73		
CV%		7.35		4.62		10.07		10.07		4.11		2.65		
D/S				30-07-2020		27-07-2020								
D/P				20-08-2020		20-08-2020								
Local Check Name				KMP-105 (Raksha)		GNV 10-89								

**Table No. 1.9: Days to 50% Flowering of entries in AVT 1 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE II					ZONE III											
		UK	PU	HA	OD	OD (2)	BI			BI (1)	JH		WB	WB (2)	UP (1)	Zone III (5)		
		@PNT	@LDN	@KUL	CTK	JYP	Mean	@BKG	SBR	@PTN	Mean	@RCI	@HZB	CHN	HTW	Mean	@MSD	Mean
3601	26790	78	91	96	76	96	86	81	81	83	81	104	85	80	75	78	83	82
3602	28119	83	95	95	74	96	85	89	85	86	85	86	88	84	77	81	81	83
3603	28329	82	88	96	75	93	84	87	85	89	85	104	86	89	77	83	84	84
3604	28377	89	92	99	77	91	84	85	86	85	86	88	91	83	73	78	78	82
3605	28354	85	93	98	76	97	87	85	85	85	85	93	86	83	74	78	83	83
3606	28343	78	90	96	73	94	84	84	80	81	80	91	86	81	76	78	81	81
3607	US 314 (HC)	77		96	77	90	84	84	79	81	79	93	84	82	76	79	84	81
3608	28358	82	97	99	74	105	90	89	85	87	85	100	88	86	81	83	86	86
3609	28111	84		100	77	96	87	88	85	90	85	102	88	87	87	87	109	86
3610	28366	81	88	96	75	94	85	85	85	83	85	95	84	82	78	80	104	83
3611	28332	82	91	95	77	92	85	84	78	82	78	92	81	81	76	79	107	81
3612	28114	84	90	101	75	96	85	87	85	83	85	88	84	84	80	82	100	84
3613	Zonal Check (ZC)	88	89	96	72	89	81	82	78	79	78	87	76	75	74	75	118	78
3614	28333	82		94	74	93	84	86	85	83	85	98	86	86	77	81	116	83
3615	28118	89	96	94	76	97	87	86	85	87	85	101	88	81	79	80	106	84
3616	CO-51 (NC)	78	83	95	75	92	84	84	75	81	75	96	87	81	76	78	114	80
3617	28120	83	91	95	71	94	83	83	85	79	85	87	81	79	78	78	108	81
3618	28356	76	85	95	75	92	84	83	77	82	77	95	84	80	77	79	74	80
3619	28122	82	99	96	76	93	85	84	84	88	84	90	87	82	78	80	111	83
3620	28115	83		102	73	94	84	84	85	83	85	86	84	80	78	79	101	82
3621	Local Check (LC)	76	97	99	74	92	83	88	87	80	87	101	83	83	76	80	73	83
Exp. Mean		82	91	97	75	94	85	85	83	84	83	94	85	82	77	80	95	82
SEM			0.78	0.44	0.59	0.95	0.61	0.27	0.43	0.38	0.43	0.36	0.53	0.47	0.68	0.43	0.76	0.31

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**Table No. 1.9 contd.: Days to 50% Flowering of entries in AVT 1 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE IV				ZONE V							ZONE VI						
		AS (1)	Zone IV (1)		MP (1)	CH			CH (3)	MA1		MA1 (2)	Zone V (6)		MA2			MA (2)	MA (3)
		TTB	Mean	REWA	RPR	JDP	BLP	Mean	SKL	SND	Mean	Mean	KJT	SHR	VDG	Mean	Mean		
3601	26790	79	79	85	82	100	86	89	77	84	81	86	80	81	82	81	81		
3602	28119	83	83	88	83	104	84	90	76	93	85	88	85	84	88	86	85		
3603	28329	84	84	87	87	103	91	94	75	85	80	88	80	82	80	81	80		
3604	28377	81	81	89		102	83	93	78	85	82	87	82	79	89	83	83		
3605	28354	84	84	88	86	104	89	93	81	88	85	89	79	77	87	81	82		
3606	28343	79	79	86	81	103	85	90	75	85	80	86	78	81	82	81	80		
3607	US 314 (HC)	80	80	86	82	96	83	87	78	83	81	85	72	77	82	77	78		
3608	28358	86	86	91	87	103	92	94	81	86	84	90	81	79	88	83	83		
3609	28111	83	83	89	86	104	90	93	86	88	87	91	86	82	91	86	86		
3610	28366	78	78	85	84	99	88	90	74	81	78	85	81	83	81	82	80		
3611	28332	79	79	85	81	98	87	89	77	82	80	85	80	79	77	79	79		
3612	28114	79	79	88	82	102	92	92	80	91	86	89	83	80	90	84	85		
3613	Zonal Check (ZC)	69	69	85		106	89	98	81	95	88	91	114	82	82	93	91		
3614	28333	82	82	88	85	102	89	92	75	84	80	87	82	81	93	85	83		
3615	28118	81	81	89	86	105	87	93	78	87	83	89	81	85	96	87	85		
3616	CO-51 (NC)	79	79	85	82	100	86	89	69	84	77	84	72	82	80	78	77		
3617	28120	75	75	87	81	95	84	87	77		77	85	83	81	87	84	82		
3618	28356	80	80	84	77	100	84	87	74	83	79	84	76	80	75	77	77		
3619	28122	79	79	87	78	96	93	89	78	85	82	86	82	80	84	82	82		
3620	28115	76	76	86	77	95		86	73	82	78	83	82	76	87	82	80		
3621	Local Check (LC)	79	79	86	88	96		92	74	86	80	86	83	85	88	85	83		
	Exp. Mean	80	80	87	83	101	87	91	77	86	81	87	82	81	85	83	82		
	SEM	1.54	1.54	0.81	0.80			0.94	0.64	2.36	1.16	0.55	0.51	0.50	1.01	0.39	0.53		

**Table No. 1.9 contd.: Days to 50% flowering of entries in AVT 1 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE VI				ZONE VII													Overall (25)		
		GU	GU (2)	Zone VI (5)		AP (1)	TE			TE (3)	TA		TA (2)	KE	KE (2)	KA		KA (1)		Zone VII (8)	
		NWG	VYR	Mean	Mean	@MTU	KNM	WGL	JGL	Mean	ADT	CBT	Mean	MNC	PTB	Mean	@MND	GNV		Mean	Mean
3601	26790	86	91	89	84	81	84	85	93	87	86	88	87	82	111	97	87	89	89	90	86
3602	28119	97	97	97	90	88	81	86	100	89	87	96	92	83	109	96	92	93	93	92	88
3603	28329	93	93	93	86	85	79	87	96	87	87	87	87	79	109	94	88	86	86	89	87
3604	28377	95	90	92	87	81	80	83	91	85	84	90	87	87	108	97	95	89	89	89	86
3605	28354	92	94	93	86	86	80	93	101	91	90	98	94	83	109	96	90	94	94	94	88
3606	28343	90	91	91	85	83	84	86	95	88	90	98	94	80	108	94	90	86	86	91	86
3607	US 314 (HC)	88	89	88	81	82	77	85	93	85	82		82	77	109	93	86	88	88	87	84
3608	28358	90	93	91	86	87	81	93	101	92	90	99	94	83	108	96	90	92	92	93	89
3609	28111	89	96	92	89	87	86	89	101	92	94	96	95	83	110	96	94	94	94	94	90
3610	28366	93	90	92	86	83	80	87	97	88	86	89	87	77	106	92	84	89	89	89	86
3611	28332	92	89	91	84	81	82	86	93	87	84	87	85	80	105	93	82	86	86	88	85
3612	28114	88	94	91	87	85	81	82	100	88	95	90	92	87	107	97	94	94	94	92	88
3613	Zonal Check (ZC)	89	89	89	91	83	85	88	93	89	86	90	88	81	110	95	89	84	84	90	87
3614	28333	93	91	92	88	85	83	89	98	90	87	88	88	82	106	94	92	85	85	90	87
3615	28118	91	96	94	90	85	82	86	99	89	89	99	94	87	106	97	102	88	88	92	89
3616	CO-51 (NC)	95	91	93	84	80	77	83	94	85	85	89	87	80	108	94	89	86	86	88	84
3617	28120	91	91	91	87	80	79	79	94	84	86	91	89	86	107	97	100	85	85	88	85
3618	28356	87	88	87	81	82	83	84	97	88	84	87	86	79	107	93	85	86	86	88	84
3619	28122	87	90	88	84	81	82	81	91	85	87	92	90	83	106	95	98	86	86	88	86
3620	28115	89	92	90	85	81	80	79	97	85	87	96	91	85	108	96	97	86	86	90	85
3621	Local Check (LC)	89	92	90	87	87	82	86	96	88	87	88	88	83	109	96	86	86	86	89	86
	Exp. Mean	90	92	91	86	84	81	86	96	88	87	92	89	82	108	95	91	88	88	90	86
	SEM	1.04	0.51	0.76	0.41	0.50	0.41	0.60	0.96	0.51	0.90	0.38	0.48	0.22	1.00	0.55	0.53	1.13	0.46	0.28	0.19

**Table No 1.10: Plant Height (cm) of entries in AVT 1 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE II			ZONE III										
		UK	PU	HA	OD		OD (2)	BI			BI (1)	JH		WB	
		@PNT	@LDN	@KUL	CTK	JYP	Mean	@BKG	SBR	@PTN	Mean	@RCI	@HZB	CHN	HTW
3601	26790	88.00	81.33	88.00	88.02	91.87	89.94	101.00	91.67	110.03	91.67	72.00	114.73	107.33	114.80
3602	28119	92.00	82.67	84.00	100.17	79.60	89.89	106.33	104.00	106.84	104.00	83.00	111.33	127.33	113.00
3603	28329	86.00	79.00	77.00	89.91	86.87	88.39	103.33	95.00	107.29	95.00	64.00	108.67	112.33	116.00
3604	28377	78.00	89.67	80.00	82.89	90.93	86.91	99.33	101.33	111.39	101.33	76.00	106.77	127.33	92.60
3605	28354	90.00	87.00	78.00	94.46	84.20	89.33	103.67	85.33	113.10	85.33	84.00	117.77	123.00	112.00
3606	28343	87.00	86.67	90.00	90.29	85.03	87.66	103.67	93.67	110.28	93.67	82.00	112.17	112.67	112.80
3607	US 314 (HC)	92.00		78.00	92.04	90.80	91.42	99.67	102.00	114.27	102.00	77.00	107.53	114.33	115.00
3608	28358	90.00	85.00	69.00	97.94	84.33	91.14	114.67	98.00	110.26	98.00	71.00	110.40	117.00	115.00
3609	28111	80.00		60.00	88.31	85.80	87.06	106.00	96.67	104.99	96.67	71.00	113.13	114.00	110.20
3610	28366	71.00	76.00	68.00	81.54	83.67	82.60	99.00	89.67	102.32	89.67	69.00	106.80	101.33	108.00
3611	28332	83.00	85.67	79.00	87.94	91.20	89.57	97.00	97.33	110.03	97.33	84.00	122.13	106.67	113.80
3612	28114	83.00	76.67	77.00	91.01	78.93	84.97	103.00	99.00	106.81	99.00	72.00	108.67	108.33	105.20
3613	Zonal Check (ZC)	59.00	68.33	60.00	76.84	67.20	72.02	90.00	81.33	87.14	81.33	62.00	93.33	87.00	89.00
3614	28333	73.00		63.00	83.27	83.80	83.54	93.33	101.33	109.73	101.33	72.00	110.10	102.33	107.80
3615	28118	57.00	64.00	55.00	81.79	76.73	79.26	83.33	90.00	97.41	90.00	60.00	105.73	99.33	96.20
3616	CO-51 (NC)	85.00	83.33	60.00	88.51	85.53	87.02	103.00	91.67	108.56	91.67	74.00	111.33	106.67	108.80
3617	28120	77.00	77.33	64.00	88.99	89.13	89.06	102.33	103.00	106.47	103.00	71.00	113.40	106.67	104.80
3618	28356	85.00	87.67	69.00	109.31	90.40	99.86	102.67	94.67	108.38	94.67	73.00	111.80	98.33	109.00
3619	28122	73.00	80.00	70.00	89.40	77.47	83.43	109.00	96.00	104.87	96.00	71.00	112.33	103.33	107.00
3620	28115	63.00		62.00	89.16	80.67	84.91	105.00	98.33	113.08	98.33	70.00	104.00	105.00	108.20
3621	Local Check (LC)	72.00	71.67	70.00	98.16	105.33	101.75	111.67	104.33	116.20	104.33	74.00	124.00	99.00	106.20
Exp. Mean		79.24	80.12	71.48	90.00	85.21	87.61	101.76	95.92	107.59	95.92	72.95	110.77	108.54	107.88

**Table 1.10 contd.: Plant Height (cm) of entries in AVT 1 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE III			ZONE IV		ZONE V								
		WB (2)	UP (1)	Zone III (5)	AS (1)	Zone IV (1)	MP (1)	CH			CH (3)	MA1		MA1 (2)	Zone V (6)
		Mean	@MSD	Mean	TTB	Mean	REWA	RPR	JDP	BLP	Mean	SKL	SND	Mean	Mean
3601	26790	111.07	113.00	98.74	103.60	103.60	106.00	110.00	90.00	112.00	104.00	115.00	120.03	117.52	108.84
3602	28119	120.17	120.00	104.82	110.47	110.47	109.00	109.96	89.80	107.00	102.25	101.00	113.10	107.05	104.98
3603	28329	114.17	112.00	100.02	102.40	102.40	98.00	109.89	84.07	111.00	101.65	109.00	114.83	111.92	104.47
3604	28377	109.97	94.00	99.02	105.47	105.47	95.00		88.73	115.00	101.87	117.00	114.80	115.90	106.11
3605	28354	117.50	116.00	99.80	105.27	105.27	98.00	106.37	85.60	106.00	99.32	105.00	109.03	107.02	101.67
3606	28343	112.73	109.00	98.89	106.53	106.53	100.00	107.37	87.60	110.00	101.66	110.00	115.63	112.82	105.10
3607	US 314 (HC)	114.67	97.00	102.83	109.20	109.20	99.00	109.30	93.13	105.00	102.48	103.00	115.33	109.17	104.13
3608	28358	116.00	117.00	102.45	109.13	109.13	106.00	110.02	89.40	105.00	101.47	110.00	114.33	112.17	105.79
3609	28111	112.10	111.00	99.00	105.93	105.93	100.00	106.38	83.80	110.00	100.06	107.00	114.50	110.75	103.61
3610	28366	104.67	106.00	92.84	101.40	101.40	88.00	109.12	85.27	98.00	97.46	113.00	117.87	115.43	101.88
3611	28332	110.23	121.00	99.39	102.87	102.87	105.00	108.69	89.60	113.00	103.76	116.00	123.37	119.68	109.28
3612	28114	106.77	107.00	96.50	106.07	106.07	104.00	107.93	88.60	111.00	102.51	103.00	110.23	106.62	104.13
3613	Zonal Check (ZC)	88.00	111.00	80.27	105.07	105.07	102.00		100.20	110.00	105.10	118.00	143.40	130.70	114.72
3614	28333	105.07	92.00	95.71	107.20	107.20	82.00	105.71	89.33	108.00	101.01	108.00	98.80	103.40	98.64
3615	28118	97.77	112.00	88.81	94.07	94.07	86.00	97.75	77.33	99.00	91.36	93.00	98.40	95.70	91.91
3616	CO-51 (NC)	107.73	99.00	96.24	100.20	100.20	95.00	105.72	88.93	101.00	98.55	107.00	99.17	103.08	99.47
3617	28120	105.73	114.00	98.52	106.80	106.80	105.00	103.33	92.53	111.00	102.29	105.00		105.00	103.37
3618	28356	103.67	94.00	100.34	103.67	103.67	99.00	107.94	92.07	105.00	101.67	118.00	121.57	119.78	107.26
3619	28122	105.17	108.00	94.64	110.27	110.27	100.00	110.65	90.27	100.00	100.31	98.00	120.40	109.20	103.22
3620	28115	106.60	129.00	96.27	104.40	104.40	105.00	97.40	84.60	109.00	97.00	98.00	115.17	106.58	101.53
3621	Local Check (LC)	102.60	107.00	102.61	108.73	108.73	101.00	106.19	92.47	100.00	99.55	97.00	109.40	103.20	101.01
Exp. Mean		108.21	109.00	97.51	105.18	105.18	99.19	106.83	88.73	106.95	100.73	107.19	114.47	110.60	103.86

**Table No. 1.10 contd.: Plant Height (cm) of entries in AVT 1 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE VI									ZONE VII				
		MA2			MA2 (3)	MA (3)	GU		GU (2)	Zone VI (5)	AP (1)	TE			TE (3)
		KJT	SHR	VDG	Mean	Mean	NWG	VYR	Mean	Mean	@MTU	KNM	WGL	JGL	Mean
3601	26790	108.87	109.90	71.43	96.73	105.05	109.10	96.50	102.80	99.16	112.50	90.16	115.10	101.90	102.39
3602	28119	127.53	98.40	81.13	102.36	104.23	108.70	101.60	105.15	103.47	108.70	92.13	114.50	96.20	100.94
3603	28329	106.67	103.70	74.93	95.10	101.83	99.60	95.90	97.75	96.16	109.40	90.73	120.10	96.60	102.48
3604	28377	106.47	104.70	86.80	99.32	105.95	103.70	97.20	100.45	99.77	115.90	98.00	113.00	97.60	102.87
3605	28354	102.47	103.60	75.53	93.87	99.13	112.50	101.30	106.90	99.08	116.40	84.57	114.20	99.40	99.39
3606	28343	111.40	104.80	78.77	98.32	104.12	106.40	95.70	101.05	99.41	117.50	96.06	121.20	99.80	105.69
3607	US 314 (HC)	101.40	110.30	67.07	92.92	99.42	114.40	106.80	110.60	99.99	95.20	92.73	115.10	93.60	100.48
3608	28358	104.47	107.30	73.60	95.12	101.94	116.50	107.30	111.90	101.83	120.50	94.65	120.10	103.10	105.95
3609	28111	101.20	108.70	71.17	93.69	100.51	106.50	93.10	99.80	96.13	101.20	81.45	109.50	89.70	93.55
3610	28366	102.67	106.10	68.97	92.58	101.72	100.50	95.10	97.80	94.67	114.00	87.19	112.10	95.00	98.10
3611	28332	113.47	110.30	72.80	98.86	107.19	104.10	100.50	102.30	100.23	111.30	98.24	129.90	101.90	110.01
3612	28114	117.07	105.20	78.30	100.19	102.76	101.40	105.40	103.40	101.47	93.10	84.20	108.90	87.40	93.50
3613	Zonal Check (ZC)	146.53	111.10	93.80	117.14	122.57	119.00	122.30	120.65	118.55	113.50	96.50	121.90	103.10	107.17
3614	28333	106.67	113.70	78.53	99.63	101.14	105.00	103.00	104.00	101.38	116.50	95.51	117.20	98.00	103.57
3615	28118	95.87	94.90	72.97	87.91	91.03	97.10	86.00	91.55	89.37	97.10	86.09	94.90	84.70	88.56
3616	CO-51 (NC)	100.33	101.00	78.83	93.39	97.27	102.40	83.50	92.95	93.21	102.70	88.81	113.50	96.30	99.54
3617	28120	107.13	111.70	76.13	98.32	99.99	110.50	100.70	105.60	101.23	111.30	88.43	105.10	90.50	94.68
3618	28356	109.27	111.30	80.57	100.38	108.14	106.30	90.30	98.30	99.55	137.80	90.84	115.00	98.90	101.58
3619	28122	103.87	104.10	73.80	93.92	100.03	103.20	103.50	103.35	97.69	106.10	92.70	109.00	88.70	96.80
3620	28115	109.40	100.10	74.20	94.57	99.37	116.00	96.10	106.05	99.16	100.30	79.32	115.10	88.10	94.17
3621	Local Check (LC)	95.13	92.10	75.07	87.43	93.74	100.30	95.10	97.70	91.54	110.40	88.60	124.50	95.30	102.80
Exp. Mean		108.47	105.38	76.40	96.75	102.24	106.82	98.90	102.86	99.19	110.07	90.33	114.76	95.51	100.20

**Table No. 1.10 contd.: Plant Height (cm) of entries in AVT 1 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE VII										
		TA		TA (2)	KE		KE (2)	KA		KA (1)	Zone VII (8)	Overall (25)
		ADT	CBT	Mean	MNC	PTB	Mean	@MND	GNV	Mean	Mean	Mean
3601	26790	83.40	93.33	88.37	101.60	98.73	100.17	90.47	93.00	93.00	97.15	100.93
3602	28119	92.00	100.60	96.30	107.13	97.13	102.13	97.67	96.00	96.00	99.46	103.10
3603	28329	87.00	84.53	85.77	90.33	98.33	94.33	90.87	92.50	92.50	95.02	98.81
3604	28377	104.50	96.33	100.42	105.20	98.20	101.70	92.80	103.50	103.50	102.04	101.93
3605	28354	92.40	94.40	93.40	95.93	93.42	94.68	90.53	100.50	100.50	96.85	99.38
3606	28343	91.50	94.00	92.75	96.33	100.53	98.43	95.73	107.00	107.00	100.80	101.40
3607	US 314 (HC)	95.00		95.00	96.73	89.53	93.13	95.87	97.50	97.50	97.17	101.18
3608	28358	102.60	105.20	103.90	96.40	94.00	95.20	90.40	104.00	104.00	102.51	103.42
3609	28111	86.60	92.93	89.77	90.80	102.47	96.63	89.93	96.50	96.50	93.74	98.13
3610	28366	83.20	90.20	86.70	91.27	100.07	95.67	90.40	97.00	97.00	94.50	96.25
3611	28332	80.40	95.73	88.07	88.27	119.27	103.77	95.20	96.00	96.00	101.21	102.65
3612	28114	92.80	100.00	96.40	107.00	101.07	104.03	95.80	95.50	95.50	97.11	99.90
3613	Zonal Check (ZC)	88.20	97.07	92.63	96.07	100.80	98.43	93.93	104.50	104.50	101.02	103.37
3614	28333	91.50	96.80	94.15	95.47	95.07	95.27	94.33	93.50	93.50	97.88	98.70
3615	28118	80.80	85.73	83.27	91.93	102.83	97.38	87.87	90.00	90.00	89.62	90.14
3616	CO-51 (NC)	82.40	92.73	87.57	100.13	96.53	98.33	93.07	98.00	98.00	96.05	96.51
3617	28120	87.50	87.00	87.25	95.67	100.50	98.08	96.20	103.00	103.00	94.71	99.17
3618	28356	92.50	85.47	88.98	91.80	90.33	91.07	90.87	100.00	100.00	95.61	100.46
3619	28122	93.00	93.13	93.07	98.07	95.10	96.58	95.80	93.00	93.00	95.34	98.16
3620	28115	88.60	94.60	91.60	95.07	96.40	95.73	89.67	97.00	97.00	94.27	97.80
3621	Local Check (LC)	86.50	96.60	91.55	101.50	99.47	100.48	93.20	97.00	97.00	98.68	99.00
Exp. Mean		89.64	93.82	91.76	96.80	98.56	97.68	92.89	97.86	97.86	97.18	99.54

**Table No. 1.11: Panicles/M<sup>2</sup> of entries in AVT 1 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE II			ZONE III												
		UK	PU	HA	OD		OD (2)		BI			BI (1)	JH		WB (1)	UP (1)	Zone III (4)
		@PNT	@LDN	@KUL	CTK	JYP	Mean	@BKG	SBR	@PTN	Mean	@RCI	@HZB	CHN	@MSD	Mean	
3601	26790	275	268	187	303	342	323	332	207	265	207	171	338	253	315	276	
3602	28119	207	244	196	271	230	251	363	203	308	203	99	332	352	328	264	
3603	28329	290	293	192	275	257	266	311	237	311	237	160	335	319	273	272	
3604	28377	170	282	212	323	240	281	324	195	237	195	161	336	242	332	250	
3605	28354	280	255	196	340	291	316	339	218	236	218	155	320	330	342	295	
3606	28343	250	284	171	279	280	279	310	209	231	209	112	321	264	328	258	
3607	US 314 (HC)	216		168	265	284	274	310	201	296	201	170	336	286	351	259	
3608	28358	267	288	178	307	228	267	269	240	308	240	136	325	297	338	268	
3609	28111	198		162	336	226	281	315	177	279	177	173	313	253	276	248	
3610	28366	48	257	173	300	231	265	285	194	317	194	128	326	242	273	242	
3611	28332	250	244	176	295	262	278	303	182	312	182	182	330	297	255	259	
3612	28114	153	275	165	284	218	251	346	198	252	198	167	335	308	256	252	
3613	Zonal Check (ZC)	211	273	195	312	335	323	323	235	320	235	258	336	264	253	286	
3614	28333	228		187	322	311	316	298	207	309	207	204	312	253	254	273	
3615	28118	274	260	157	285	224	255	297	210	306	210	164	321	264	236	246	
3616	CO-51 (NC)	210	308	151	257	290	274	262	224	283	224	180	326	209	252	245	
3617	28120	155	249	192	256	289	272	346	199	290	199	163	328	275	260	255	
3618	28356	218	244	175	259	235	247	311	220	291	220	174	328	220	319	234	
3619	28122	80	304	198	302	260	281	298	199	312	199	193	340	253	272	253	
3620	28115	51		158	320	209	265	326	188	263	188	169	337	264	279	245	
3621	Local Check (LC)	256	277	174	315	272	293	358	172	259	172	167	335	275	314	258	
Exp. Mean		204	271	179	295	263	279	315	205	285	205	166	329	272	291	259	

**Table No. 1.11 contd.: Panicles/M<sup>2</sup> of entries in AVT 1 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE IV			ZONE V							ZONE VI									
		AS (1)	Zone IV (1)	MP (1)	CH	CH (2)	MA1	MA1 (2)	Zone V (5)	MA2			MA2 (3)	MA (3)	GU	GU (2)	Zone VI (5)				
		TTB	Mean	REWA	RPR	JDP	Mean	SKL	SND	Mean	Mean	KJT	SHR	VDG	Mean	Mean	NWG	VVR	Mean	Mean	
3601	26790	236	236	280	210	193	201	263	241	252	237	212	194	275	227	237	286	318	302	257	
3602	28119	193	193	243	188	208	198	181	196	189	203	214	183	273	223	209	288	293	291	250	
3603	28329	200	200	265	176	155	165	323	265	294	237	285	195	222	234	258	272	348	310	264	
3604	28377	200	200	233	193	193	205	258	232	223	230	175	220	209	218	287	238	262	230		
3605	28354	224	224	276	213	215	214	213	208	211	225	284	175	233	231	223	284	313	299	258	
3606	28343	211	211	216	150	183	167	270	205	238	205	253	186	274	238	238	291	320	305	265	
3607	US 314 (HC)	202	202	237	186	220	203	173	165	169	196	256	170	299	242	213	288	251	270	253	
3608	28358	229	229	262	213	182	198	281	227	254	233	213	169	206	196	219	285	287	286	232	
3609	28111	198	198	233	224	166	195	204	273	238	220	216	198	286	233	235	291	297	294	258	
3610	28366	242	242	170	216	202	209	213	245	229	209	199	176	263	213	219	287	276	281	240	
3611	28332	218	218	261	167	178	173	201	213	207	204	231	203	281	238	226	285	299	292	260	
3612	28114	198	198	259	155	182	169	149	241	195	197	191	157	230	192	193	281	257	269	223	
3613	Zonal Check (ZC)	204	204	138	210	210	134	155	144	159	271	209	287	256	211	282	318	300	273		
3614	28333	211	211	268	186	210	198	239	224	232	225	228	203	273	235	233	265	291	278	252	
3615	28118	207	207	219	171	219	195	202	207	205	203	229	172	247	216	211	276	304	290	245	
3616	CO-51 (NC)	282	282	288	151	229	190	181	271	226	224	229	201	294	241	235	260	325	293	262	
3617	28120	207	207	227	164	207	186	138		138	184	209	206	289	234	210	277	283	280	253	
3618	28356	249	249	291	195	218	207	213	232	223	230	235	207	236	226	225	265	289	277	246	
3619	28122	213	213	289	201	233	217	193	266	230	236	237	177	238	217	222	278	293	286	245	
3620	28115	184	184	283	145	212	178	196	238	217	215	186	185	291	221	219	278	302	290	248	
3621	Local Check (LC)	251	251	253	162	172	167	203	226	214	203	267	132	295	231	224	285	321	303	260	
Exp. Mean		217	217	247	183	199	192	208	228	216	213	232	184	262	226	223	280	296	288	251	



**Table No. 1.11contd.: Panicles/M<sup>2</sup> of entries in AVT 1 – E TP Kharif 2020**

Entry No.	IET NO.	ZONE VII															Overall (23)
		AP (1)	TE			TE (3)	TA		TA (2)	KE		KE (2)	KA		KA (1)	Zone VII (8)	
		@MTU	KNM	WGL	JGL	Mean	ADT	CBT	Mean	MNC	PTB	Mean	@MND	GNV	Mean	Mean	
3601	26790	272	172	417	319	302	334	252	293	324	466	395	256	431	431	339	281
3602	28119	257	163	400	308	290	309	318	314	202	353	278	269	370	370	303	256
3603	28329	318	218	408	326	317	367	268	318	256	458	357	258	437	437	342	280
3604	28377	300	156	417	304	292	385	305	345	209	473	341	240	305	305	319	258
3605	28354	306	145	409	323	293	345	335	340	249	351	300	269	315	315	309	270
3606	28343	292	183	396	321	300	355	297	326	216	428	322	269	335	335	316	262
3607	US 314 (HC)	294	158	388	282	276	332		332	229	331	280	289	322	322	292	247
3608	28358	344	154	419	279	284	326	360	343	271	345	308	302	303	303	307	262
3609	28111	295	136	411	297	282	422	267	345	196	461	328	256	326	326	315	258
3610	28366	329	176	405	321	301	348	307	327	211	455	333	253	390	390	327	260
3611	28332	296	205	411	334	317	362	287	324	169	235	202	273	497	497	312	260
3612	28114	294	130	400	304	278	384	305	345	193	325	259	262	336	336	297	241
3613	Zonal Check (ZC)	304	189	402	308	300	372	295	334	264	430	347	282	287	287	318	263
3614	28333	317	224	405	299	309	383	275	329	218	330	274	256	290	290	303	260
3615	28118	317	178	406	308	297	316	292	304	242	350	296	284	373	373	308	254
3616	CO-51 (NC)	373	200	397	339	312	337	297	317	371	259	315	267	369	369	321	269
3617	28120	343	136	402	277	272	427	210	319	182	424	303	240	358	358	302	248
3618	28356	327	176	405	326	302	388	220	304	233	344	288	269	378	378	309	257
3619	28122	297	154	400	425	326	398	300	349	211	350	280	271	434	434	334	268
3620	28115	327	145	407	301	285	352	371	362	236	442	339	249	372	372	328	262
3621	Local Check (LC)	293	150	409	330	296	346	303	325	370	446	408	276	432	432	348	275
Exp. Mean		309	169	405	316	297	361	293	328	241	384	312	266	365	365	317	261

**Table No. 1.12: Grain quality characteristics of entries in AVT 1-E TP, kharif 2020**

Entry No.	IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
3601	26790	78.5	67.6	54.1	6.55	2.10	3.11	LS	VOC	3.0	21.95	69
3602	28119	81.7	69.3	51.5	6.79	1.97	3.44	LS	VOC	4.0	25.78	60
3603	28329	79.8	69.0	57.5	6.98	2.00	3.49	LS	VOC	5.4	27.51	68
3604	28377	80.8	69.5	52.4	7.03	2.33	3.01	LS	OC	4.0	28.33	50
3605	28354	79.8	69.3	66.8	5.77	2.04	2.82	MS	VOC	4.0	24.72	22
3606	28343	79.6	70.1	63.2	6.41	2.07	3.09	LS	VOC	3.0	21.35	69
3607	US-314	79.5	67.7	56.0	5.81	2.03	2.86	MS	VOC	4.0	23.64	50
3608	28358	80.8	71.5	62.7	6.26	2.06	3.03	LS	VOC	4.0	22.02	66
3609	28111	80.9	71.5	65.6	6.76	2.02	3.34	LS	VOC	3.2	23.61	67
3610	28366	77.4	67.4	62.6	6.02	1.94	3.1	LS	VOC	3.3	23.14	100
3611	28332	78.6	68.7	61.5	6.19	2.07	2.99	LB	VOC	3.0	23.93	76
3612	28114	78.7	67.5	52.4	7.07	1.93	3.66	LS	VOC	3.0	16.92	85
3613	Zonal Check	79.5	68.3	56.8	6.17	2.03	3.03	LS	VOC	4.0	23.81	67
3614	28333	78.5	64.5	58.9	4.95	1.85	2.67	MS	VOC	3.5	20.35	66
3615	28118	79.4	68.6	54.8	5.45	2.26	2.41	SB	VOC	3.0	24.49	56
3616	CO-51	77.8	68.3	63.1	5.32	1.93	2.75	MS	VOC	4.0	25.60	50
3617	28120	79.1	67.4	53.4	6.58	2.07	3.17	LS	OC	4.0	16.42	87
3618	28356	76.7	63.7	54.2	6.37	2.04	3.12	LS	VOC	3.0	23.14	81
3619	28122	77.7	65.2	50.2	6.34	2.29	2.76	LB	A	5.0	22.00	100
3620	28115	79.8	68.5	58.3	5.34	2.06	2.59	MS	VOC	3.0	22.05	61
3621	Local Check	81.7	71.9	60.4	6.32	2.05	3.08	LS	VOC	3.0	21.56	68

**HULL:** Hulling (%); **MILLING (%)**: Milling (%); **HRR:** Head Rice Recovery (%); **KL:** Kernel Length(mm); **KB:** Kernel Breadth(mm); **L/B:** Length and breadth ratio; **Grain Chalk:** Grain Chalkiness; **VOC:** Very occasionally present; **A:** Absent **ASV:** Alkali Spreading Value; **AC:** Amylose Content(%); **GC:** Gel Consistency; **LB** Long Bold; **SB::**Short Bold; **LS:** Long Slender; **MS:** Medium Slender; **SS:** Short Slender.

**Table No.1.13: Composition of entries in Initial Variety Trial – Early Transplanted (IVT-E TP), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>1<sup>st</sup> year of testing:</b>				
3701	29140	BRR 2176	IR 97443-11-2-1-1-1-B / HUR- 1304	MS
3702	29141	CB 16533	CO 51 / Wagwag	MS
3703	29142	JGL 35085	(JGL 20171 / NLR 34449) / JGL 20171	LS
3704	29143	KNM 7660	TME 80518 / KNM 118	LS
3705	29144	MTU 1338 (MTUAST2-1-26-4)	(MTU1010 / MTU1081) // *2 MTU1010	LS
3706	29145	NVSR 2848	Gurjari / Varalu	LB
3707	29146	ORJ 1313 (RP-5530-B-31-1)	RP Bio 226 / IRGC 48960 // MTU 1081	MS
3708	29147	RCPR 72-IR 14L613	IR10L149 / IR10L165	LS
3709	29148	RNR 28373	Bhadrakali / IR-79216-141-1-3-3	LB
3710	29149	Rewa 1114-4-3	842 / IR84881-132-1	MS
3711	29150	WGL-1296	KMP 150 / JGL 17025	MS
3712	29151	UPR 4293-18-1-1-1	Pant Dhan 12 / HKR 47	LS
3713	29152	PAU 6359-7-1-2-1-2 (RYT 3843)	MT 16 // IR 64 Sub 1 / PAU 3699-13-2-2-4	LS
3714	29153	NP 8912	NP 124-8 / NP 9260	MS
3715	29154	AD 17152	IET 22075 / ADT48	SB
3716	29155	GNV 1902	GNV 10-89 / RNR 15048	MS
3717	29156	CRR 821-3	IR09L337 / IR09L154	LS
3718	29157	CR 3561-3-1-2-2-1-1	Surendra / Annapurna	SB
3719	29158	CR 4011-10-4-GSR IR1- DQ136-Y8-Y1	GSR IR1-8-S6-S3-Y2 / GSR IR1-5-D7- Y3-S1	LS
3720	<b>CO-51 (NC)</b>			
3721	29159	RP Bio 4918-B-B-C2-14	Swarna / O. nivara	LS
3722	29160	RDR-1162	JGL-11727 / JGL 17004	MS
3723	29161	NWGR-15019	Gurjari / CN-1223-5-4-9-2 (12-3-2-1-1-1-1-1)	MB
3724	29162	NVSR-544	(RP Bio-226 / IRGC 71598) / Nidhi	MS
3725	<b>PR 124-Northern, Narendra 97-Eastern, Luit -North Eastern, Sahbhagidhan- Central &amp; Western, MTU 1153-Southern-- ZC</b>			
3726	29163	AD 16115	IET 22075 / ADT48	LS
3727	29164	KNM 7590	KNM 118 / HHZ	LS
3728	29165	RNR 28390	RNR 15265 / Erramallelu	LS
3729	29166	Bhakti	IR 55419-04 / 3* MTU1010	LS
3730	29167	RP 6326-344-12-1	MTU 1010 / WGL 505	LS
3731	29168	OR 2575-3	OR 2062-5 / IR 89023-TR	SB
3732	29169	CR 4205-64-1 (IR 121055- 2-10-CR 4205-64-1)	MTU 1010*2 / ST 12	LS
3733	29170	NVSR-555	(RP Bio-226 / IRGC 16449) / MTU- 1081	MS
3734	29171	MTU 1340 (MTU 2578-5-2-4-1-1)	MTU 1156 / MTU 1081	LS
3735	29172	TRC 2020-5	Hakuchuk 2 / Tripura Nirog	LB
3736	29173	CR 3948-1-1-2-1-1	Lalat / CR 2340-11	LS
3737	29174	UPR 4306-5-1-1-1	UPR 4214 / UPR 4210	LS

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Entry No.	IET No.	Designation	Cross Combination	GT
3738	29175	RCPR 73- IR 106312-50-1-1-1	IR06N155 / IR09L120	LS
3739	29176	RP 6467-IR 143507-15-121-5-4-20-4-B	IR 82809:227 / Swarna / 12 // IR 96321-1447-561-B-1 / Aganni // IR 96321-1447-561-B-1 / Abhaya /// IR 96321-1447-561-B-1 / IRBB 4 // IR 96321-1447-561-B-1 / IRBB 60 / 11 // IR 96321-1447-561-B-1 / Aganni // IR 96321-1447-561-B-1 / Abhaya /// IR 96321-1447-561-B-1 / Rathu Heenathi // IR 96321-1447-561-B-1 / IRBL9	
3740	29177	ORJ 1317 (RP 5530-23-1)	RP Bio 226 / IRGC 48960 // MTU 1081	MB
3741	29178	JGL 33119	JGL 1798 / Mahamaya	MS
3742	29179	HKR 17-44	IR 58025/ IR 79253-19-3-3-5	LS
3743	29180	CR 3506-1-2-3-1-1-1-1	IR 36 / Tapaswini	MS
3744	29181	RP 6112-MS-M-116-2-6-9-4-6-22	BPT 5204 Mutant	SB
3745	29182	RNR 29090	Tellahamsa / (BPT-5204 / NLR-145)	MS
3746	29183	KJTR 2010-6	Karjat 184 / Ratnagiri 73	MS
3747	29184	MTU 1339 (MTU 2689-54-2-1)	MTU 1010 / MTU 7029	LB
3748	29185	PNP 11708-3	NP 124-8 / NP 5682	MS
3749	29186	RP 5599-240-B-7-3	MTU 1010 / KMR 3	MS
3750	29187	NVSR-494	(CST-7-1 / IRGC 50836) / Pusa-1601	LB
3751	29188	WGL-1355	WGL-347 / HKR-06-47	LS
3752	29189	RTN 2012-5-1-3-13	HRTMS-05 Kh 12	LS
3753	29190	PAU 6260-3-1-6 (RYT 3797)	PAU 3842-62-5-1 / HKR 47	LS
3754	29191	RP 5364-24-3-2-1-1-1	RP Bio 226 / IRGC 39050 // MTU 1081	LB
3755	29192	TRC 2020-6	Gomati / BPT 5204	MS
3756	29193	BRR 0111 (IR 93329:61-B-21-12-21-1 RGA -2 RGA-1-B-B	Fedearroz 50 / IR 77298-14-1-2-10 // IRRI 123 / IR07F287 /// Sanhuangzhan No 2 / IRRI 146 // IR 45427-2B-2B-1-1 / IR 4630-22-2-5-1-3	LS
3757	29194	CB 16644	CB 08504 / JGL 17187	MS
3758	29195	TRC 2020 - 10	Hakuchuk 2 / Naveen	MS
3759	29196	NVSR 2876	IR-28 / GAR-13	LS
3760	29197	ORJ 1349 (TP 30457)	IR 09L272 / IR 10L105	LB
3761	29198	RTN 1409-1-2-1-1-3	RTN 43-1-2-1-1 / HRTMS-15	LS
3762	29199	CB 16629	CB 08504 / Moroborokon	MS
3763	29200	BRR 0115	MTU 1010 / IRMT4344	SB
3764	<b>Local Check</b>			

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Table No 1.14: Grain yield (kg/ha) of entries in IVT E TP, Kharif 2020

Entry No.	IET No.	ZONE III			ZONE IV			ZONE V								
		OD		BI	TR		MA1			MA1 (2)			Zone V (2)			
		@JYP	@BKG	@LMB	SKL	SND	Mean			Mean						
3701	29140	1196	3222	6	5582	3787	4595	6	4191	7	4191	7				
3702	29141	1999	2	3010	3828	3437	2976		3207		3207					
3703	29142	1044	2748		2001	5797	1*	3935	4866	1*	19%	4866	1*	19%		
3704	29143	885	2843		5195	3727	4538	7	4133	9	4133	9				
3705	29144	916	2792		4461	3112	3310		3211		3211					
3706	29145	1103	3178	10	5887	9	4421	5	3125		3773		3773			
3707	29146	1329	3069		4234	2947			3920		3434		3434			
3708	29147	854	2857		2175				3800		3800		3800			
3709	29148	705	2843		4582	2037	4183		3110		3110		3110			
3710	29149	660	4862	1	5437	3307	3118		3213		3213		3213			
3711	29150	716	2755		5278	3217	3139		3178		3178		3178			
3712	29151	734	3010		4432	3472	3352		3412		3412		3412			
3713	29152	942	2770		6412	4	3317		3594		3456		3456			
3714	29153	1330	10	3258	4	3324	3057	4759	2	3908		3908		3908		
3715	29154	898	2981		6235	6	2691		3565		3128		3128			
3716	29155	776	3229	5	4292		2862		3210		3036		3036			
3717	29156	933	2894		4375		2507		4354		3431		3431			
3718	29157	1865	6	2762	3190	2987	3459		3223		3223		3223			
3719	29158	1890	5	2952	4002	3475	4084		3780		3780		3780			
3720	CO-51 (NC)	883	2886		5800	10	3727	4432	4080		4080		4080			
3721	29159	1156	2828		3480		2967		2926		2947		2947			
3722	29160	1326	2843		3190	4311	7	3906	4109	10	4109	10				
3723	29161	878	2770		2190	3655	3239		3447		3447		3447			
3724	29162	1921	4	2755	1951	3261	3068		3165		3165		3165			
3725	Zonal Check (ZC)	1348	9	2959	4800	3412	2848		3130		3130		3130			
3726	29163	873	2799		3156	4467	4	3714	4091		4091		4091			
3727	29164	778	2886		3480	4067	8	4141	4104		4104		4104			
3728	29165	870	2981		3770	2557	4261		3409		3409		3409			
3729	29166	969	3178	10	5220	2907	4297		3602		3602		3602			
3730	29167	867	3185	8	1682	3397	3189		3293		3293		3293			
3731	29168	1042	3171		6612	2	3616		3977		3797		3797			
3732	29169	963	2755		5301	3237	4652	4	3945		3945		3945			
3733	29170	911	2959		3190	2671	3494		3083		3083		3083			
3734	29171	709	2886		4832	2927	4659	3	3793		3793		3793			
3735	29172	878	3178	10	2900	2997	4261		3629		3629		3629			
3736	29173	946	3025		5075		4403		4403	4	8%	4403	4	8%		
3737	29174	919	2799		4640	2562	2869		2716		2716		2716			
3738	29175	1111			4060	2267	4105		3186		3186		3186			
3739	29176	1091	2784		2610	2407	4027		3217		3217		3217			
3740	29177	925	2813		5010	3417	5369	1*	4393	5	8%	4393	5	8%		
3741	29178	1104	2843		3770	2537	4077		3307		3307		3307			
3742	29179	917	2813		5800	10	2407		4446	10	3427		3427			
3743	29180	873	2792		3132	2287	3239		2763		2763		2763			
3744	29181	923	2755		6008	8	4397	6	3572		3985		3985			
3745	29182	866	3207	7	5568		2870		2869		2870		2870			
3746	29183	1001	3185	9	4665		3397		3139		3268		3268			
3747	29184	982	2908		4856		3547		2955		3251		3251			
3748	29185	945	3360	3	4060		3694		3828		3761		3761			
3749	29186	986	3149		3770		3397		4325		3861		3861			
3750	29187	893	2770		4785		2417		3572		2995		2995			
3751	29188	844	2886		2610	4067	8	4524	8	4296	6	5%	4296	6	5%	
3752	29189	966	2894		6707	1	5562	2*	3629		4596	2	13%	4596	2	13%
3753	29190	730	2784		2134		3947		3608		3778		3778			
3754	29191	982	2828		6462	3	3747		3800		3774		3774			
3755	29192	1208	2886		4930		2877		4098		3488		3488			
3756	29193	1007	2864		6327	5	5154	3	3935		4545	3	11%	4545	3	11%
3757	29194	976	3032		3107		3637		4652	4	4145	8	4145	8		
3758	29195	909	3382	2	3803		3167		4084		3626		3626			
3759	29196	2024	1		4060		4035	10	3885		3960		3960			
3760	29197	1735	8		2610											
3761	29198	944			4847		3668		4467	9	4068		4068			
3762	29199	1937	3		4060		3249		3040		3145		3145			
3763	29200	1220			6071	7	3951		3487		3719		3719			
3764	Local Check (LC)	1827	7	2726	58	5605	12	3967	4169		4068		4068			
Exp. Mean		1077		2975		4338		3393	3814		3614		3614			
CD		169.01		351.74		3249.1		1238.55	839.58		760.25		760.25			
CV%		7.85		5.9		37.48		18.25	11.01		10.52		10.52			
D/S		21-08-2020		05-09-2020				13-08-2020	13-08-2020							
D/P		19-08-2020						26-08-2020	26-08-2020							
Local Check Name		Mandakini		R Bhagwati		Hakuchuk-2		Sakoli-6	SYE-1							

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**Table No. 1.14 contd.: Grain yield (kg/ha) of entries in IVT E TP, Kharif 2020**

Entry No.	IET No.	Zone VI (1)				Zone VII					
		MA2 (1)		MA (3)		AP (1)		TE (1)			
		KJT		Mean		MTU		Mean			
3701	29140	5444	1 * 23%	4609	3 9.90%	3470		3893	4847	4847	
3702	29141	4278		3564		5311	6%	4339	4592	4592	
3703	29142	4389		4707	2 12%	6280	6 26%	4500	5187	5187	
3704	29143	3889		4051		5386	8%	2196	5782	5782	
3705	29144	3556		3326		4727		5804	6037	7 6037	7
3706	29145	3722		3756		5508	10%	5482	5527	5527	
3707	29146	4389		3752		6864	1 * 38%	5179	3793	3793	
3708	29147	4244		4022				3304	2126	2126	
3709	29148	4011		3410		5477	10%	5768	3997	3997	
3710	29149	3633		3353		5288	6%	5464	3614	3614	
3711	29150	4222		3526		4439		4589	3571	3571	
3712	29151	3944		3589		5182		4661	4932	4932	
3713	29152	4944	3 11%	3952		3992		3161	2466	2466	
3714	29153	4500	9	4105		4727		5482	3741	3741	
3715	29154	3944		3400		5712	14%	3304	5017	5017	
3716	29155	3778		3283		5288	6%	2804	4558	4558	
3717	29156	4500	9	3787		4538		2357	4592	4592	
3718	29157	3944		3463		3848		5161	5272	5272	
3719	29158	4056		3872		4250		2357	2296	2296	
3720	CO-51 (NC)	3422		3860		4167		3732	5867	10 5867	10
3721	29159	3667		3187		4803		5018	5782	5782	
3722	29160	4178		4132		5364	7%	5929	10 2679	2679	
3723	29161	4722	6 6%	3872		6712	2 * 34%	4107	2296	2296	
3724	29162	3778		3369		2811		5571	1871	1871	
3725	Zonal Check (ZC)	3722		3327		4652		5411	2636	2636	
3726	29163	4111		4097		6098	8 22%		3827	3827	
3727	29164	3889		4032		6091	9 22%	4179	7143	2 7143	2 9%
3728	29165	4167		3662		6606	3 * 32%	5268	4082	4082	
3729	29166	2889		3364		5977	10 20%	6143	9 5102	5102	
3730	29167	3567		3384		5659	13%	6875	2 5952	8 5952	8
3731	29168	4833	4 9%	4142	9	5758	15%	3696	3997	3997	
3732	29169	3333		3741		5712	14%	4821	4422	4422	
3733	29170	3778		3314		4439		5661	1998	1998	
3734	29171	2944		3510		4621		6232	8 2976	2976	
3735	29172	4033		3764		5591	12%	6250	7 4167	4167	
3736	29173	5378	2 * 21%	4891	1 * 16.6%	5583	12%	6339	5 2211	2211	
3737	29174	3333		2921		6500	4 * 30%	3786	4082	4082	
3738	29175	4056		3476		4939		7036	1 1956	1956	
3739	29176	3122		3185		5955	19%	6732	3 2228	2228	
3740	29177	4833	4 9%	4540	4 8.30%	4515		3321	5952	8 5952	8
3741	29178	3944		3519		3955		4429	2976	2976	
3742	29179	4056		3636		3652		5482	4252	4252	
3743	29180	3333		2953		4402		5232	3571	3571	
3744	29181	3944		3971		4348		2286	3486	3486	
3745	29182	4056		3265		5144		5089	3316	3316	
3746	29183	4000		3512		5023		3286	5527	5527	
3747	29184	4111		3538		3970		4929	2806	2806	
3748	29185	4722	6 6%	4081		5652	13%	2625	5697	5697	
3749	29186	4000		3907		5477	10%	2571	7058	3 7058	3 8%
3750	29187	3011		3000		5909	18%	1357	4932	4932	
3751	29188	4333		4308	6	6455	5 * 29%	2018	6122	6 6122	6
3752	29189	3389		4193	7	5742	15%	4661	5357	5357	
3753	29190	4667	8 5%	4074		5818	17%	2946	5442	5442	
3754	29191	4389		3979		5750	15%	4429	6633	4 6633	4
3755	29192	4278		3751		5902	18%	4286	3571	3571	
3756	29193	4444		4511	5 7.60%	4765		4643	4762	4762	
3757	29194	3667		3985		5659	13%	3821	3146	3146	
3758	29195	3722		3658		6152	7 23%	6339	5 3741	3741	
3759	29196	3889		3936		4667		6571	4 3146	3146	
3760	29197	3778		3778							
3761	29198	4278		4138	10	5705	14%	4589	7228	1 7228	1 10%
3762	29199	3778		3356		5523	11%	4071	3061	3061	
3763	29200	4000		3813				3804	2806	2806	
3764	Local Check (LC)	4444		4193	7	4992		5500	6548	5 6548	5
Exp. Mean		4022		3756		5205		4530	4260	4260	
CD		631.92		515.34		1317.97		2264.38	1196.14	1196.14	
CV%		7.86		6.85		12.66		25	14.05	14.05	
D/S		04-09-2020				14-08-2020		01-08-2020	17-08-2020		
D/P		25-09-2020				03-09-2020		24-08-2020	08-09-2020		
Local Check Name		KARJAT -7				MTU 1156		MTU-1010	KNM-118		

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Table No 1.14 contd.: Grain yield (kg/ha) of entries in IVT E TP, Kharif 2020

Entry No.	IET No.	Zone VII									
		TA			TA (2)		KE			KE (1)	
		CBT	ADT		Mean		MNC	@PTB		Mean	
3701	29140	7955	3563		5759		6389	6469	4 *	6389	
3702	29141	6677	3875		5276		4903	4614		4903	
3703	29142	8402	4969	3	6686	6	5139	5242		5139	
3704	29143	6570	3063		4817		4042	5333		4042	
3705	29144	6577	3844		5211		4542	6165	*	4542	
3706	29145	7877	4188		6033		3125	6261	9 *	3125	
3707	29146	8193	5313	1	6753	3	6944	5243		6944	7 7%
3708	29147	4984	3094		4039		4806	6276	8 *	4806	
3709	29148	7082	3875		5479		5993	5199		5993	
3710	29149	5954	3125		4540		4278	5260		4278	
3711	29150	7396	4063		5730		4625	4390		4625	
3712	29151	8325	3750		6038		5764	4000		5764	
3713	29152	6732	3250		4991		7153	6	3425	7153	6 10%
3714	29153	6079	3906		4993		4736	5008		4736	
3715	29154	7438	3688		5563		3125	5222		3125	
3716	29155	7238	3719		5479		4389	6622	2 *	4389	
3717	29156	6689	3625		5157		5889	4111		5889	
3718	29157	8973	3781	1	6377		7639	3	5386	7639	3 17%
3719	29158	8143	4031		6087		4722	6778	1 *	4722	
3720	CO-51 (NC)	8755	4719	7	6737	4	5472	5100		5472	
3721	29159	7154	3594		5374		5861	6369	6 *	5861	
3722	29160	8932	4250	3	6591	7	5653	3439		5653	
3723	29161	7891	3781		5836		6333	3444		6333	
3724	29162	6748	3531		5140		5986	6072	*	5986	
3725	Zonal Check (ZC)	8250	3625		5938		4597	4357		4597	
3726	29163	4854	3250		4052		5139	5083		5139	
3727	29164	6054	3438		4746		3264	4567		3264	
3728	29165	7291	3938		5615		7681	1	4506	7681	1 18%
3729	29166	7936	4063		6000		3556	3472		3556	
3730	29167	6000	3531		4766		6528	5738	*	6528	
3731	29168	8575	3750		6163		4653	4576		4653	
3732	29169	8664	3113		5889		4236	6530	3 *	4236	
3733	29170	7961	3281		5621		3042	5403		3042	
3734	29171	8925	4000	5	6463		6944	7	5253	6944	7 7%
3735	29172	7157	4250		5704		5139	6139	*	5139	
3736	29173	7998	3875		5937		5694	3778		5694	
3737	29174	7591	3969		5780		4549	3244		4549	
3738	29175	7154	4844	5	5999		4389	5272		4389	
3739	29176	8564	3344		5954		3694	4704		3694	
3740	29177	8911	4188	6	6550	9	7292	4	3368	7292	4 12%
3741	29178	8893	4563	7	6728	5	6403	6399	5 *	6403	
3742	29179	8932	4656	3	6794	2	4514	4025		4514	
3743	29180	7663	4156		5910		6875	9	5891	* 6875	9 6%
3744	29181	5141	3594		4368		4556	6280	7 *	4556	
3745	29182	7295	3156		5226		6590	3497		6590	
3746	29183	8195	3813		6004		3361	4453		3361	
3747	29184	6379	4063		5221		5535	5486		5535	
3748	29185	6421	3438		4930		5160	6095	*	5160	
3749	29186	5929	3938		4934		5597	4472		5597	
3750	29187	8870	4094	9	6482	10	7160	5	4478	7160	5 10%
3751	29188	7784	4969	3	6377		6750	4476		6750	
3752	29189	8825	4344	10	6585	8	5847	5715	*	5847	
3753	29190	8968	4688	2	6828	1	5472	4663		5472	
3754	29191	7727	4344		6036		7653	2	6233	10 * 7653	2 18%
3755	29192	7746	5031	2	6389		6792	10	3714	6792	10
3756	29193	6318	3688		5003		4625	5472		4625	
3757	29194	6738	3438		5088		4097	5251		4097	
3758	29195	7739	4063		5901		5639	5585	*	5639	
3759	29196	4941	3125		4033		4653	5179		4653	
3760	29197	7486	4813	6	6150		6708	5274		6708	
3761	29198	8214	3594		5904		5139	5844	*	5139	
3762	29199	8880	2844	8	5862		3451	5294		3451	
3763	29200	7107	3500		5304		5972			5972	
3764	Local Check (LC)	8811	4063		6437		6507			6507	
<b>Exp. Mean</b>		<b>7494</b>	<b>3891</b>		<b>5693</b>		<b>5359</b>	<b>5084</b>		<b>5359</b>	
CD		1760.66	792.25		906.98		1525.06	454.76		1525.06	
CV%		11.76	10.19		7.97		14.24	4.47		14.24	
D/S		27-08-2020	23-09-2020				24-09-2020	24-08-2020			
D/P		28-09-2020	21-10-2020				12-10-2020	30-09-2020			
Local Check Name		CO(R)51	ADT 53				Prathyasa	Kanchana			

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Table No. 1.14 contd.: Grain yield (kg/ha) of entries in IVT E TP, Kharif 2020

Entry No.	IET No.	Zone VII						Overall (10)			
		KA		KA (2)		Zone VII (7)		Mean			
		MND	GNV	Mean	Mean	Mean	Mean				
3701	29140	5276		4647		4962		5164		4997	
3702	29141	4631		4872		4752		4980		4555	
3703	29142	6502	3	5381	6	5942	3	5980	3	5598	2 6%
3704	29143	5050		3782		4416		4811		4583	
3705	29144	5495	10	5212	8	5354	8	5205		4641	
3706	29145	3986		4099		4043		4901		4558	
3707	29146	4973		5490	4	5232		5939	4	5283	6
3708	29147	5326				5326	9	4067		4054	
3709	29148	3952		2244		3098		4660		4285	
3710	29149	4800		1667		3234		4104		3878	
3711	29150	3690		5157	9	4424		4706		4352	
3712	29151	4336		2869		3603		5023		4593	
3713	29152			2458		2458		4342		4212	
3714	29153	6805	1	5417	5	6111	1	5059		4773	
3715	29154	3522		3590		3556		4585		4229	
3716	29155	3856		4744		4300		4827		4364	
3717	29156	4965		4163		4564		4923		4582	
3718	29157	4455		3397		3926		5338		4776	
3719	29158	4028		3724		3876		4456		4281	
3720	CO-51 (NC)	6525	2	5061	10	5793	4	5795	5	5215	7
3721	29159	5242		6022	1	5632	5	5494		4802	
3722	29160	4693		5936	2	5315	10	5358		4990	
3723	29161	3667		4744		4206		5061		4704	
3724	29162	3568		2208		2888		3818		3683	
3725	Zonal Check (ZC)	6198	5	5785	3	5992	2	5106		4573	
3726	29163	5434		3974		4704		4654		4487	
3727	29164	4789		4660		4725		5063		4754	
3728	29165	3134		1449		2292		4883		4517	
3729	29166	4820		3936		4378		5056		4548	
3730	29167	4474		3103		3789		5035		4540	
3731	29168	4005		2949		3477		4812		4611	
3732	29169	4620		3269		3945		4862		4526	
3733	29170	3821		3333		3577		3982		3782	
3734	29171	5568	9	2824		4196		5123		4639	
3735	29172	5000		3205		4103		4930		4580	
3736	29173	4182		3462		3822		4715		4754	
3737	29174	3656		2772		3214		4731		4188	
3738	29175	5169		2564		3867		4431		4144	
3739	29176	4892		3090		3991		4538		4132	
3740	29177	3844				3844		5784	6	5369	4
3741	29178	4459		4231		4345		5069		4604	
3742	29179	4309		4074		4192		4913		4530	
3743	29180	2849		3375		3112		4699		4175	
3744	29181	4720		2244		3482		4013		4000	
3745	29182	4174		3702		3938		4768		4317	
3746	29183	4063		2455		3259		4634		4297	
3747	29184	5180		1859		3520		4256		4041	
3748	29185	4681		3654		4168		4958		4695	
3749	29186	6302	4	4679		5491	6	5569	10	5070	9
3750	29187	4259		2824		3542		5435		4705	
3751	29188	5618	8	5362	7	5490	7	6151	2 6%	5598	2 6%
3752	29189	4451		2237		3344		5258		4938	
3753	29190	2608		1766		2187		4966		4698	
3754	29191	4754		2449		3602		5616	9	5125	8
3755	29192	4916				4916		5660	8	5023	10
3756	29193	5745	7	3875		4810		4825		4731	
3757	29194	4839		3731		4285		4521		4360	
3758	29195	5035		2689		3862		5008		4603	
3759	29196	3648		2734		3191		3845		3872	
3760	29197							6336	1 * 9%	5696	1 * 8%
3761	29198	5369		2269		3819		5360		4993	
3762	29199	4232		2080		3156		4296		4014	
3763	29200	5753	6	3583		4668		4787		4462	
3764	Local Check (LC)	4581		4808		4695		5759	7	5289	5
<b>Exp. Mean</b>		<b>4669</b>		<b>3632</b>		<b>4159</b>		<b>4953</b>		<b>4593</b>	
CD		786.77		732.37		600.29		427.49		328	
CV%		<b>8.43</b>		<b>10.08</b>		<b>7.22</b>		<b>4.32</b>		<b>3.57</b>	
D/S		15-08-2020		22-08-2020							
D/P		07-09-2020		23-09-2020							
Local Check Name		KMP-105 (Raksha)		GNV 10-89							

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**Table No. 1.15: Days to 50% flowering of entries in IVT E TP, kharif 2020**

Entry No.	IET No.	ZONE III		ZONE IV	ZONE V			ZONE VI (1)		MA (3)	ZONE VII		
		OD	BI	TR	MA1		MA1 (2)	Zone V (2)	MA2 (1)	Mean	TE		
		@JYP	@BKG	@LMB	SKL	SND	Mean	Mean	KJT		AP (1)	MTU	@KMP
3701	29140	87	85	91	103	75	89	89	88	89	78	118	81
3702	29141	87	83	100	72	75	73	73	86	77	77	116	81
3703	29142	91	96	105	71	83	77	77	88	80	79	116	93
3704	29143	97	81	99	71	75	73	73	83	76	75	113	80
3705	29144	102	97	98	73	75	74	74	84	77	80	113	83
3706	29145	87	86	98	76	73	74	74	82	77	77	119	78
3707	29146	109	75	99	75	89	82	82	87	83	89	114	94
3708	29147	108	71	105		92	92	92	86	89		113	82
3709	29148	88	90	103	71	84	78	78	82	79	83	114	84
3710	29149	78	90	109	69	74	71	71	82	75	72	113	103
3711	29150	101	89	100	80	95	88	88	86	87	94	116	91
3712	29151	110	92	98	78	92	85	85	86	85	85	114	84
3713	29152	98	88	102	85	92	88	88	111	96	79	119	92
3714	29153	85	87	100	71	81	76	76	84	79	74	113	81
3715	29154	86	89	98	70	77	73	73	82	76	74	113	84
3716	29155	102	89	100	74	81	78	78	114	90	86	115	84
3717	29156	94	94	100	75	88	81	81	86	83	82	115	84
3718	29157	106	107	98	80	96	88	88	88	88	85	116	91
3719	29158	102	92	103	81	83	82	82	85	83	82	112	84
3720	CO-51 (NC)	108	91	100	73	81	77	77	88	80	72	112	78
3721	29159	87	96	105	73	80	77	77	85	79	76	112	77
3722	29160	109	96	96	70	86	78	78	85	80	71	113	103
3723	29161	108	112	103	80	83	81	81	88	84	82	118	84
3724	29162	108	113	106	74	79	76	76	89	80	78	123	82
3725	Zonal Check (ZC)	91	109	94	71	86	78	78	85	80	75	113	86
3726	29163	107	110	92	67	74	71	71	82	74	72		73
3727	29164	98	89	97	71	75	73	73	83	76	75	115	77
3728	29165	93	92	104	74	77	76	76	90	80	74	115	83
3729	29166	98	91	96	72	84	78	78	89	81	78	112	83
3730	29167	86	88	91	74	80	77	77	113	89	77	115	85
3731	29168	102	89	99	74	87	80	80	87	83	81	118	83
3732	29169	97	92	91	70	75	73	73	88	78	82	114	82
3733	29170	100	92	107	70	84	77	77	87	80	79	118	77
3734	29171	93	91	93	73	81	77	77	86	80	82	115	83
3735	29172	91	89	99	70	75	72	72	86	77	78	114	80
3736	29173	87	89	109		78	78	78	113	96	102	119	75
3737	29174	93	91	96	77	84	80	80	89	83	85	118	93
3738	29175	89		101	73	85	79	79	90	83	86	112	97
3739	29176	86	90	102	76	86	81	81	87	83	83	111	86
3740	29177	103	92	100	78	86	82	82	88	84	86	116	94
3741	29178	105	91	101	76	98	87	87	86	87	93	116	93
3742	29179	98	91	100	73	76	74	74	92	80	85	119	92
3743	29180	86	76	104	87	87	87	87	111	95	85	125	95
3744	29181	92	94	97	74	85	79	79	90	83	76	111	79
3745	29182	86	84	99	76	78	77	77	87	80	78	112	79
3746	29183	86	92	91	72	77	74	74	86	78	80	118	83
3747	29184	105	94	99	71	79	75	75	109	86	82	120	89
3748	29185	102	87	99	74	73	73	73	84	77	80	119	83
3749	29186	108	89	96	74	84	79	79	85	81	79	115	83
3750	29187	91	78	105	79	77	78	78	88	81	79	119	78
3751	29188	108	85	99	86	93	89	89	105	94	88	116	95
3752	29189	95	86	103	89	92	90	90	88	89	99	121	87
3753	29190	88	89	108	87	96	91	91	88	90	91	119	86
3754	29191	90	117	104	78	79	78	78	86	81	80	117	84
3755	29192	92	87	99	75	78	76	76	85	79	84	115	93
3756	29193	101	90	94	77	85	81	81	86	82	89	111	87
3757	29194	87	89	96	75	86	80	80	85	82	75	112	77
3758	29195	85	92	98	77	86	82	82	84	82	80	115	81
3759	29196	86		97	71	65	68	68	83	73	73	112	72
3760	29197	109		103					99	99			0
3761	29198	107		101	77	77	77	77	86	80	77	119	85
3762	29199	88		97	82	92	87	87	83	86	77	115	73
3763	29200	108		108	71	87	79	79	86	81		119	89
3764	Local Check (LC)	86	80	99	72	84	78	78	91	82	88	92	88
Exp. Mean		96	91	99	75	82	79	79	89	82	81	115	83
SEM		0.92	1.30	5.02	0.74	3.95	2.04	2.04	0.93	1.37	0.70	1.36	0.95



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Table No. 1.15 contd.: Days to 50% flowering of entries in IVT E TP, kharif 2020

Entry No.	IET No.	ZONE VII											Overall (10)
		TE (1)	TA		TA (2)	KE			KA		KA (2)	Zone VII (7)	Mean
		Mean	CBT	ADT	Mean	MNC	@PTB	KE (1)	MND	GNV	Mean		
3701	29140	81	89	85	87	83	89	83	88	87	88	84	86
3702	29141	81	86	86	86	86	90	86	90	91	90	85	83
3703	29142	93	88	89	88	83	89	83	92	89	91	87	85
3704	29143	80	82	82	82	83	84	83	92	92	92	84	81
3705	29144	83	86	88	87	80	86	80	94	89	92	86	83
3706	29145	78	87	90	88	89	88	89	92	82	87	85	82
3707	29146	94	97	91	94	89	89	89	97	99	98	93	90
3708	29147	82	81	87	84	77	90	77	94		94	84	85
3709	29148	84	89	86	87	88	88	88	96	93	95	88	85
3710	29149	103	84	84	84	87	88	87	86	81	83	85	82
3711	29150	91	94	85	89	83	90	83	101	97	99	92	90
3712	29151	84	89	88	88	87	89	87	97	93	95	89	88
3713	29152	92	104	85	95	90	89	90		103	103	92	93
3714	29153	81	84	87	85	83	88	83	91	91	91	84	83
3715	29154	84	82	85	84	86	88	86	91	82	87	83	81
3716	29155	84	88	84	86	85	89	85	93	91	92	87	88
3717	29156	84	88	85	86	83	90	83	91	91	91	86	85
3718	29157	91	94	90	92	89	88	89	100	96	98	92	91
3719	29158	84	81	86	83	83	89	83	90	82	86	84	83
3720	CO-51 (NC)	78	87	86	86	83	89	83	90	91	90	84	83
3721	29159	77	86	84	85	87	89	87	91	88	89	84	82
3722	29160	103	89	86	87	88	88	88	94	81	88	87	85
3723	29161	84	91	87	89	89	91	89	94	95	95	89	87
3724	29162	82	88	84	86	88	93	88	93	95	94	87	85
3725	Zonal Check (ZC)	86	85	86	86	80	91	80	89	91	90	84	83
3726	29163	73	82	87	84	82	89	82	86	88	87	81	79
3727	29164	77	82	86	84	87	90	87	88	87	87	83	81
3728	29165	83	89	87	88	86	89	86	91	88	89	85	84
3729	29166	83	88	91	89	79	90	79	86	91	88	85	84
3730	29167	85	91	86	89	82	90	82	86	92	89	85	86
3731	29168	83	85	86	86	86	90	86	86	93	90	86	85
3732	29169	82	83	88	85	81	90	81	88	85	87	84	82
3733	29170	77	88	83	85	86	89	86	88	80	84	83	82
3734	29171	83	90	86	88	82	93	82	91	90	91	86	84
3735	29172	80	85	84	84	83	92	83	88	85	87	83	81
3736	29173	75	101	89	95	89	94	89	104	101	103	94	95
3737	29174	93	89	90	89	83	90	83	100	98	99	91	89
3738	29175	97	86	89	87	79	90	79	96	82	89	88	86
3739	29176	86	79	82	80	84	92	84	93	80	86	84	83
3740	29177	94	97	93	95	87	93	87	88		88	91	88
3741	29178	93	101	95	98	90	92	90	97	89	93	94	92
3742	29179	92	95	81	88	82	90	82	95	96	96	89	87
3743	29180	95	97	91	94	90	88	90	108	99	104	95	95
3744	29181	79	88	84	86	89	89	89	95	87	91	85	84
3745	29182	79	85	91	88	82	93	82	94	86	90	85	84
3746	29183	83	85	85	85	87	90	87	88	86	87	85	83
3747	29184	89	85	85	85	88	89	88	92	91	91	87	87
3748	29185	83	88	89	88	87	90	87	91	90	91	87	84
3749	29186	83	95	86	90	86	92	86	91	88	89	87	85
3750	29187	78	89	86	87	88	90	88	95	93	94	87	85
3751	29188	95	99	90	94	90	92	90	103	105	104	96	95
3752	29189	87	90	86	88	89	90	89	95	95	95	91	91
3753	29190	86	100	91	95	90	91	90	108	103	105	95	94
3754	29191	84	97	90	93	89	90	89	96	97	97	90	87
3755	29192	93	91	88	89	83	89	83	93	94	93	89	86
3756	29193	87	89	91	90	90	90	90	93	89	91	90	87
3757	29194	77	97	85	91	90	89	90	89	91	90	86	85
3758	29195	81	88	84	86	90	91	90	88	82	85	85	84
3759	29196	72	74	81	77	80	90	80	86	89	88	79	77
3760	29197	0	86	88	87	90	90	90				66	72
3761	29198	85	95	89	92	89	90	89	95	92	94	89	86
3762	29199	73	89	85	87	87	89	87	90	88	89	84	84
3763	29200	89	84	86	85	82		82	92	82	87	86	84
3764	Local Check (LC)	88	85	89	87	84		84	84	87	86	86	85
Exp. Mean		83	88	87	88	85	89	85	93	90	91	87	85
SEM		0.95	0.96	0.60	1.44	0.29	1.45	0.29	0.00	2.29	1.44	0.36	0.52

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**Table No. 1.16: Plant Height of entries in IVT E TP, kharif 2020**

Entry No.	IET No.	ZONE III		ZONE IV	ZONE V				ZONE VI (1)	MA (3)	ZONE VII	
		OD	BI	TR	MA1		MA1 (2)	Zone V (2)	MA2 (1)	Mean	AP (1)	TE
		@JYP	@BKG	@LMB	SKL	SND	Mean	Mean	KJT	Mean	MTU	@KMP
3701	29140	60.20	68.50	79.15	96.00	100.85	98.43	98.43	97.00	97.95	95.70	88.67
3702	29141	46.90	68.50	72.50	82.00	70.15	76.08	76.08	73.50	75.22	89.90	76.67
3703	29142	53.10	68.50	74.50	86.00	96.00	91.00	91.00	89.00	90.33	107.30	96.33
3704	29143	49.40	72.50	79.10	98.00	85.85	91.93	91.93	77.50	87.12	99.00	88.33
3705	29144	49.90	56.50	80.50	96.00	92.45	94.23	94.23	87.00	91.82	108.10	94.00
3706	29145	59.10	72.50	81.00	87.00	78.80	82.90	82.90	88.00	84.60	100.50	98.00
3707	29146	58.70	54.00	66.50	92.00	73.30	82.65	82.65	84.00	83.10	116.80	117.00
3708	29147	51.80	54.50	63.50		108.85	108.85	108.85	93.50	101.18		99.67
3709	29148	49.85	58.00	75.00	80.00	80.60	80.30	80.30	81.00	80.53	92.80	98.00
3710	29149	47.30	64.50	72.50	92.00	67.25	79.63	79.63	71.50	76.92	99.00	87.00
3711	29150	61.90	62.50	74.00	88.00	100.25	94.13	94.13	96.50	94.92	111.40	105.67
3712	29151	53.60	65.50	83.00	92.00	92.60	92.30	92.30	99.00	94.53	97.00	99.33
3713	29152	46.60	50.00	76.50	82.00	79.30	80.65	80.65	77.50	79.60	100.10	90.67
3714	29153	48.60	54.00	71.00	98.00	91.65	94.83	94.83	96.00	95.22	104.80	91.67
3715	29154	64.00	73.50	87.00	85.00	94.40	89.70	89.70	89.50	89.63	102.30	89.67
3716	29155	54.70	74.50	69.50	96.00	77.50	86.75	86.75	88.00	87.17	111.50	89.33
3717	29156	54.40	76.00	81.50	92.00	105.90	98.95	98.95	94.50	97.47	114.90	92.33
3718	29157	56.90	67.50	86.50	97.00	104.30	100.65	100.65	94.00	98.43	119.20	98.00
3719	29158	43.40	63.00	82.00	81.00	72.55	76.78	76.78	78.50	77.35	88.60	94.67
3720	CO-51 (NC)	54.80	63.00	81.00	94.00	118.70	106.35	106.35	89.00	100.57	93.10	93.33
3721	29159	50.50	62.00	75.55	89.00	69.40	79.20	79.20	80.50	79.63	93.20	78.33
3722	29160	51.60	67.00	78.00	85.00	101.05	93.03	93.03	82.50	89.52	83.00	85.67
3723	29161	56.00	64.50	88.00	100.00	96.20	98.10	98.10	94.00	96.73	107.10	112.67
3724	29162	59.70	57.00	97.50	84.00	103.70	93.85	93.85	105.50	97.73	119.60	113.67
3725	Zonal Check (ZC)	48.70	59.00	76.50	87.00	96.55	91.78	91.78	117.00	100.18	112.50	97.33
3726	29163	49.50	76.50	78.00	96.00	86.50	91.25	91.25	88.50	90.33	95.80	
3727	29164	52.90	81.00	67.00	84.00	81.85	82.93	82.93	84.50	83.45	97.10	92.00
3728	29165	51.80	58.50	71.00	94.00	87.10	90.55	90.55	80.50	87.20	94.80	80.67
3729	29166	51.70	78.00	75.55	89.00	87.30	88.15	88.15	69.00	81.77	100.00	80.33
3730	29167	53.80	74.50	76.50	100.00	99.40	99.70	99.70	80.00	93.13	110.90	94.67
3731	29168	47.20	63.00	72.00	74.00	82.00	78.00	78.00	82.50	79.50	85.50	76.67
3732	29169	50.90	74.00	85.50	94.00	85.25	89.63	89.63	92.50	90.58	99.10	98.00
3733	29170	51.60	79.00	79.50	81.00	95.75	88.38	88.38	71.00	82.58	97.90	96.00
3734	29171	57.10	66.00	74.50	82.00	96.00	89.00	89.00	86.00	88.00	92.90	80.33
3735	29172	52.50	75.00	82.00	102.00	95.10	98.55	98.55	90.00	95.70	124.70	97.00
3736	29173	52.80	69.00	84.00		93.85	93.85	93.85	96.00	94.93	121.00	114.00
3737	29174	51.90	74.50	101.00	87.00	72.00	79.50	79.50	96.50	85.17	117.60	95.33
3738	29175	58.80		80.50	85.00	98.80	91.90	91.90	95.00	92.93	115.40	95.00
3739	29176	48.10	65.00	76.50	91.00	69.95	80.48	80.48	73.50	78.15	101.00	95.00
3740	29177	54.30	60.50	73.50	71.00	85.75	78.38	78.38	97.00	84.58	112.20	93.00
3741	29178	44.30	70.50	80.00	63.00	84.15	73.58	73.58	85.00	77.38	103.30	87.00
3742	29179	58.00	65.50	93.00	55.00	80.95	67.98	67.98	78.50	71.48	97.10	105.00
3743	29180	48.30	49.00	89.60	73.00	79.60	76.30	76.30	87.00	79.87	106.20	98.00
3744	29181	51.10	50.50	76.00	75.00	70.30	72.65	72.65	70.50	71.93	92.90	95.00
3745	29182	57.60	74.50	86.00	94.00	92.50	93.25	93.25	87.00	91.17	102.40	97.00
3746	29183	44.30	67.00	82.50	65.00	80.85	72.93	72.93	81.00	75.62	95.60	93.00
3747	29184	55.20	61.00	77.50	76.00	79.20	77.60	77.60	82.50	79.23	94.00	90.00
3748	29185	51.40	71.50	78.50	76.00	94.75	85.38	85.38	90.50	87.08	105.40	97.33
3749	29186	47.80	76.00	78.50	82.00	91.10	86.55	86.55	97.00	90.03	101.80	100.67
3750	29187	51.20	56.50	81.50	67.00	83.35	75.18	75.18	80.00	76.78	99.00	99.33
3751	29188	60.70	69.00	65.00	92.00	92.15	92.08	92.08	102.50	95.55	114.00	116.67
3752	29189	52.10	61.50	85.50	93.00	81.20	87.10	87.10	76.50	83.57	116.00	110.00
3753	29190	47.70	56.50	63.00	64.00	73.70	68.85	68.85	71.50	69.73	92.20	79.67
3754	29191	51.00	55.50	80.50	85.00	90.15	87.58	87.58	87.00	87.38	109.30	92.67
3755	29192	55.60	79.00	83.50	96.00	105.05	100.53	100.53	99.00	100.02	120.00	107.33
3756	29193	55.30	61.50	77.00	84.00	95.35	89.68	89.68	82.50	87.28	108.00	107.33
3757	29194	47.50	82.50	72.00	85.00	84.35	84.68	84.68	82.00	83.78	95.50	92.67
3758	29195	62.30	90.00	91.05	82.00	118.60	100.30	100.30	104.00	101.53	114.50	99.33
3759	29196	53.60		78.00	93.00	102.60	97.80	97.80	93.70	96.43	103.20	104.00
3760	29197	57.80		77.50					76.50	76.50		
3761	29198	47.70		86.50	68.00	66.95	67.48	67.48	75.00	69.98	93.40	86.33
3762	29199	45.70		68.50	92.00	79.75	85.88	85.88	80.00	83.92	95.60	100.00
3763	29200	50.40		97.50	94.00	126.40	110.20	110.20	106.50	108.97		110.33
3764	Local Check (LC)	46.70	74.00	99.10	83.00	76.35	79.68	79.68	70.50	76.62	92.20	98.00
	<b>Exp. Mean</b>	<b>52.50</b>	<b>66.60</b>	<b>79.32</b>	<b>85.67</b>	<b>88.95</b>	<b>87.56</b>	<b>87.56</b>	<b>86.76</b>	<b>87.15</b>	<b>103.03</b>	<b>95.66</b>



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Table No. 1.17: No. of Panicle/m<sup>2</sup> of entries in IVT E TP, kharif 2020

Entry No.	IET No.	ZONE III		ZONE IV	ZONE V			ZONE VI (1)		MA (3)	ZONE VII	
		OD	BI	TR	MA1		MA1 (2)	Zone V (2)	MA2 (1)	Mean	AP (1)	TE
		@JYP	@BKG	@LMB	SKL	SNL	Mean	Mean	KJT		MTU	@KMP
3701	29140	390	209	298	242	259	250	250	165	222	294	366
3702	29141	413	215	185	169	175	172	172	205	183	274	333
3703	29142	338	248	188	208	256	232	232	183	215	287	322
3704	29143	303	231	295	198	238	218	218	132	189	289	433
3705	29144	316	204	228	232	277	254	254	198	236	297	488
3706	29145	393	198	268	209	238	223	223	200	215	294	400
3707	29146	346	179	215	110	228	169	169	215	184	302	366
3708	29147	283	209	305		208	208	208	149	178		522
3709	29148	290	193	198	172	220	196	196	182	191	277	255
3710	29149	336	209	218	224	196	210	210	116	179	284	233
3711	29150	256	204	248	211	270	240	240	150	210	310	344
3712	29151	353	198	210	179	257	218	218	198	211	281	355
3713	29152	326	193	265	230	200	215	215	182	204	304	222
3714	29153	347	193	188	197	252	225	225	215	221	289	366
3715	29154	366	198	163	229	109	169	169	182	173	297	278
3716	29155	357	226	205	210	195	202	202	198	201	281	322
3717	29156	290	242	193	219	232	225	225	183	211	284	311
3718	29157	383	187	188	189	202	195	195	198	196	272	311
3719	29158	256	193	163	176	169	172	172	182	175	284	322
3720	CO-51 (NC)	293	226	293	205	261	233	233	180	215	281	411
3721	29159	380	198	195	229	222	225	225	190	213	277	366
3722	29160	347	215	263	246	266	256	256	198	237	287	377
3723	29161	346	187	195	254	188	221	221	149	197	294	377
3724	29162	317	242	173	229	177	203	203	182	196	281	333
3725	Zonal Check (ZC)	342	204	213	212	208	210	210	198	206	272	233
3726	29163	386	237	228	233	242	237	237	132	202	251	
3727	29164	359	264	188	248	242	245	245	132	207	281	433
3728	29165	441	193	178	224	259	241	241	221	235	300	477
3729	29166	323	209	260	230	298	264	264	149	225	300	400
3730	29167	366	215	178	232	268	250	250	182	227	277	466
3731	29168	383	209	230	233	197	215	215	152	194	300	500
3732	29169	326	237	198	187	221	204	204	196	201	300	588
3733	29170	396	215	333	212	164	188	188	116	164	282	377
3734	29171	382	204	185	231	236	234	234	233	233	251	500
3735	29172	289	220	288	224	193	209	209	215	211	300	300
3736	29173	348	220	335		201	201	201	215	208	297	433
3737	29174	400	242	198	204	215	209	209	215	211	274	433
3738	29175	354		315	233	292	262	262	198	241	284	477
3739	29176	357	193	238	234	200	217	217	157	197	295	500
3740	29177	427	193	200	184	258	221	221	149	197	281	500
3741	29178	311	209	243	199	228	213	213	201	209	289	233
3742	29179	340	237	193	103	172	137	137	165	146	309	422
3743	29180	393	198	230	170	230	200	200	201	200	279	710
3744	29181	353	182	318	149	287	218	218	172	202	297	477
3745	29182	454	220	170	194	267	230	230	153	205	300	522
3746	29183	310	209	203	170	264	217	217	132	189	304	533
3747	29184	369	204	185	152	271	211	211	173	199	281	544
3748	29185	363	220	260	137	238	188	188	180	185	304	488
3749	29186	323	215	268	146	259	203	203	198	201	290	389
3750	29187	381	215	190	141	212	176	176	178	177	307	466
3751	29188	320	209	180	162	225	194	194	196	194	294	455
3752	29189	273	204	158	163	189	176	176	149	167	300	477
3753	29190	340	176	188	197	208	203	203	182	196	297	366
3754	29191	383	215	313	229	198	213	213	182	203	295	533
3755	29192	327	248	205	194	217	205	205	201	204	302	333
3756	29193	310	215	193	214	254	234	234	231	233	294	466
3757	29194	233	231	253	207	247	227	227	132	195	290	344
3758	29195	336	237	265	265	244	254	254	165	225	277	311
3759	29196	313		193	180	194	187	187	231	202	292	233
3760	29197	300		175					195	195		
3761	29198	273		238	189	203	196	196	215	202	277	322
3762	29199	243		205	159	247	203	203	182	196	290	222
3763	29200	242		100	189	221	205	205	149	186		366
3764	Local Check (LC)	263	207	173	205	238	221	221	116	186	305	286
	<b>Exp. Mean</b>	<b>338</b>	<b>212</b>	<b>222</b>	<b>200</b>	<b>227</b>	<b>213</b>	<b>213</b>	<b>179</b>	<b>202</b>	<b>289</b>	<b>396</b>

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**Table No. 1.17 contd.: No. of Panicle/m<sup>2</sup> of entries in IVT E TP, kharif 2020**

Entry No.	IET No.	ZONE VII											Overall (10)	
		TE		TA		TA (2)		KE		KA		KA (2)	Zone VII (7)	Mean
		WGL	Mean	CBT	ADT	Mean	MNC	@PTB	Mean	MND	GNV	Mean	Mean	
3701	29140	391	391	405	268	336	317	408	317	317	357	337	335	301
3702	29141	408	408	398	356	377	390	343	390	310	312	311	350	299
3703	29142	388	388	390	326	358	293	293	293	270	345	307	328	294
3704	29143	452	452	360	319	339	277	261	277	290	345	317	333	290
3705	29144	427	427	570	309	440	267	341	267	337	421	379	375	333
3706	29145	414	414	433	302	367	297	437	297	337	374	355	350	310
3707	29146	417	417	328	334	331	310	342	310	300	349	324	334	289
3708	29147	426	426	268	338	303	417	451	417	330		330	355	305
3709	29148	406	406	318	311	314	263	469	263	313	381	347	324	284
3710	29149	403	403	435	247	341	290	434	290	283	315	299	322	279
3711	29150	403	403	370	353	361	293	335	293	277	330	303	334	297
3712	29151	389	389	353	374	363	300	347	300	360	436	398	356	313
3713	29152	419	419	383	339	361	247	306	247		402	402	349	300
3714	29153	403	403	353	251	302	300	337	300	293	328	310	317	288
3715	29154	427	427	355	244	300	257	385	257	293	370	332	321	276
3716	29155	409	409	365	339	352	253	407	253	290	358	324	328	290
3717	29156	422	422	378	273	325	310	473	310	267	405	336	334	297
3718	29157	396	396	365	369	367	290	380	290	360	342	351	342	298
3719	29158	431	431	370	244	307	273	551	273	277	376	326	322	278
3720	CO-51 (NC)	426	426	353	366	359	307	280	307	343	385	364	351	311
3721	29159	434	434	375	301	338	363	317	363	283	381	332	345	305
3722	29160	411	411	300	263	282	337	251	337	313	348	331	323	297
3723	29161	446	446	273	261	267	280	253	280	270	340	305	309	275
3724	29162	406	406	255	347	301	273	310	273	257	331	294	307	274
3725	Zonal Check (ZC)	386	386	300	297	299	250	405	250	277	320	298	300	272
3726	29163	414	414	325	266	295	330	351	330	313	354	333	322	286
3727	29164	408	408	283	341	312	233	363	233	260	414	337	317	284
3728	29165	447	447	490	292	391	307	365	307	277	407	342	360	322
3729	29166	450	450	410	307	359	290	370	290	280	357	318	342	307
3730	29167	404	404	360	239	300	363	371	363	360	342	351	335	303
3731	29168	419	419	355	204	279	300	314	300	337	349	343	323	285
3732	29169	427	427	363	228	295	350	421	350	293	374	334	334	294
3733	29170	384	384	283	256	269	250	318	250	230	375	302	294	255
3734	29171	426	426	478	323	400	280	405	280	327	426	376	358	321
3735	29172	414	414	300	292	296	300	413	300	357	364	360	332	296
3736	29173	446	446	325	379	352	343	443	343	270	358	314	345	315
3737	29174	426	426	428	303	365	313	353	313	307	348	327	343	303
3738	29175	446	446	430	348	389	330	315	330	273	276	274	341	311
3739	29176	432	432	288	266	277	273	330	273	280	357	318	313	278
3740	29177	465	465	595	356	476	297	330	297	280		280	379	318
3741	29178	434	434	353	366	359	253	469	253	293	377	335	338	299
3742	29179	414	414	395	332	364	297	328	297	270	334	302	336	279
3743	29180	436	436	403	322	362	357	381	357	323	328	326	350	305
3744	29181	396	396	400	269	335	280	353	280	307	373	340	332	293
3745	29182	417	417	313	275	294	257	255	257	350	376	363	327	290
3746	29183	417	417	380	268	324	297	292	297	317	294	305	325	284
3747	29184	432	432	388	275	331	353	401	353	370	302	336	343	300
3748	29185	426	426	373	338	355	277	319	277	327	414	370	351	301
3749	29186	414	414	313	321	317	223	323	223	340	335	337	320	284
3750	29187	434	434	368	281	324	267	340	267	277	341	309	325	280
3751	29188	417	417	278	297	287	280	423	280	297	336	316	314	278
3752	29189	439	439	310	352	331	297	416	297	320	311	315	333	283
3753	29190	411	411	375	383	379	270	383	270	320	352	336	344	299
3754	29191	429	429	390	334	362	420	445	420	313	387	350	367	318
3755	29192	431	431	385	334	360	413	248	413	337	91	214	328	290
3756	29193	460	460	458	305	381	350	354	350	310	369	339	364	324
3757	29194	401	401	333	277	305	317	306	317	330	336	333	326	287
3758	29195	442	442	398	297	347	393	239	393	330	349	339	355	316
3759	29196	411	411	338	284	311	293	381	293	280	375	327	325	288
3760	29197			300	279	289	363	306	363				314	284
3761	29198	442	442	400	341	371	307	374	307	363	320	342	350	306
3762	29199	441	441	435	258	347	303	258	303	270	308	289	329	289
3763	29200	441	441	283	306	294	337		337	237	338	287	323	278
3764	Local Check (LC)	447	447	420	304	362	363		363	347	378	362	366	312
	Exp. Mean	422	422	368	305	336	306	357	306	305	352	329	335	295

## ADVANCE VARIETY TRIAL 1-IRRIGATED MID EARLY (AVT 1-IME)

Locations: 44

Test Entries: 52

**Checks:** Gontra Bidhan-3 (National); PR 113 (Northern), Lalat (Eastern & North Eastern), Karjat-7 (Western), MTU 1010 (Central and Southern)- (Zonal); US 312 (Hybrid) and Local Check along with 10 NIL's, 4 Recurrent parent (RP) and 1 Donor parent (DP). Table:1.18

Advance Variety Trial 1-Irrigated Mid Early (AVT 1-IME) consisted of 52 test entries including 4 checks: Gontra Bidhan 3 (National check), PR 113 in Northern, Lalat in Eastern & North Eastern, Karjat-7 in Western and MTU 1010 in Central and Southern zones as Zonal checks, US 312 (Hybrid check) and a local check. Among the test entries IET 27358 (hybrid entry) is in 3<sup>rd</sup> year and the remaining entries are in 2<sup>nd</sup> year of testing. There are 3 NILs in the genetic background of MTU 1010, 1 NIL in NLR 34449, 2 NILs in IR 64 Sub-1 and 4 NILs in Naveen background. Trial was sent to 44 locations covering 6 zones (II, III, IV, V, VI and VII). However, data was not received from 17 centres viz., Pantnagar, Ludhiana, Chatha, Bhubaneswar, Patna-ICAR, Ranchi, Chinsurah, Masodha, Gerua-ICAR, Lembucherra, Waraseoni, Bilaspur, Dabhoi, Kunaram, Jagtial, Brahmavar and Kurumbapet. The data pertaining to yield, days to 50% flowering, plant height, panicles/m<sup>2</sup> and quality are presented in tables 1.19, 1.20, 1.21, 1.22 and 1.23 respectively. Zone wise performance of the entries is mentioned below.

### Performance of the entries in AVT 1-IME during Kharif 2020- Zone II

Rank	IET No/ Designation/ Cross Combination	GY/ DFF/ GT	% NC/ZC/ LC/HC	Performance across states			
				State/ Rank	Yield	%BVC	%HC
<b>Promising in Zone-II (Northern)</b>							
1	IET 28415 (AD 17044) WGL 14377/MDU 5	6465 91 MS	106.4 30.6 <b>26.26</b> 20.93	RJ (1)	6465	26.26	20.93
2	IET 28396 (Shuats Dhan 6) IRODA 117/ IR72891-29-3-3- 3/IR 73012-137-2-2-2(70)	6356 90 LS	103 28.45 24.14 <b>18.89</b>	RJ (2)	6356	24.14	18.89
	Gontra Bidhan 3 (NC)	3131					
	PR-113 (ZC)	4948					
	<b>Local Check (LC)- Best Check</b>	<b>5120</b>					
	US 312 (HC)	5346					

**Zone wise performance of the entries is discussed here under:**

#### Zone II

Twenty-three varietal and ten hybrid entries were tested across two locations viz., Kaul (Haryana) and Kota (Rajasthan). Data from Kaul (Haryana) was not included in the analysis due to low CV% (4.47). Zone II mean yield of the entries varied from 3131 kg/ha

(Gontra Bidhan 3- NC) to 6465 kg/ha (IET 28415) and days to 50% flowering ranged from 89 days (IET 28393) to 103 days (IET 28410). Plant height ranged from 70 cm (IET 28391) to 118.67 cm (Local check) whereas panicles/m<sup>2</sup> ranged from 192 Gontra Bidhan-3 (NC) to 338 (IET 28415). The local check (5120 kg/ha) outperformed the remaining varietal checks. IET 28415 recorded superior yield performance over best varietal check (Local check) with the required yield gain of 26.26%, but had undesirable quality parameters viz., High AC (26.01%) and hard GC of 22. Hence, dropped.

IET 28396 recorded superior yield over best varietal check (Local check) with the yield gain of 24.1% and quality wise, it had high HRR (63.6%), AC of 26.6% and GC of 37. **Hence, promoted to 3<sup>rd</sup> year of testing (AVT-2-IME) in Zone II.**

### Eastern Zone (III)

In the Eastern Zone, twenty-seven varietal and ten hybrid entries were tested across six locations (Cuttack, Jeypore, Chiplima (Odisha); Bikramganj, Sabour (Bihar); Varanasi (Uttar Pradesh). However, data was not received from Patna-ICAR, Ranchi, Chinsurah, Masodha and Bhubaneswar. Experimental mean yield across locations varied from 4020 kg/ha (Varanasi) to 4840 kg/ha (Chiplima) and CV% from 5.55 (Jeypore) to 13.63 (Chiplima).

Zonal mean ranged from 2385 kg/ha (Robin-DP) to 5598 kg/ha (IET 28133); Mean flowering duration ranged from 87 days (IET 28402) to 102 days (IET 28391); Plant height ranged from 77.56 cm (IET 28391) to 102.79 cm (IET 27907) and panicles per metre square ranged from 227 (Robin-DP) to 293 (Zonal check). Among the varietal checks, Gontra Bidhan 3 (national check) was top performing check (5313 Kg/ha) followed by zonal check (4688 Kg/ha) and local check (4279 Kg/ha). **None of the test entries outperform the best varietal check (NC).** Although four hybrid entries namely **IET 28133, IET 28136, IET 28138 and IET 28145 recorded > 5% yield advantage ie., 10.97%, 6.9%, 5.5% and 5.3% over the hybrid check (US 312) respectively, they failed to show the required yield superiority of >10% over the best varietal check (Gontra Bidhan 3) Therefore, none of the varietal and hybrid entries are promoted in Eastern zone to AVT-2-IME.**

### North Eastern Zone (IV)

In the North Eastern Zone, twenty-seven varietal and ten hybrid entries were tested across two locations Titabar (Assam) and Lembucherra (Tripura). However, data was not received from Lembucherra. Zonal mean ranged from 1658 kg/ha (Robin-DP) to 4842 kg/ha (IET 27358); Mean flowering duration ranged from 82 days (Robin) to 109 days (IET 27907); Plant height ranged from 73.60 cm (Gontra Bidhan 3) to 105.10 cm (Zonal check) and panicles per square metre ranged from 111 (Gontra Bidhan 3) to 268 (IET 28396). Among the varietal checks, Gontra Bidhan 3 (National check) was top performing check (4137 Kg/ha) followed by zonal check (3708 Kg/ha) and local check (2475 Kg/ha). **None of the varietal test outperform the best varietal check (NC).** Although eight entries namely **IET's 27358, 28395, 28416, 28136, 27908, 28128, 28132 and 28396 recorded > 15% yield advantage ie., 42%, 39%, 28%, 25%, 24%, 23%, 21% and 21% over the hybrid check (US 312) respectively, but failed to show the required yield superiority of >20% over the best varietal check (Gontra Bidhan 3) Therefore, none of the varietal and hybrid entries are promoted in North Eastern zone to AVT-2-IME.**

### Central Zone (V)

Twenty-five varietal and ten hybrid entries were tested in Central Zone at 5 locations Jabalpur (Madhya Pradesh); Raipur, Jagadalpur (Chhattisgarh); Sakoli, Sindewahi (Maharashtra). Data from Jagadalpur was not included in the analysis due to High CV (21.23). Experimental mean yield ranged from 4168 kg/ha (Sindewahi) to 4801 kg/ha (Jabalpur) and CV% ranged from 8.04 (Sindewahi) to 13.06 (Raipur). Zonal mean yield ranged from 3483 kg/ha (IET 28410) to 5560 kg/ha (Gontra Bidhan 3-NC). Days to 50% flowering ranged from 82 days (IET 28033) to 100 days (IET 28391). The plant height ranged from 80.21 cm (IET 28391) to 117.75 cm (IET 28397) while panicles per metre square ranged from 165 (IET 28138) to 300 (Gontra Bidhan 3). Among the varietal checks, the national check is the superior check (5560 kg/ha) followed by zonal check (4722 kg/ha) and the local check (4676 Kg/ha). *None of the entries out yielded the best varietal check (NC). Four hybrid entries (Three in 2<sup>nd</sup> year of testing and one in 3<sup>rd</sup> year of testing) surpassed the hybrid check (US 312) with the required 5% yield advantage i.e., IET 28132 (5.76%), IET 28133 (10.08%), IET 28136 (10.96%) in 2<sup>nd</sup> year and IET 27358 (7.36%) in 3<sup>rd</sup> year, but failed to outperform over best varietal check (Gontra Bidhan 3) by >10% yield gain. Therefore, none of the varietal and hybrid entries are promoted to 3<sup>rd</sup> year of testing AVT-2-IME.*

### Performance of the entries in AVT 1-IME during Kharif 2020- Zone VI (Western)

Rank	IET No/ Designation/ Cross Combination	GY/ DFP/ GT	% NC/ ZC/ LC/ HC	Performance across states			
				State/ Rank	Yield	%BVC	%HC
<b>Promising in Zone-VI (Western)</b>							
<b>1</b>	IET 28143 <i>NK-5251++</i>	5659	<b>15.25</b>	MA2	5867	20.0	11.75
		91	55.12	(1)	5589	13.8	9.45
		-	18.6	GU			
<b>2</b>	IET 28401 (UPR 4116-7-1-1-2) Govind/ Pant Dhan 19	5339	<b>8.73</b>	GU	5517	12.36	8.04
		96	46.35	(2)			
		LB	11.9				
	<b>Gontra Bidhan 3 (NC) Best Check</b>	<b>4910</b>					
	Karjat 7 (ZC)	3648					
	Local Check (LC)	4771					
	US 312 (HC)	5142					

### Western Zone (VI)

Twenty-three varietal and ten hybrid entries were tested in the Western Zone (Zone VI) across four locations (Karjat, Nawagam, Navsari and Vyara) of two states Maharashtra and Gujarat. Experimental mean yield at the locations ranged from 4265 kg/ha (Vyara) to 4775 kg/ha (Navsari) and CV % ranged from 9.05% (Karjat) to 12.91 (Nawagam). Zonal mean yield ranged from 3461 kg/ha (IET 28410) to 5659 kg/ha (IET 28413). Days to 50% flowering ranged from 85 days (Zonal Check) to 100 days (Gontra Bidhan 3). Plant height ranged from 78.85 cm (IET 28402) to 119.33 cm (IET 28409) while panicles per square metre from to 236 (IET 28402) to 292 (IET 28143). Among the hybrids IET 28143 found superior to the hybrid check (US 312) as well as the best varietal check (National check) with the required yield gain of > 5% and 10% respectively, but had low HRR hence dropped.



Among the varietal entries IET 28401 found superior over best varietal check (National check) with yield superiority of 8.73%, but had undesirable quality parameters viz. low HRR (30.1%), Hence, dropped. ***None of the varietal and hybrid entries are promoted to next year of testing.***

### **Southern Zone (Zone VII)**

Twenty-nine varietal and ten hybrid entries were tested in the Southern Zone (Zone VII) across nine locations viz., Maruteru (Andhra Pradesh); Rajendranagar, Warangal (Telangana); Coimbatore, Aduturai (Tamil Nadu); Moncompu, Pattambi (Kerala); Mandya and Mugad (Karnataka). Due to high CV%, the data from Coimbatore (22.73%) and Aduturai (24.68%) are not included in analysis. Across locations the mean yield ranged from 3056.9 kg/ha (Rajendranagar) to 6770 kg/ha (Moncompu) and CV% from 5.94 (Pattambi) to 18.72 (Mugad). Zonal mean yield ranged from 4150 kg/ha (IET 28402) to 5611 kg/ha (IET 28132). Days to 50% flowering ranged from 89 days (Zonal check) to 102 days (IET 28387); Plant height ranged from 85.40 cm (NLR 34449-RP) to 112.54 cm (IET 28397) and panicles per metre square from 285 (IET 28401) to 376 (NLR 34449-RP). Among the varietal checks, the local check is the superior check (5426 kg/ha) followed by national check (4908 kg/ha) and the zonal check (4503 Kg/ha). ***Three hybrid entries (Two in 2<sup>nd</sup> year of testing and one in 3<sup>rd</sup> year of testing) surpassed the hybrid check (US 312) with the required 5% yield advantage ie., IET 28132 (10.5%), IET 28136 (8%) in 2<sup>nd</sup> year and IET 27358 (6.9%) in 3<sup>rd</sup> year in the trial. But failed to outperform the best varietal check (Local check) by >10% yield advantage. Therefore, none of the varietal and hybrid entries are promoted to next year of testing.***

### **Promoted only based on zonal mean basis:**

**Zone II-** IET 28396

**Zone III, IV, V, VI, VII-** None

### **Three years' performance of the hybrid entry (IET 27358)**

IET 27358 (PH-18105), a hybrid entry has completed 3 years of testing (2018 to 2020). In third year of testing, this entry could not show superior yield performance over best checks in zone IV and V. It recorded superior performance in the state of Punjab in first year, and in Chhattisgarh state in second year, but could not show in third year of testing in any state or zone. Due to inconsistent performance across the years in IME trial in multi-location testing, it was discontinued.

### **Three years' performance of the hybrid entry (IET 27358) (2018-2020)**

Entry	Year	Zone/ Rank	No. of locations	Yield	% BVC	% HC	State/ Rank	No. of locations	Yield	%BVC	% HC
IET 27358	2018	II	3	7722	11	23	PU	1	8798	22.14	31.02
		V	3	7428	21	7	CH	2	9431	22.80	14.14
		VI	6	6710	18	25	GU	3	7259	20.32	19.43
	2019	VI	5	5324	13	11	MH	2	5577	25.15	4.75
	2020	-	-	-	-	-	-	-	-	-	-

### **Assessment of NIL entries tested under AVT 1-IME trial**

A total of 10 NILs were tested in AVT 1-IME trial along with their recurrent parents.

Three NIL's are in the genetic background of MTU 1010, two NIL's in IR64 Sub1, one NIL in NLR 34449 and four NILs in Naveen background were nominated and tested in AVT 1-IME.

### Near Isogenic Lines (NILs) in the genetic background of MTU 1010

A total of three NILs were evaluated. Two NIL's viz., IET 28010 and IET 28008 are in second year of testing and IET 29201 is in first year of testing. IET 28010 (MTU 1293) and IET 28008 (MTU 1291) are the sister lines derived from the cross of MTU 1010/FL478//\*3 MTU 1010 possessing *Saltol* QTL for Salt tolerance. Both the entries could not record superior yield over recurrent parent under stress condition (-43.2 and -23.4% respectively). **Hence the entries IET 28010 and IET 28008 are dropped.**

IET 29201 (RP 6474-RMS 15-26-6-10) derived from the cross of MTU 1010\*2/ Swarna possessing genes for blast resistance (*Pi54*) and bacterial leaf blight resistance (*Xa21*). It had on par yield compared to recurrent parent but showed susceptible disease reaction to both blast and BB with a severity index of 5.6 and 5.0 respectively. **Hence dropped.**

### Performance of the NIL entries during Kharif 2020

S. No	IET No	Recurrent Parent (RP) and genes	Gazette notified states	No. of locations	Normal condition (CD:532)			Stress condition (CD: 320.01)					Remarks	
					RP Yield	NIL Yield	% over RP	RP Yield	NIL Yield	TC	% over RP	% over TC		
1	28010	MTU 1010 ( <i>Saltol</i> )	AP	1	4140	4885	-4.8*	2487	1593	1429	-43.2%	-8.9*	Discontinued	
			TE	2	4413	4483	+21.8#							+43.6#
			Overall	3	4322	4617								
2	28008	MTU 1010 ( <i>Saltol</i> )	AP	1	4140	4486	-3.7*	2487	2148	1429	-23.4	+22.8*	Discontinued	
			TE	2	4413	4767	+23.3#							+93.6#
			Overall	3	4322	4673								
S. No	IET No	Recurrent Parent (RP) and genes	Gazette notified states	No. of locations	Normal condition (CD:532)			Severity Index (%) from hot spots				Remarks		
					RP Yield	NIL Yield	% over RP	Blast		Bacterial leaf blight				
								RP	NIL	RP	NIL			
3	29201	MTU 1010 ( <i>Xa21</i> ; <i>Pi54</i> )	AP	1	4140	4741	-7.42*	4.9	5.6	5.2	5.0	Dropped due to susceptible reaction to both BLB and blast.		
			TE	2	4413	4370	+18.5#							
			Overall	3	4322	4494								

RP: Recurrent Parent; TC: Tolerant Check; \* Plus CD value; # Minus CD value

### Near Isogenic Line (NIL) in the genetic background of NLR 34449

IET 29202 (RP 6471-RMS 87-10-106) is in first year of testing, derived from the cross of NLR 34449\*2/ Improved samba Mahsuri possessing *Xa21* gene for bacterial blight resistance and *Pil* gene for blast resistance. It had on par yield compared to recurrent parent but showed susceptible disease reaction to both blast and BB with a severity index of 5.1 and 5.0 respectively. **Hence, dropped.**

S. No	IET No	Recurrent Parent (RP) and genes	Gazette notified states	No. of locations	Normal condition (CD:882)			Severity Index (%) from hot spots				Remarks
					RP Yield	NIL Yield	% over RP	Blast		Bacterial leaf blight		
								RP	NIL	RP	NIL	
3	29202	NLR 34449 ( <i>Xa21</i> ; <i>Pi1</i> )	AP	1	4152	4148	-17.6* +26.8#	4.8	5.1	5.7	5.0	Dropped due to susceptible reaction to both BLB and blast.

RP: Recurrent Parent; \* Plus CD value; # Minus CD value

### Near Isogenic Line (NIL) in the genetic background of IR 64 Sub 1

There are two NIL entries developed for drought tolerance namely IET 28032 (CRR 751-1-7-B-B) and 28033 (CRR 751-1-12-B-B) which are sister lines derived from the cross IR64 Sub1\*4/ IR88287-367-B-B with *qDTY 2.2*. The original IR64 was notified initially in the states of Maharashtra & United Madhya Pradesh (Includes Chhattisgarh) (Z V) and Tamil Nadu (Z VII). The recurrent parent IR64 Sub 1 was released and notified for Uttar Pradesh state.

The two NILs (IET 28032 and 28033) as well as the recurrent parent (IR64 Sub1) are evaluated for confirmation in AVT-1-IME for yield performance under normal irrigated and drought condition. Under stress condition, both the NIL entries viz., IET 28033 and IET 28032 recorded superior yield (+21.4% and +27.9% respectively) compared to recurrent parent. Under normal condition, both the NIL's IET 28033 and IET 28032 recorded on par yield compared to recurrent parent in the states of Maharashtra, Madhya Pradesh and Chhattisgarh, while the data of recurrent parent IR64 Sub 1 is not available from Uttar Pradesh, from where the recurrent parent IR64 Sub 1 was released and notified. *Hence these two NIL entries will be repeated.*

S. No	IET No	Recurrent Parent (RP) and genes	Gazette notified states	No. of locations	Normal condition (CD:452)			Stress condition (CD: 239.2)					Remarks
					RP Yield	NIL Yield	% over RP	RP Yield	NIL Yield	C	% over RP	% over C	
1	28033	IR 64 Sub 1 ( <i>qDTY 2.2</i> )	MH	2	4106	4176	-9.2*	1084	1865	1789	+21.4	-16.7*	Repeat
			MP	1	4090	4560	+13.2#						
			CH	1	4055	3564							
			TN	@	@	@							
			UP	@	@	@							
Overall	4	4089	4119										
2	28032	IR 64 Sub 1 ( <i>qDTY 2.2</i> )	MH	2	4106	3860	-8.4*	1084	1966	1789	+27.9	-12.2*	Repeat
			MP	1	4090	4750	+14.3#						
			CH	1	4055	3936							
			TN	@	@	@							
			UP	@	@	@							
Overall	4	4089	4157										

RP: Recurrent Parent; \* Plus CD value; # Minus CD value, TC: Tolerant check

**Near Isogenic Line (NIL) in the genetic background of Naveen**

A total of four NILs IET 29203, 29204, 29205 and 29206 in the first year of testing were nominated in AVT 1-IME trial. Two NILs viz., IET 29205 (CR 4332-84-3-2-1) and IET 29206 (CR 4332-34-2-1-1) derived from the cross of Naveen\*3/Robin having herbicide resistance are not tested for trait verification in the year 2020. Hence, performance of these two NILs is not discussed. Another two NILs viz., IET 29203 (CR 4331-85-1-1-1) and IET 29204 (CR 4331-84-2-2-1) are the sister lines derived from the cross of Naveen\*3/CR 3006-8-2 possessing *qBph4.3* and *qBph4.4* QTLs. Both the NILs (IET 29203 and IET 29204) recorded on par yield advantage compared to recurrent parent but showed susceptible reaction (>5 score) to BPH, **hence dropped**.

S. No	IET No	Recurrent Parent (RP) and genes	Gazette notified states	No. of locations	Normal condition (CD:411.5)			BPH Resistance		Remarks
					RP Yield	NIL Yield	% over RP	RP	NIL	
1	29203	Naveen ( <i>qBph4.3</i> , <i>qBph4.4</i> )	OD TR	3 @	4085 @	3976 @	-11.5* +8.2#	8.25 (Susceptible)	5.05 (Susceptible)	Dropped due to susceptible reaction to BPH
2	29204	Naveen ( <i>qBph4.3</i> , <i>qBph4.4</i> )	OD TR	3 @	4085 @	4082 @	-9.2* +11.1#	8.25 (Susceptible)	5.85 (Susceptible)	Dropped due to susceptible reaction to BPH

RP: Recurrent Parent; \* Plus CD value; # Minus CD value,

**Disease reaction of the entries to Bacterial leaf blight disease during Kharif 2020**

IET No	Locations												SI
	ADT	CHP	CTK	IIRR	KJT	LUD	NVS	NLR	PNT	TTB	VRNS		
29201	7	3	5	1	3	7	7	5	9	5	3		<b>5.0</b>
MTU 1010 (RP)	7	1	5	7	3	5	7	5	7	5	5		<b>5.2</b>
29202	7	7	3	7	3	5	9	5	3	3	3		<b>5.0</b>
NLR 34449 (RP)	7	5	5	7	5	5	7	5	7	5	5		<b>5.7</b>
TN1 (Susceptible check)	7	7	9	9	7	7	9	9	9	7	5		<b>7.7</b>

RP: Recurrent Parent

**Disease reaction of the entries to blast disease during Kharif 2020**

IET No	Locations																			SI	
	ALM	CBT	GDL	GGT	GNV	IIRR	JDP	JGT	LNV	MLN	MND	NDL	NVS	NLR	NWG	PNP	RNR	RNC	UMM		USG
29201	7	7	9	5	7	5	4	7	5	5	8	3	4	6	5	5	7	5	1	7	<b>5.6</b>
MTU 1010 (RP)	7	1	9	5	5	7	4	5	3	6	9	7	5	1	5	5	5	5	2	1	<b>4.9</b>
29202	6	4	9	5	5	6	4	3	3	6	5	5	6	6	4	4	7	5	1	7	<b>5.1</b>
NLR 34449 (RP)	6	5	9	5	8	6	5	3	3	4	3	7	7	4	5	3	5	5	2	0	<b>4.8</b>
HR-12 (SC)	7	9	9	5	9	9	9	5	9	9	9	9	7	7	7	8	7	7	9	9	<b>8.0</b>
TN1 (SC)	7	6	9	5	9	7	8	7	9	9	7	7	7	7	8	5	9	6	6	7	<b>7.3</b>

RP: Recurrent Parent; R: Repeat entry; SC: Susceptible check

## INITIAL VARIETY TRIAL-IRRIGATED MID EARLY (IVT-IME)

Locations: 44

Test Entries: 61

Checks: **Gontra Bidhan-3 (National); PR 113 (Northern), Lalat (Eastern & North Eastern), Karjat-7 (Western), MTU 1010 (Central and Southern)- (Zonal) and Local Check** **Table:1.24**

Initial Variety Trial-Irrigated Mid Early (IVT-IME) was constituted with 61 test entries and 3 checks. Gontra Bidhan-3 as National check, PR113 in Northern, Lalat in Eastern and North Eastern, MTU 1010 in Central and Southern and Karjat-7 in Western as Zonal checks and a local check were included. The trial was sent to 44 locations however data was received only from 25 locations. In 8 centres namely Kaul, Chinsurah, Masodha, Gerua, Waraseoni, Bilaspur, Aduthurai and Mugad trials were not conducted and the seed was returned from Chatha and Brahmavar. Data from another four centres namely Pantnagar, Bikramganj, Titabar, Lembucherra, was excluded from analysis due to either high/low CV (<5 or > 20%) or low experimental yield (< 3000 Kg/ha).

Across the locations the mean yield ranged from 3476 kg/ha at Nawagam to 6753 kg/ha at Coimbatore while CV ranged from 5.07 % at Pattambi to 18.32% at Cuttack. Overall mean yield of the entries ranged from 5331 kg/ha (IET 28506) to 3608 kg/ha (IET 29251); days to 50% flowering from 88 days (IET 29234) to 105 days (IET 29237). Among the checks, local check was the highest yielder (5107 Kg/ha) followed by Gontra Bidhan-3 (National check) (4681Kg/ha) and Zonal check (4407 kg/ha). The data pertaining to yield, days to 50% flowering, plant height and panicles/m<sup>2</sup> are presented in tables 1.25, 1.26, 1.27 and 1.28 respectively. The performance of the top 3 entries in overall mean is tabulated and described in detail as below

### Overall performance of the entries based on yield in Initial Variety Trial– -Irrigated Mid Early (IVT-IME) Kharif 2020

Rank	IET No/ Designation/ Cross Combination	GY/ FD/ GT	Yield adv. Over NC/ZC/LC	Zone	
				Rank	% BC
1	<b>IET 28506</b> (CR3849-2-1-2-1-2) Pooja /IR64MAS	5331 98 MS	14 21 4	Z III-8	25
2	<b>IET 29250</b> (OROI-7IR87439-BTN-145-2-1) IR70215-4-CPA3-1-3-1/NCICRC158	5273 95 MS	13 20 3	Z III-3 Z V-10 Z VI-2	38 - 13
3	<b>IET 29239</b> (ORR1808) (Nilagiri /ORR110)	5193 92 MB	11 18 2	Z II-3 Z III-4	12 37
	Gondhra Bidhan-3 (NC)	4681			
	Zonal check	4407			
	<b>Local check</b>	<b>5107</b>			

**Italic**: Best check & over the best check; NC- National Check; ZC- Zonal Check; LC- Local Check; GY: Grain Yield; FD: Days to 50% flowering; GT: Grain Type; BC- Best Check

### **Performance of the entries on overall mean basis**

Local checks (LC) was the best check (5107 kg/ha) on overall mean basis and none of the entries recorded required yield advantage of more than 5% over the BC.

### **Zonal performance of the entries**

#### **Northern Zone (Zone II)**

The trial was evaluated at two locations viz., Pantnagar (Uttarkhand), and Kota (Rajasthan) covering two states of Northern Zone. Data from Pantnagar was not considered for analysis due to high CV (68.86%) and low mean (153 kg/ha). Experimental mean yield at the location Kota was 5062 kg/ha and CV% was 14.23%. Zonal mean yield of the entries varied from 3733 kg/ha (IET 28381) to 6299kg/ha (IET 29229); days to 50% flowering ranged from 89 days (IET 29229) to 107 days (IET 28506); plant height ranged from 69.5 cm (IET 29214) to 107cm (IET 29232) and panicles per square meter ranged from 150 (IET 29241) to 298 (IET 29229). In Zone II, eleven entries namely IET Nos. 29229, 29226, 29239, 29251, 29228, 29216, 29219, 29247, 29218, 28380 and 28357 recorded superior yield performance over the best check, Local check which yielded 5500kg/ha and promoted to 2nd year of testing in AVT-1-IME (Zone II).

#### **Eastern Zone (Zone III)**

The trial was evaluated at 6 locations viz., Cuttack, Jeypore and Chiplima (Odisha), Bikramganj, Patna (Bihar) and Varanasi (UP) in Eastern Zone. Data from Bikramganj was not considered for analysis due to low mean (2456 kg/ha). Experimental mean yield at the locations ranged from 3851 kg/ha (Cuttack) to 5251 kg/ha (Jeypore) and CV% from 5.71 (Varanasi) to 18.32 (Cuttack). Mean yield of the entries ranged from 2238 kg/ha (IET 29215) to 6315 kg/ha (IET 29251); days to 50% flowering ranged from 86 days (IET 29219) to 103 days (IET 29238); plant height ranged from 80.00 cm (IET 28342) to 94.10 cm (IET 29226) and panicles per square meter ranged from 212 (IET 28371) to 305 (IET 29237). Eighteen entries namely IET Nos. 28238, 28374, 28380, 28506, 29212, 29214, 29215, 29216, 29218, 29219, 29229, 29230, 29236, 29238, 29239, 29243, 29246 and 29250 recorded superior yield performance (>5%) over the best check, local check (4458 kg/ha) and promoted to 2nd year of testing in AVT-1-IME (Zone III).

#### **North Eastern Zone (Zone IV)**

The trial was evaluated at 2 locations viz., Titabar and Lembucherra and the data from both the locations were not considered for analysis due to lower experimental mean (2829 kg/ha) and high CV (21.41%) respectively.

#### **Central Zone (Zone V)**

The trial was evaluated at five locations viz., Jabalpur (MP), Raipur and Jagadapur (Chhattisgarh), Sakoli and Sindewahi (Maharashtra) in Central Zone. Experimental mean yield at the locations ranged from 3632 kg/ha (Raipur) to 4321 kg/ha (Sindewahi) and CV% ranged from 7.57 (Jabalpur) to 15.82 (Raipur). Mean yield of the entries ranged from 3216 kg/ha (IET 29226) to 4688 kg/ha (IET 29219); days to 50% flowering ranged from 88 days (IET 29234) to 106 days (IET 29237); plant height ranged from 72.03 cm (IET 29244) to

115.75 cm (IET 29241) and panicles per square meter ranged from 159 (IET 29251) to 292 (IET 28342). Entry namely IET No. 29219 recorded superior yield performance (>5%) over the best check, local check.

### Western Zone (Zone VI)

The trial was evaluated at four locations viz., Karjat (Maharashtra), Navsari, Nawagam, and Vyara (Gujarat). Experimental mean yield at the locations ranged from 3476 kg/ha (Nawagam) to 4742 Kg/ha (Navsari) and CV% ranged from 14.08 (Vyara) to 11.42 (Karjat). Mean yield of the entries ranged from 5284 kg/ha (IET 29236) to 3379 kg/ha (IET 29229); days to 50% flowering ranged from 81 days (IET 29229) to 107 days (IET 29227); plant height ranged from 80.15 cm (IET 29227) to 141.75 cm (IET 29241) and panicles per square meter ranged from 213 (IET 29217) to 282 (IET 29246). Eleven entries namely IET Nos. 28353, 28378, 28380, 29212, 29217, 28369, 29230, 29233, 29235, 29236 and 29250 recorded superior yield performance (>5%) over the best check, Gontra Bidhan 3 hence promoted in this zone to 2nd year of testing. Entry IET 29217 is shifted to IVT IM due to zonal mean and overall mean of flowering duration (102days).

### Southern Zone (Zone VII)

The trial was evaluated at eight locations viz., Maruteru (AP), Rajendranagar and Warangal (Telangana), Aduthurai and Coimbatore (TN), Moncompu and Pattambi (Kerala), and Mandya (Karnataka). Experimental mean yield at the locations ranged from 4167 kg/ha (Rajendranagar) to 6753Kg/ha (Coimbatore) and CV% ranged from 5.07 (Pattambi) to 13.23 (Aduthurai). Mean yield of the entries ranged from 3939 kg/ha (IET 29234) to 6456 kg/ha (IET 29221); days to 50% flowering ranged from 81 days (IET 29230) to 107 days (IET 29237); plant height ranged from 82.47 cm (IET 29227) to 116.39 cm (IET 29241) and panicles per square meter ranged from 249 (IET 29220) to 318 (IET 29214). Among the checks local check was the top yielder (6309 Kg/ha) followed by national check check (5476 Kg/ha) and Zonal check (5219 Kg/ha). None of the entries out yielded the best check (LC) with > 5% yield gain and hence none are promoted in this zone to 2nd year of testing.

Yield advantage percentage of the promising entries on the basis of zone wise and overall mean and promotion/shift on the basis of flowering duration is summarized as below.

### Performance of promising entries based on yield in Irrigated Mid Early (IVT-IME) kharif 2020

S No.	IET No	Zone II		Zone III		Zone V		Zone VI		Overall		Remarks
		%BC	DFP	%BC	DFP	%BC	DFP	%BC	DFP	Rank	DFP	
1	28353							5%	92		95	Promoted to AVT1-IME
2	28357	5%	99								93	Promoted to AVT1-IME
3	28374			8%	91					6	94	Promoted to AVT1-IME
4	28506			25%	97					1	98	Promoted to AVT1-IME
5	28378							7%	83		90	Promoted to AVT1-IME
6	28380	5%	101	32%	87			5%	84	6	91	Promoted to AVT1-IME
7	29212			17%	99			9%	95		100	Promoted to AVT1-IME
8	29214			16%	102					10	101	Promoted to AVT1-IME

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S No.	IET No	Zone II		Zone III		Zone V		Zone VI		Overall		Remarks
		%BC	DFP	%BC	DFP	%BC	DFP	%BC	DFP	Rank	DFP	
9	29215			42%	93						95	Promoted to AVT1-IME
10	29216	11%	99	17%	92						94	Promoted to AVT1-IME
11	29217							6%	102	8	102	Shifted to IVT- IM
12	29218	6%	101	28%	88						92	Promoted to AVT1-IME
13	29219	11%	96	8%	86	6%	88				90	Promoted to AVT1-IME
14	28369							8%	95		98	Promoted to AVT1-IME
15	29226	13%	99								91	Promoted to AVT1-IME
16	29228	12%	101								93	Promoted to AVT1-IME
17	29229	15%	89	13%	88						89	Promoted to AVT1-IME
18	29230			15%	95			10%	106		93	Promoted to AVT1-IME
19	29233							6%	97		99	Promoted to AVT1-IME
20	28328			9%	94						95	Promoted to AVT1-IME
21	29235							10%	88		94	Promoted to AVT1-IME
22	29236			41%	93			18%	91	9	95	Promoted to AVT1-IME
23	29238			12%	97						98	Promoted to AVT1-IME
24	29239	12%	96	37%	91					3	92	Promoted to AVT1-IME
25	29243			33%	101						91	Promoted to AVT1-IME
26	29246			14%	102						97	Promoted to AVT1-IME
27	29247	9%	94								95	Promoted to AVT1-IME
28	29250			38%	94			13%	91	2	95	Promoted to AVT1-IME
29	29251	12%	92								94	Promoted to AVT1-IME
<b>Flowering duration of checks</b>												
	NC		101		92		95		85		93	
	ZC		101		90		89		84		91	
	LC		100		94		94		87	5	94	

**Table No. 1.18: Composition of entries in Advance Variety Trial 1-Irrigated Mid Early (AVT 1-IME), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>2<sup>nd</sup> year of testing:</b>				
3801	28389	KJT-1-2-20-9-11	KJT 35 / IR 64	MS
3802	28391	PAU 8442-2K-14-3583-14-1 (RYT 3795)	Pusa 44 / IL274 (O.glaberrima)	MS
3803	28395	MTU 1332 (MTU 2644-38-2-1-2)	N22 / MTU 1075	MS
3804	28396	Shuats Dhan 6	IRODA 117 / IR 72891-29-3-3-3 / IR 73012-137-2-2-2 (70)	LS
3805	28401	UPR 4116-17-1-1-2	Govind / Pant Dhan 19	LS
3806	28403	Gontra Bidhan 7	IET 4786 / Jaya	MS
3807	28415	AD 17044	WGL 14377 / MDU 5	MS
3808	28387	Pusa 5173-3-5-1-1-1-7	MR. 220 / ET 10-5	LS
3809	27695	HKR 14-29	HKR 99-60 / CSR 27	MS



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Entry No.	IET No.	Designation	Cross Combination	GT
3810	<b>Gontra Bidhan-3 (NC)</b>			
3811	28386	RP 6327-B-171-3-2	IR 79156B / Swarna	MS
3812	28132	<i>LP-19301 (Hybrid)</i>	-	LB
3813	28139	<i>PHI-19108 (Hybrid)</i>	-	LB
3814	28126	<i>NPH-101 (Hybrid)</i>	-	LB
3815	28410	NVSR 474	(RP-Bio-226 / IRGC 4059) / IET-8116	LS
3816	28388	JR 81-01	MTU 1010 / NPT 13-01	LB
3817	28433	NVSR 2718	IR 68888 B / GAR 13	SS
3818	28416	RNR 28361	Bhadrakali / NSN 20894	LS
3819	<b>PR 113-Northern, Lalat-Eastern and North Eastern, MTU 1010-Central and Southern, Karjat 7-Western--ZC</b>			
3820	28143	<i>NK-5251++ (Hybrid)</i>	-	MS
3821	28138	<i>US-339 (Hybrid)</i>	-	LB
3822	28133	<i>MEPH-152 (Hybrid)</i>	-	MS
3823	28145	<i>RNC-0050 (Hybrid)</i>	-	LB
3824	28136	<i>PHI-19107 (Hybrid)</i>	-	LS
3825	<b>US 312 (HC)</b>			
3826	28128	<i>SHX-468 (Hybrid)</i>	-	LB
3827	28421	OR 2546-5	OR 2006-23 / PSBRC 68	LS
3828	28397	NWGR 14005	Kudrat 4 / Gurjari	LB
3829	28393	ORR 1805-OR 2634-1-1	TTB 680-2-35-2 Selection	SB
3830	28402	R 1921-172-1-110-1	Shyamala / BPH 12	LS
3831	28409	CR 3561-3-2-2-1-1-1	Surendra / Annapurna	LS
<b>3<sup>rd</sup> year of testing:</b>				
3832	27358	<i>PHI-18105 (Hybrid)</i>	-	LS
<b>2<sup>nd</sup> year of testing:</b>				
3833	28425	CR 4206-4-11-2 (IR1130 50-17-CR 4206-4-11-2)	MTU1010 / IR75870-8-1-2-B-6-1-1-B	LS
3834	<b>Local Check</b>			
3835	27907	CR 4120-1-2-2-1-1	CR 3984-50-1-1-1 / IR 83399-B-B-52	LS
3836	27923	OR 2569-3	OR 1662-1 / IR 55236-35	SB
3837	27908	MTU 1275 (MTU 2385-123-1-2-3)	MTU 1075 / MTU 1081 / MTU 1121	MS
3838	28010	MTU 1293	MTU 1010 / FL 478 // *3 MTU 1010	LS
3839	28008	MTU 1291	MTU 1010 / FL 478 // *3 MTU 1010	LS
3840	29201	RP 6474-RMS 15-26-6-10	MTU 1010 * 2 / Swarna	LS
3841	<b>MTU 1010 (RP)</b>			
3842	29202	RP 6471-RMS 87-10-106	NLR 34449 *2 / Improved Samba Mahsuri	MS
3843	<b>NLR 34449 (RP)</b>			
3844	28033 (R)	CRR 751-1-12-B-B	IR 64 Sub1*4 / IR 88287-367-B-B	LS
3845	28032 (R)	CRR 751-1-7-B-B	IR 64 Sub1*4 / I R 88287-367-B-B	LS
3846	<b>IR 64 Sub-1 (RP)</b>			
3847	29203	CR 4331-85-1-1-1	Naveen*3 / CR 3006-8-2	MS
3848	29204	CR 4331-84-2-2-1	Naveen*3 / CR 3006-8-2	MS
3849	<b>Naveen (RP)</b>			
3850	29205	CR 4332-84-3-2-1	Naveen*3 / Robin	MS
3851	29206	CR 4332-34-2-1-1	Naveen*3 / Robin	MS
3852	<b>Robin (DP)</b>			

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**Table No. 1.19: Grain Yield (Kg/ha) of entries in AVT1- IME (Zone II & VI), Kharif 2020**

Entry No.	IET NO.	ZONE II						ZONE VI			
		HA		RJ (1)		Zone II (1)		MA (1)			
		@KUL		KTA		Mean		KJT			
3801	28389			5289			5289			4167	
3802	28391			4997			4997			4139	
3803	28395	3191		5300			5300			4822	
3804	28396	2537		6356	2*	24% # 19%	6356	2*	24% # 19%	4472	
3805	28401	2619		4828			4828			4806	
3806	28403	3573		4446			4446			4000	
3807	28415	3110		6465	1*	26% # 21%	6465	1*	26% # 21%	5222	9 7%
3808	28387			4583			4583			5111	
3809	27695	2946		5292			5292			5056	
3810	Gontra Bidhan-3 (NC)			3131			3131				
3811	28386	3191		5995	4*	17% 12%	5995	4*	17% 12%	4167	
3812	28132	4201	7	5936	5	16% 11%	5936	5	16% 11%	5333	6.5 9%
3813	28139	4937	3	5837	6	14%	5837	6	14%	5167	10 6%
3814	28126	4201	7	5237			5237			5139	5%
3815	28410	2537		5019			5019			3028	
3816	28388	4364	5	5537	9	8%	5537	9	8%	4194	
3817	28433	4173	9	5101			5101			4056	
3818	28416			5606	8	9%	5606	8	9%	4056	
3819	Zonal Check (ZC)	3382		4948			4948			2889	
3820	28143	2837		5690	7	11%	5690	7	11%	5867	1* 20% 12%
3821	28138	2646		5360			5360			5500	4.5 12%
3822	28133	3764		4405			4405			5111	
3823	28145	5646	1	4119			4119			5500	4.5 12%
3824	28136	4828	4	4378			4378			5556	3 14%
3825	US 312 (HC)	3437		5346			5346			5250	8 7%
3826	28128	2564		6028	3*	18% 13%	6028	3*	18% 13%	5111	
3827	28421	2728		4569			4569			5083	
3828	28397	2237		4310			4310			2944	
3829	28393	2537		5415	6%		5415	6%		5056	
3830	28402			5442	6%		5442	6%		4583	
3831	28409	4965	2	5232			5232			4056	
3832	27358	3983	10	5259			5259			5333	6.5 9%
3833	28425			5524	10	8%	5524	10	8%	4889	
3834	Local Check	4283	6	5120			5120			4889	
3835	27907			4092			4092			4917	
3836	27923			3702			3702			4167	
3837	27908			3571			3571			5722	2* 17%
<b>Exp. Mean</b>		<b>3534</b>		<b>5067</b>			<b>5067</b>			<b>4704</b>	
CD		258.63		837.14			837.14			693.25	
CV%		4.47		10.15			10.15			9.05	
D/S		19-07-2020		25-07-2020						19-07-2020	
D/P		15-08-2020		22-08-2020						10-08-2020	
Local Check Name		HKR-47		Pratap -1						Karjat - 3	

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**Table No. 1.19 Contd.: Grain Yield (Kg/ha) of entries in AVT1- IME (Zone II & VI), Kharif 2020**

Entry No.	IET NO.	ZONE VI										Overall	
		GU					GU (3)		Zone VI (4)				
		NVS		NWG		VYR		Mean		Mean			Mean (5)
3801	28389	5569	5	4206		2893		4223		4209		4425	
3802	28391	5178	8	4230		3977		4462		4381		4504	
3803	28395	3762		5360	3	4308		4477		4563		4710	
3804	28396	4901		4155				4528		4509		4971	10
3805	28401	5689	4 #	5707	2	5154	8 *	5517	2 12%	5339	3 9%	5237	3 8%
3806	28403	4588		5129	7	4185		4634		4476		4470	
3807	28415	4355		4174		5299	5 *	4609		4763		5103	6 5%
3808	28387	4335		4129		4294		4253		4467		4490	
3809	27695	4650		4241		3579		4157		4382		4564	
3810	Gontra Bidhan-3 (NC)			4910				4910	9	4910	10	4021	
3811	28386	4304		3955		5172	7 *	4477		4400		4719	
3812	28132	5034	9	4602		6595	1 #	5410	3 10%	5391	2 10%	5500	2* 14%
3813	28139	5003		4877		4346		4742	10	4848		5046	7
3814	28126	4647		4690		4513		4617		4747		4845	
3815	28410	3398		4033		3385		3605		3461		3773	
3816	28388	4468		3046		4999	10 *	4171		4177		4449	
3817	28433	5768	2 #	3984		3431		4394		4310		4468	
3818	28416	4962		4936		3349		4416		4326		4582	
3819	Zonal Check (ZC)	4890		4230		2582		3901		3648		3908	
3820	28143	4705		5897	1 *	6165	3 *	5589	1 14%	5659	1 15% 10%	5665	1* 17% #
3821	28138	3947		3911		2173		3344		3883		4178	
3822	28133	4949		4083		6444	2 #	5159	4 5%	5147	4	4998	8
3823	28145	4935		4805		5257	6 *	4999	6	5124	7	4923	
3824	28136	5003		5126	9	4828	*	4986	7	5128	6	4978	9
3825	US 312 (HC)	4757		5128	8	5432	4 *	5106	5	5142	5	5183	5
3826	28128	4733		5017		5083	9 *	4944	8	4986	8	5194	4 7%
3827	28421	4372		3829		4418		4206		4426		4454	
3828	28397	4345		3795		4069		4070		3788		3893	
3829	28393	3515		5244	4.5	3543		4101		4340		4555	
3830	28402	4132		3519		3495		3715		3932		4234	
3831	28409	5741	3 #	5143	6	2582		4489		4381		4551	
3832	27358	4870		5244	4.5	4059		4724		4877		4953	
3833	28425	5854	1 #	2506		4593		4318		4461		4673	
3834	Local Check	5542	6	4725		3928		4732		4771		4841	
3835	27907	5391	7	3574		2978		3981		4215		4190	
3836	27923	5003		4534		3749		4429		4363		4231	
3837	27908	4623		5104	10	4445		4724		4974	9	4693	
Exp. Mean		4776		4481		4266		4529		4569		4664	
CD		904.33		941.44		810.5		1007.27		942.04		471.48	
CV%		11.63		12.91		11.66		13.66		12.67		6.21	
D/S		21-07-2020		31-07-2020		24-07-2020							
DIP		26-08-2020		10-09-2020		12-08-2020							
Local Check Name		GNR-3		Mahisagar		Gurjari							

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Table No. 1.19 contd.: Grain Yield (Kg/ha) of entries in AVT1- IME (Zone III & VI), Kharif 2020

Entry No.	IET NO.	ZONE III										
		OD			OD (3)			BI		BI (2)		
		CTK	JYP	CHP	Mean			BKG	SBR	Mean		
3801	28389	3973	3108	4301		3794		3513	2682		3098	
3802	28391	2960	4630	4419		4003		2582	1392		1987	
3803	28395	4680	3183	6372	5 #	4745		5714	10	5809	7*	5762 9* 16%
3804	28396	4403	1664	4899		3655		2582		5153		3868
3805	28401	2783	2429	4571		3261		5672		4988		5330 7%
3806	28403	4213	1569	4781		3521		4698		5175		4937
3807	28415	2223	1810	5034		3022		4656		3904		4280
3808	28387	3330	6070	2 #	3468		4289		3852		1898	2875
3809	27695	5273	5 #	2704		6002	9 #	4660		4952		4385
3810	Contra Bidhan-3 (NC)		4913		6835	3	5874	1	4190			4190
3811	28386	3917		5323	7	4731		4657		4825		4656
3812	28132	4683		4968		5152		4934		5862	7	5253
3813	28139	6567	1* #	4720		5253		5513	2 #	17%	5249	6642 1*
3814	28126	2477		3804		3754		3345		6138	3*	5278
3815	28410	2967		1548		3148		2554		3259		2896
3816	28388	4230		2540		6271	8 #	4347		5545		5318
3817	28433	3010		3249		4697		3652		4656		4365
3818	28416	3863		5021		5118		4667		3852		3248
3819	Zonal Check (ZC)	4177		5922	3 #	4689		4929		5460		4507
3820	28143	4770	10 #	3471		4428		4223		5852	8	6120
3821	28138	3837		5877	4 #	5177		4964	10	6476	1*	6410
3822	28133	4827	9 #	6194	1 #	5084		5368	6 #	14%	6101	4*
3823	28145	5403	4 #	5079		4293		4925		6095	5*	5682
3824	28136	4987	8 #	4786		6288	7 #	5354	9 #	14%	5545	6136 3*
3825	US 312 (HC)	4177		5008		4924		4703		6053	6	5854
3826	28128	3417		3220		4747		3795		5037		5488
3827	28421	5557	2 #	3654		7113	2 #	5441	5 #	16%	4317	4500
3828	28397	1593		5122	10	3333		3349		4275		3833
3829	28393	5050	7 #	3791		4638		4493		5545		4488
3830	28402	4247		4190		3620		4019		4571		4212
3831	28409	4257		3900		8342	1* #	5500	3 #	17%	5249	5286
3832	27358	4030		4759		5732	10	4840		6175	2*	5745
3833	28425	4150		5238	9	4512		4633		5841	9	5288
3834	Local Check (LC)	5473	3	5454	6	5160		5362	7	4164		2012
3835	27907	4297		5304	8	4554		4718		4656		3331
3836	27923	3860		5809	5 #	6406	4 #	5358	8 #	14%	4148	3065
3837	27908	5193	6 #	4938		6322	6 #	5484	4 #	17%	4868	5055
3847	29203	4483		2926		4520		3976		4571		4646
3848	29204	4240		2981		5025		4082		3937		4286
3849	Naveen (RP)	3977		4977		3300		4085		5037		4958
3850	29205	3327		2672		3434		3144		3175		3446
3851	29206	3133		5008		2593		3578		3259		3837
3852	Robin (DP)	930		5103		1086		2373		2878		1104
<b>Exp. Mean</b>		<b>4022.46</b>		<b>4154.26</b>		<b>4840.07</b>		<b>4353.28</b>		<b>4769.41</b>		<b>4485.17</b>
<b>CD</b>		517.63		371.28		1070.84		411.58		470.52		928.59
<b>CV%</b>		7.92		5.5		13.63		5.82		6.08		12.75
<b>D/S</b>		25-07-2020		06-08-2020		29-07-2020				10-08-2020		29-07-2020
<b>D/P</b>		03-09-2020		31-08-2020		01-09-2020				28-08-2020		19-08-2020
<b>Local Check Name</b>		CR Dhan 304		Manaswini		Mandakini				R Bhagwati		Rajendra Suwasini

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Table No.1.19 contd.: Grain Yield (Kg/ha) of entries in AVT1- IME (Zone III & VI), Kharif 2020

Entry No.	IET NO.	ZONE III				ZONE IV				Overall (7)	
		UP		Zone III (6)		AS (1)		Zone IV (1)		Mean	
		VRN		Mean		TTB		Mean			
3801	28389	3933	15%	3585		2810		2810		3474	
3802	28391	3498		3247		3078		3078		3223	
3803	28395	4774	6* 40% 11%	5089	9	4728	2 14% # 39%	4728	2 14% # 39%	5037	5
3804	28396	3245		3658		4107	9 21%	4107	9 21%	3722	
3805	28401	4091	20%	4089		3525		3525		4008	
3806	28403	3481		3986		3525		3525		3920	
3807	28415	4657	8* 37%	3714		3315		3315		3657	
3808	28387	3492		3685		2888		2888		3571	
3809	27695	4082	20%	4566		3678		3678		4439	
3810	Gontra Bidhan-3 (NC)			5313	5	4137	7	4137	7	5019	7
3811	28386	3596	5%	4508		3553		3553		4372	
3812	28132	4370	* 28%	5048		4115	8 21%	4115	8 21%	4915	10
3813	28139	3293		5287	6	3467		3467		5027	6
3814	28126	4556	9* 34%	4335		3445		3445		4207	
3815	28410	3377		2866		3197		3197		2913	
3816	28388	4414	10* 29%	4720		2820		2820		4448	
3817	28433	4104	20%	4014		2292		2292		3768	
3818	28416	3448		4092		4357	3 5% # 28%	4357	3 5% # 28%	4130	
3819	Zonal Check (ZC)	3370		4688		3708		3708		4548	
3820	28143	4949	4* 45% 15%	4932		3328		3328		4703	
3821	28138	4226	* 24%	5334	3	3355		3355		5051	4
3822	28133	5337	3* 56% # 24%	5598	1 5% # 11%	2672		2672		5180	2 #
3823	28145	5384	2* 58% # 25%	5323	4	3052		3052		4998	8
3824	28136	4704	7* 38%	5408	2 #	4242	4 25%	4242	4 25%	5241	1 #
3825	US 312 (HC)	4316		5055		3405		3405		4820	
3826	28128	6054	1* 77% # 40%	4661		4178	6 23%	4178	6 23%	4592	
3827	28421	3643	7%	4797		3500		3500		4612	
3828	28397	3697	8%	3642		2237		2237		3441	
3829	28393	4064	19%	4596		3447		3447		4432	
3830	28402	4071	19%	4152		3133		3133		4006	
3831	28409	3556		5098	8	3328		3328		4845	
3832	27358	4929	5* 45% 14%	5228	7	4842	1 17% # 42%	4842	1 17% # 42%	5173	3 #
3833	28425	4279	* 25%	4885		3193		3193		4643	
3834	Local Check (LC)	3411		4279		2475		2475		4021	
3835	27907	3209		4225		2612		2612		3995	
3836	27923	3357		4441		3600		3600		4321	
3837	27908	4044	19%	5070	10	4237	5 24%	4237	5 24%	4951	9
3847	29203	4078	20%	4204		3295		3295		4074	
3848	29204	4057	19%	4088		3777	10 11%	3777	10 11%	4043	
3849	Naveen (RP)	3512		4294		3357		3357		4160	
3850	29205	3415		3245		2645		2645		3159	
3851	29206	3582	5%	3569		2350		2350		3395	
3852	Robin (DP)	3209		2385		1658		1658		2281	
<b>Exp. Mean</b>		<b>4020.55</b>		<b>4395.2</b>		<b>3364.22</b>		<b>3364.22</b>		<b>4244.99</b>	
CD		756.33		322.05		926.44		926.44		295.82	
CV%		11.58		4.51		16.96		16.96		4.29	
DIS		22-07-2020				08-07-2020					
DIP		08-08-2020				09-08-2020					
Local Check Name		HUR-4-3				Shraboni(TTB-404)					

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Table No. 1.19.: Grain Yield (Kg/ha) of entries in AVT1- IME (Zone-V) Kharif 2020

Entry No	IET NO.	ZONE V							
		MP (1)		CH			CH (1)		
		JBP		RPR		@JDP	Mean		
3801	28389	4655		4653		3405		4653	19%
3802	28391	3360		4818		3130		4818	24%
3803	28395	5185		4823		3104		4823	24%
3804	28396	4540		3440		3283		3440	
3805	28401	4750		5296	10 *	3021		5296	10 * 36%
3806	28403	4790		4824		3456	9	4824	24%
3807	28415	4425		4723		3200		4723	21%
3808	28387	4175		4685		3280		4685	20%
3809	27695	4750		4832		3304		4832	24%
3810	Gontra Bidhan-3 (NC)	5560	8			3176			
3811	28386	6295	2	4303		3173		4303	10%
3812	28132	5510	9	6280	1 *	3077		6280	1 * 61% 13%
3813	28139	6445	1 6%	5969	3 *	3349		5969	3 * 53%
3814	28126	3740		5122	*	3160		5122	* 31%
3815	28410	4445		4043		3488	8	4043	
3816	28388	4695		5719	4 *	3755	5	5719	4 * 47%
3817	28433	3820		3921		3886	3	3921	
3818	28416	4131		3902		3539	7	3902	
3819	Zonal Check (ZC)	5790	6	3897		3093		3897	
3820	28143	5265		4282		3066		4282	10%
3821	28138	5490	10	5220	*	4089	1	5220	* 34%
3822	28133	5670	7	5539	7 *	3189		5539	7 * 42%
3823	28145	6017	4	4622		3451	10	4622	19%
3824	28136	4425		5440	9 *	3921	2	5440	9 * 40%
3825	US 312 (HC)	5920	5	5575	5	3758	4	5575	5
3826	28128	5365		4928	*	3419		4928	* 26%
3827	28421	4505		5546	6 *	3421		5546	6 * 42%
3828	28397	3550		4001		3403		4001	
3829	28393	5180		4541		3168		4541	17%
3830	28402	4460		5038	*	3307		5038	* 29%
3831	28409	3705		4709		3304		4709	21%
3832	27358	5285		6271	2 *	3285		6271	2 * 61% 12%
3833	28425	4675		5271	*	3040		5271	* 35%
3834	Local Check (LC)	6105	3	3547		3042		3547	
3835	27907	4291		5231	*	3018		5231	* 34%
3836	27923	3530		4516		3328		4516	16%
3837	27908	4176		5465	8 *	3200		5465	8 * 40%
3844	28033	4560		3564		3168		3564	
3845	28032	4750		3936		3189		3936	
3846	IR 64 Sub-1 (RP)	4090		4055		3721	6	4055	
<b>Exp. Mean</b>		<b>4802</b>		<b>4783</b>		<b>3334</b>		<b>4783</b>	
CD		869.55		1015.74		1150.51		1015.74	
CV%		11.14		13.06		21.23		13.06	
D/S		16-07-2020		16-07-2020		16-07-2020			
D/P		06-08-2020		30-07-2020		08-08-2020			
Local Check Name		JR 206		IGKV R 2		IGKVR 1			

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Table No. 1.19 contd.: Grain Yield (Kg/ha) of entries in AVT 1- IME (Zone-V) Kharif 2020

Entry No	IET NO.	ZONE V									
		MA				MA (2)			Zone-V (4)		
		SKL	#	SND		Mean			Mean		
3801	28389	4749	#	4339		4544	#	21%		4599	
3802	28391	3192		3214		3203				3646	
3803	28395	5416	5 * #	4848	5 #	5132	3 *	12% #	37%	5068	6
3804	28396	4757	#	4717	7 #	4737	6	#	26%	4364	
3805	28401	4599	#	4508		4554	#	21%		4788	9
3806	28403	3116		4158		3637				4222	
3807	28415	4261		4205		4233	13%			4404	
3808	28387	2745		3103		2924				3677	
3809	27695	3309		4633	10 #	3971				4381	
3810	Gontra Bidhan-3 (NC)									5560	1
3811	28386	3342		4135		3739				4519	
3812	28132	4830	#	3488		4159	11%			5027	7
3813	28139	3603		3057		3330				4769	
3814	28126	2943		4170		3557				3994	
3815	28410	2672		2771		2722				3483	
3816	28388	3311		3310		3311				4259	
3817	28433	3245		4522		3884				3877	
3818	28416	4743	#	4248		4496	#	20%		4256	
3819	Zonal Check (ZC)	4163		5038	3	4601	8			4722	
3820	28143	3556		4260		3908				4341	
3821	28138	3298		3249		3274				4314	
3822	28133	5587	3 * #	4286		4937	4	7% #	31%	5271	3 # 11%
3823	28145	5498	4 * #	3464		4481	#	19%		4900	8
3824	28136	6561	1 * #	4668	9 #	5615	1 *	22% #	49%	5274	2 # 11%
3825	US 312 (HC)	3503		4015		3759				4753	
3826	28128	2923		4551		3737				4442	
3827	28421	5715	2 * #	4831	6 #	5273	2 *	15% #	40%	5149	4
3828	28397	4945	10 #	3164		4055				3915	
3829	28393	4025		4679	8 #	4352	#	16%		4606	
3830	28402	5010	9 * #	4175		4593	9	#	22%	4671	
3831	28409	5347	6 * #	3453		4400	#	17%		4304	
3832	27358	3422		5434	1 #	4428	#	18%		5103	5
3833	28425	4065		5105	2 #	4585	10	#	22%	4779	10
3834	Local Check (LC)	4092		4959	4	4526				4676	
3835	27907	5098	8 * #	3992		4545	#	21%		4653	
3836	27923	5345	7 * #	4519		4932	5	7% #	31%	4478	
3837	27908	4709	#	4551		4630	7	#	23%	4725	
3844	28033	4092		4260		4176	11%			4119	
3845	28032	3585		4135		3860				4102	
3846	IR 64 Sub-1 (RP)	3872		4339		4106				4089	
<b>Exp. Mean</b>		<b>4186</b>		<b>4168</b>		<b>4177</b>				<b>4507</b>	
CD		826.35		544.89		490.81				451.56	
CV%		12.14		8.04		7.23				6.16	
D/S		23-07-2020		15-07-2020							
D/P		10-08-2020		04-08-2020							
Local Check Name		PKV Ganesh		PKV Ganesh							

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Table No. 1.19 contd.: Grain Yield (Kg/ha) of entries in AVT1- IME (Zone-VII) Kharif 2020

Entry No.	IET NO	ZONE 7										
		AP (1)		TE				TE (2)			TN	
		MTU		RNR		WGL		Mean			@CBT	@ADT
3801	28389	5597	5	3423	#	4970	#	4197	#	41%	8282	4991
3802	28391	5992	2 10%	3110	#	5881	#	4496	#	51%	7736	5417
3803	28395	4041		4627	1 * #	6619	6 #	5623	2 * 27% # 89%		8894	7 4880
3804	28396	4465		3882	8 * #	6966	5 * #	5424	5 * 22% # 83%		8083	4097
3805	28401	4082		3570	#	7053	4 * #	5312	6 * 20% # 79%		9673	1 3972
3806	28403	4074		3974	6 * #	6315	8 #	5145	7 * 16% # 73%		7658	4685
3807	28415	4152		2613		6228	10 #	4421	# 49%		7423	3213
3808	28387	4501		4153	4 * #	3212		3683	# 24%		8434	9 7894 1
3809	27695	5152		2414		5690	#	4052	# 36%		8083	5190
3810	Gontra Bidhan-3 (NC)			1185		5534		3360				4583
3811	28386	4086		3908	7 * #	4883	#	4396	# 48%		8185	5356
3812	28132	5811	4 7%	3155	#	5100	#	4128	# 39%		8332	6611 2
3813	28139	5333	9	3621	#	3060		3341	12%		8050	5144
3814	28126	4177		3212	#	6532	7 #	4872	9 10% # 64%		9648	2 4380
3815	28410	4123		2553		3320		2937			6747	5755 6
3816	28388	4944		3713	#	4622	#	4168	# 40%		8446	8 5194
3817	28433	4362		2369		3472		2921			7035	3134
3818	28416	4370		3815	9 * #	3320		3568	# 20%		7053	5602 8
3819	Zonal Check (ZC)	4016		2947		5924		4436			8430	10 4389
3820	28143	4967		4036	5 * #	4449		4243	# 43%		7016	5449 9
3821	28138	4206		2791		3472		3132			8102	6111 4
3822	28133	4082		3680	#	3711		3696	# 24%		7240	5093
3823	28145	4733		3332	#	3407		3370	13%		7112	4532
3824	28136	4099		3572	#	7357	2 * #	5465	4 * 23% # 84%		8184	2816
3825	US 312 (HC)	5984	3	2362		3581		2972			6503	5296
3826	28128	4126		3094	#	3646		3370	13%		7009	3009
3827	28421	6428	1 * 18%	3800	10 * #	4666	#	4233	# 42%		7976	6162 3
3828	28397	5564	7	1786		4579	#	3183			6719	4329
3829	28393	4570		2083		3841		2962			7116	2954
3830	28402	5170	10	1923		4058		2991			7931	3574
3831	28409	4277		2483		5143	#	3813	# 28%		9485	5 5806 5
3832	27358	5568	6	2860		4970	#	3915	# 32%		8189	5042
3833	28425	4390		3715	#	7270	3 * #	5493	3 * 24% # 85%		7856	4537
3834	Local Check	5430	8	3203	#	5273	#	4238	# 43%		9625	3 5755 6
3835	27907	5164		2145		4015		3080			8363	4847
3836	27923	4769		3431	#	3798		3615	# 22%		9518	4 4278
3837	27908	4474		4368	3 * #	7574	1 * #	5971	1 * 35% # 101%		6989	5449 9
3838	28010	4885		3127	#	5838	#	4483	# 51%		7967	2709
3839	28008	4486		3348	#	6185	#	4767	10 7% # 60%		7567	2760
3840	29201	4741		2511		6228	10 #	4370	# 47%		7962	3056
3841	MTU 1010 (RP)	4140		2597		6228	10 #	4413	# 48%		7503	3819
3842	29202	4148		2055		4709	#	3382	14%		7214	3870
3843	NLR 34449 (RP)	4152		2176		3798		2987			9208	6 4685
3844	28033	4103		1387		4579	#	2983			7344	3847
3845	28032	4049		1956		4102		3029			7052	3514
3846	IR 64 Sub-1 (RP)	4109		4554	2 * #	5404	#	4979	8 12% # 68%		8140	2144
<b>Exp. Mean</b>		<b>4669</b>		<b>3057</b>		<b>5013</b>		<b>4035</b>			<b>7935</b>	<b>4564</b>
CD		882.19		553.5		989.64		576.75			2926.08	1826.97
CV%		11.65		11.16		12.17		8.81			22.73	24.68
D/S		20-07-2020		10-07-2020		18-07-2020					21-07-2020	06-09-2020
D/P		16-08-2020		13-08-2020		21-08-2020					12-08-2020	07-10-2020
Local Check Name		MTU 1121		JGL 24423		RNR 15048					CO 47	TKM -13



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Table No.1.19 contd.: Grain Yield (Kg/ha) of entries in AVT1- IME (Zone-VII) Kharif 2020

Entry No.	IET NO	ZONE 7													
		KE		KE (2)		KA		KA (2)		Zone -7(7)					
		MNC	PTB	Mean		MND	MGD	Mean		Mean					
3801	28389	6246	5208		5727		5442	3891	10	4667		4968			
3802	28391	5331	4838		5085		5181	2168		3675		4643			
3803	28395	6296			6296		4501	3115		3808		4867			
3804	28396	5376			5376		4958	1979		3469		4604			
3805	28401	4607			4607		5166	1740		3453		4370			
3806	28403	4545			4545		4773	3750		4262		4572			
3807	28415	5595			5595		4324	2601		3463		4252			
3808	28387	7413		6532	3 *	6973	4	5107		2758		3933			
3809	27695	8457	4.5	5042		6750	9	5722		3775		4749	9		
3810	Contra Bidhan-3 (NC)	6532		5046		5789		6244	8		6244	1	4908		
3811	28386	6419		6005	*	6212		5676		3363		4520		4906	
3812	28132	7306		6454	5 *	6880	5	6715	4	4739	5 #	5727	3 # 25%	5611	1 # 11%
3813	28139	7312		6444	6 *	6878	6	6848	3 #	3867		5358	7 17%	5212	8
3814	28126			5079		5079		5318		2464		3891		4464	
3815	28410	6577		6125	*	6351		6138		3616		4877		4636	
3816	28388	5875		5347		5611		5478		4926	4 #	5202	13%	4986	
3817	28433	7828	8	5046		6437		4215		2370		3293		4237	
3818	28416	7817	9	4921		6369		5013		3289		4151		4649	
3819	Zonal Check (ZC)	6756		5111		5934		4188		2576		3382		4503	
3820	28143	6661		6083	*	6372		5282		3265		4274		4963	
3821	28138	9747	1	5042		7395	1 9%	6355	5	5266	1 #	5811	2 # 27%	5268	6
3822	28133	8777	3	4907		6842	7	6961	2 #	3603		5282	9 15%	5103	10
3823	28145	6375		4810		5593		6974	1 #	3462		5218	14%	4728	
3824	28136	8457	4.5	6255	*	7356	2 8%	6326	6	2637		4482		5529	2 #
3825	US 312 (HC)	8204	6	6231		7218	3	5901		3277		4589		5077	
3826	28128	6409		4856		5633		6225	9	4445	7 #	5335	8 16%	4686	
3827	28421	6975		5093		6034		5537		4348	9	4943		5264	7
3828	28397	6105		4648		5377		5589		3644		4617		4559	
3829	28393	6622		6116	*	6369		5591		3652		4622		4639	
3830	28402			6231	*	6231		5238		2282		3760		4150	
3831	28409	4125		5037		4581		5072		3571		4322		4244	
3832	27358	7980	7	5204		6592		6202	10	5212	2 #	5707	4 # 24%	5428	3
3833	28425	5309		6278	10 *	5794		5705		2282		3994		4993	
3834	Local Check	8799	2	4782		6791	8	6063		4432	8 #	5248	10 14%	5426	4
3835	27907	6869		5088		5979		5057		3675		4366		4573	
3836	27923	6117		6509	4 *	6313		6319	7	4563	6 #	5441	5 # 19%	5072	
3837	27908	5836		4815		5326		5932		4927	3 #	5430	6 # 18%	5418	5
3838	28010	7104		6102	*	6603	10	4388		3283		3836		4961	
3839	28008	6756		6370	8 *	6563		4750		3103		3927		5000	
3840	29201	6599		6440	7 *	6520		4154		3266		3710		4848	
3841	MTU 1010 (RP)	7486		4731		6109		5284		2293		3789		4680	
3842	29202	7609	10	5255		6432		4529		2966		3748		4467	
3843	NLR 34449 (RP)	6308		6569	2 *	6439		4806		2553		3680		4337	
3844	28033	6487		6611	1 *	6549		4457		3343		3900		4424	
3845	28032	7520		4903		6212		4505		3122		3814		4308	
3846	IR 64 Sub-1 (RP)	6364		6287	9 *	6326		4196		2632		3414		4792	
<b>Exp. Mean</b>		<b>6770</b>		<b>5572</b>		<b>6131</b>		<b>5400</b>		<b>3380</b>		<b>4753</b>		<b>4889</b>	
CD		1709.49		537.98		947.82		939.78		1275.2		785.62		448.8	
CV%		15.56		5.94		9.53		10.73		18.72		10.19		5.66	
D/S		24-09-2020		07-08-2020				22-07-2020		22-07-2020					
D/P		12-10-2020		08-09-2020				13-08-2020							
Local Check Name		MO 16 (Uma)		Jyothi				Thanu		MGD 101					

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**Table No 1.20: Days to 50% flowering of entries in AVT1 - IME (Zone II & VI), Kharif 2020**

Entry No.	IET NO.	ZONE II			ZONE VI						Overall (5)
		HA	RJ	Zone II (1)	MA	GU			GU (3)	Zone VI (4)	
		@KUL	KTA	Mean	KJT	NVS	NWG	VYR	Mean	Mean	Mean
3801	28389		98	98	85	98	101	82	94	91	93
3802	28391		98	98	93	98	105	88	97	96	96
3803	28395	103	99	99	91	99	102	87	96	95	96
3804	28396	85	90	90	85	99	82		90	89	89
3805	28401	88	97	97	90	104	103	88	98	96	96
3806	28403	90	99	99	85	97	86	82	88	87	90
3807	28415	88	91	91	90	96	86	83	89	89	89
3808	28387		98	98	88	98	91	92	94	92	93
3809	27695	93	99	99	92	93	109	87	96	95	96
3810	Gontra Bidhan-3 (NC)		96	96			100		100	100	98
3811	28386	84	90	90	84	93	85	82	87	86	87
3812	28132	85	92	92	85	96	94	83	91	89	90
3813	28139	86	91	91	90	96	98	85	93	92	92
3814	28126	92	99	99	88	93	86	87	89	89	91
3815	28410	86	103	103	84	93	87	86	89	88	91
3816	28388	87	91	91	85	96	87	82	88	88	88
3817	28433	102	99	99	86	93	88	82	88	87	90
3818	28416		96	96	89	93	108	87	96	94	95
3819	Zonal Check (ZC)	91	97	97	85	89	85	80	85	85	87
3820	28143	93	99	99	86	89	102	86	92	91	93
3821	28138	95	100	100	86	93	99	83	92	90	92
3822	28133	95	99	99	86	90	98	82	90	89	91
3823	28145	89	100	100	89	98	99	90	96	94	95
3824	28136	88	99	99	84	94	110	84	96	93	94
3825	US 312 (HC)	85	95	95	87	93	93	82	89	89	90
3826	28128	95	90	90	85	84	98	81	88	87	88
3827	28421	94	95	95	89	93	96	87	92	91	92
3828	28397	100	97	97	88	93	94	87	91	90	92
3829	28393	91	89	89	90	90	89	86	88	89	89
3830	28402		92	92	86	96	86	81	88	87	88
3831	28409	94	100	100	92	99	92	87	92	92	94
3832	27358	91	97	97	85	98	93	82	91	90	91
3833	28425		91	91	87	94	86	88	89	89	89
3834	Local Check	92	101	101	89	89	84	83	85	86	89
3835	27907		97	97	92	96	99	89	95	94	95
3836	27923		95	95	92	98	109	93	100	98	97
3837	27908		100	100	91	97	109	85	97	96	96
<b>Exp. Mean</b>		<b>91</b>	<b>96</b>	<b>96</b>	<b>88</b>	<b>95</b>	<b>94</b>	<b>85</b>	<b>92</b>	<b>91</b>	<b>92</b>
<b>SEM</b>		<b>0.44</b>	<b>0.78</b>	<b>0.78</b>	<b>0.49</b>	<b>0.20</b>	<b>0.92</b>	<b>1.00</b>	<b>1.50</b>	<b>1.00</b>	<b>0.80</b>

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**Table No 1.20 contd.: Days to 50% flowering of entries in AVT1 - IME (Zone III & IV), Kharif 2020**

Entry No.	IET NO.	ZONE III									ZONE IV		Overall (7)
		OD			OD (3)	BI		BI (2)	UP(1)	Zone III (6)	AS(1)	Zone IV (1)	
		CTK	JYP	CHP	Mean	BKG	SBR	Mean	VRN	Mean	TTB	Mean	
3801	28389	110	100	105	105	87	88	88	84	96	93	93	95
3802	28391	110	100	105	105	104	97	100	98	102	94	94	101
3803	28395	103	91	101	98	88	91	89	85	93	92	92	93
3804	28396	99	101	98	99	87	83	85	77	91	95	95	91
3805	28401	104	99	97	100	87	65	76	86	90	83	83	89
3806	28403	100	96	97	98	80	85	83	76	89	86	86	89
3807	28415	99	95	98	97	81	86	83	80	90	88	88	90
3808	28387	111	103	106	107	87	91	89	85	97	106	106	98
3809	27695	109	95	101	102	87	85	86	87	94	104	104	95
3810	Gontra Bidhan-3 (NC)		98	103	100	81		81		94	91	91	93
3811	28386	99	99	98	99	82	81	82	74	89	87	87	89
3812	28132	101	99	100	100	77	96	87	116	98	95	95	98
3813	28139	107	99	105	104	83	85	84	79	93	93	93	93
3814	28126	103	99	104	102	84	85	84	82	93	94	94	93
3815	28410	110	92	105	102	82	88	85	82	93	88	88	92
3816	28388	103	92	95	97	81	83	82	78	89	91	91	89
3817	28433	99	97	93	96	81	82	82	78	88	87	87	88
3818	28416	113	93	104	104	83	96	90	95	97	96	96	97
3819	Zonal Check (ZC)	102	97	99	99	87	85	86	90	93	84	84	92
3820	28143	100	97	98	98	83	86	84	83	91	89	89	91
3821	28138	98	101	96	98	83	81	82	85	91	94	94	91
3822	28133	99	105	93	99	82	81	82	79	90	85	85	89
3823	28145	105	91	103	99	85	88	87	82	92	98	98	93
3824	28136	92	95	94	94	86	87	86	79	89	89	89	89
3825	US 312 (HC)	101	99	96	99	81	81	81	79	89	92	92	90
3826	28128	102	99	99	100	81	83	82	78	90	95	95	91
3827	28421	106	100	100	102	83	90	87	85	94	98	98	95
3828	28397	102	94	97	97	80	83	82	87	90	91	91	91
3829	28393	100	93	94	96	81	82	82	84	89	87	87	89
3830	28402	93	95	94	94	81	79	80	81	87	83	83	87
3831	28409	103	88	100	97	83	85	84	89	91	93	93	92
3832	27358	105	95	102	101	83	83	83	76	91	98	98	92
3833	28425	102	93	94	97	81	91	86	81	90	94	94	91
3834	Local Check (LC)	100	92	90	94	84	93	88	89	91	104	104	93
3835	27907	111	100	105	105	88	85	87	86	96	109	109	98
3836	27923	102	97	102	100	88	93	90	88	95	95	95	95
3837	27908	109	95	106	103	88	86	87	88	95	104	104	96
3847	29203	104	100	100	102	79	82	81	74	90	87	87	90
3848	29204	96	95	103	98	78	82	80	79	89	91	91	89
3849	Naveen (RP)	105	98	100	101	79	86	82	80	91	90	90	91
3850	29205	101	107	99	102	79	78	78	73	90	88	88	89
3851	29206	100	97	95	97	78	81	79	76	88	88	88	88
3852	Robin (DP)	109	108	92	103	78	78	78	72	89	82	82	88
<b>Exp. Mean</b>		<b>103</b>	<b>97</b>	<b>99</b>	<b>100</b>	<b>83</b>	<b>85</b>	<b>84</b>	<b>83</b>	<b>92</b>	<b>92</b>	<b>92</b>	<b>92</b>
<b>SEM</b>		<b>0.31</b>	<b>0.62</b>	<b>1.09</b>	<b>0.47</b>	<b>0.55</b>	<b>0.48</b>	<b>0.36</b>	<b>0.44</b>	<b>0.27</b>	<b>2.38</b>	<b>2.38</b>	<b>0.45</b>

**Table No.1.20 contd.: Days to 50% flowering of entries in AVT1 - IME (Zone -V), Kharif 2020**

Entry No	IET NO.	ZONE V							
		MP(1)	CH		CH (1)	MA		MA (2)	Zone V (4)
		JBP	RPR	@JDP	Mean	SKL	SND	Mean	Mean
3801	28389	105	89	103	89	87	93	90	94
3802	28391	100	97	108	97	95	107	101	100
3803	28395	97	94	105	94	89	98	93	94
3804	28396	101	90	98	90	86	90	88	92
3805	28401	98	87	99	87	95	93	94	93
3806	28403	98	86	100	86	87	92	90	91
3807	28415	101	87	104	87	88	90	89	92
3808	28387	104	94	110	94	93	95	94	97
3809	27695	94	94	97	94	94	97	95	94
3810	Gontra Bidhan-3 (NC)	97		110					97
3811	28386	97	82	100	82	83	89	86	88
3812	28132	96	82	100	82	89	93	91	90
3813	28139	98	86	102	86	89	90	90	91
3814	28126	97	88	104	88	90	95	93	93
3815	28410	106	84	95	84	86	96	91	93
3816	28388	107	87	109	87	87	88	88	93
3817	28433	91	88	104	88	86	90	88	89
3818	28416	97	98	106	98	95	102	99	98
3819	Zonal Check (ZC)	97	81	105	81	81	81	81	85
3820	28143	94	87	98	87	89	90	90	90
3821	28138	93	85	105	85	91	95	93	91
3822	28133	97	86	110	86	93	93	93	92
3823	28145	94	90	104	90	94	95	95	93
3824	28136	95	83	107	83	88	90	89	89
3825	US 312 (HC)	94	83	107	83	89	92	91	89
3826	28128	99	82	105	82	86	88	87	89
3827	28421	102	90	108	90	86	96	91	93
3828	28397	94	89	97	89	95	97	96	93
3829	28393	96	91	99	91	91	95	93	93
3830	28402	100	86	100	86	87	92	90	91
3831	28409	97	92	104	92	93	96	95	95
3832	27358	99	88	106	88	88	92	90	92
3833	28425	95	87	97	87	86	93	90	90
3834	Local Check (LC)	99	92	92	92	93	98	96	96
3835	27907	105	92	105	92	90	94	92	95
3836	27923	105	94	104	94	95	98	96	98
3837	27908	90	96	103	96	93	99	96	95
3844	28033	89	79	101	79	78	83	81	82
3845	28032	90	81	100	81	80	82	81	83
3846	IR 64 Sub-1 (RP)		81	104	81	83	84	84	83
<b>Exp. Mean</b>		<b>97</b>	<b>88</b>	<b>103</b>	<b>88</b>	<b>89</b>	<b>93</b>	<b>91</b>	<b>92</b>

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**Table No. 1.20 contd: Days to 50% flowering of entries in AVT1 - IME (Zone -VII), Kharif 2020**

Entry No.	IET NO	ZONE 7													
		AP (1)		TE		TE (2)	TN		KE		KE (2)	KA		KA (2)	Zonal (7)
		MTU	RNR	WGL	Mean	@CBT	@ADT	MNC	PTB	Mean	MND	MGD	Mean	Mean	
3801	28389	92	108	99	104	94	90	92	100	96	103	94	98	98	
3802	28391	95	103	102	102	98	98	97	99	98	103	102	103	100	
3803	28395	90	107	100	104	95	103	94		94	99	98	99	98	
3804	28396	91	107	102	104	94	100	92		92	93	98	96	97	
3805	28401	88	104	97	101	105	93	98		98	104	107	106	100	
3806	28403	86	105	96	100	99	88	91		91	93	92	93	94	
3807	28415	87	104	95	100	91	80	92		92	89	91	90	93	
3808	28387	93	115	106	111	106	103	98	101	100	99	103	101	102	
3809	27695	94	107	104	105	93	85	95	99	97	101	97	99	100	
3810	Gontra Bidhan-3 (NC)		101	91	96		90	91	99	95	100		100	97	
3811	28386	89	105	99	102	94	81	91	100	96	91	88	90	95	
3812	28132	88	102	94	98	105	101	96	100	98	101	102	102	98	
3813	28139	90	99	97	98	104	92	89	99	94	94	92	93	94	
3814	28126	91	102	101	101	99	93		99	99	96	92	94	97	
3815	28410	89	104	98	101	95	93	94	101	98	94	99	96	97	
3816	28388	88	103	95	99	97	86	91	99	95	90	94	92	94	
3817	28433	89	97	94	95	82	83	91	99	95	87	91	89	92	
3818	28416	85	103	102	103	102	101	97	99	98	98	104	101	98	
3819	Zonal Check (ZC)	82	97	89	93	89	81	86	100	93	81	89	85	89	
3820	28143	90	104	97	101	101	94	95	100	98	94	90	92	96	
3821	28138	88	105	98	101	98	92	93	99	96	97	102	99	97	
3822	28133	89	104	96	100	98	90	91	100	95	93	101	97	96	
3823	28145	94	106	101	104	104	98	93	100	97	94	94	94	98	
3824	28136	87	101	90	96	104	96	98	100	99	98	96	97	96	
3825	US 312 (HC)	88	104	97	100	99	90	93	100	97	92	98	95	96	
3826	28128	87	101	95	98	93	80	91	100	96	89	98	93	94	
3827	28421	90	102	101	101	101	91	93	100	96	92	93	92	96	
3828	28397	88	106	96	101	100	89	97	101	99	103	99	101	99	
3829	28393	87	101	94	98	91	81	91	100	96	94	98	96	95	
3830	28402	86	99	90	94	91	81		100	100	89	91	90	92	
3831	28409	83	102	101	102	94	100	91	100	96	92	101	97	96	
3832	27358	90	105	102	104	94	82	88	100	94	85	95	90	95	
3833	28425	88	102	96	99	94	92	91	100	95	89	89	89	94	
3834	Local Check	90	99	91	95	91	95	96	99	98	102	97	100	96	
3835	27907	92	109	103	106	105	99	97	100	98	100	88	94	98	
3836	27923	95	106	103	104	96	92	92	100	96	91	101	96	98	
3837	27908	93	107	104	106	104	91	97	100	99	92	95	94	98	
3838	28010	80	102	90	96	89	83	90	100	95	78	97	87	91	
3839	28008	79	102	89	96	89	83	90	100	95	78	89	83	90	
3840	29201	88	104	91	98	94	83	92	100	96	82	86	84	92	
3841	MTU 1010 (RP)	79	98	91	95	92	86	92	99	96	80	89	85	90	
3842	29202	83	120	93	107	94	100	95	99	97	102	102	102	99	
3843	NLR 34449 (RP)	89	118	93	106	99	95	94	99	97	100	94	97	98	
3844	28033	84	102	93	98	90	93	95	100	97	87	96	91	94	
3845	28032	83	104	93	98	87	87	93	101	97	81	89	85	92	
3846	IR 64 Sub-1 (RP)	83	103	93	98	86	82	96	100	98	82	92	87	93	
<b>Exp. Mean</b>		<b>88</b>	<b>104</b>	<b>97</b>	<b>100</b>	<b>96</b>	<b>91</b>	<b>93</b>	<b>100</b>	<b>96</b>	<b>93</b>	<b>95</b>	<b>94</b>	<b>96</b>	

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**Table No 1.21: Plant Height (cm) of entries in AVT 1 - IME (Zone II & VI), Kharif 2020**

Entry No.	IET NO.	ZONE II			ZONE VI						Overall (5) Mean
		HA	RJ (1)	Zone II (1)	MA (1)	GU			GU (3)	Zone VI ( 4 )	
		@KUL	KTA	Mean	KJT	NVS	NWG	VYR	Mean	Mean	
3801	28389		88.67	88.67	114.00	94.80	88.00	105.30	96.03	100.53	98.15
3802	28391		70.00	70.00	98.00	85.40	75.80	90.20	83.80	87.35	83.88
3803	28395	76.00	105.00	105.00	113.47	118.00	72.40	99.70	96.70	100.89	101.71
3804	28396	79.00	85.33	85.33	94.27	109.40	84.00		96.70	95.89	93.25
3805	28401	77.00	108.00	108.00	108.53	108.20	92.60	107.20	102.67	104.13	104.91
3806	28403	73.00	104.33	104.33	114.80	90.00	89.60	63.10	80.90	89.38	92.37
3807	28415	75.00	109.33	109.33	116.40	103.40	76.40	106.90	95.57	100.78	102.49
3808	28387	71.00	83.67	83.67	113.93	107.60	82.60	93.10	94.43	99.31	96.18
3809	27695	75.00	96.67	96.67	106.73	109.00	93.80	68.20	90.33	94.43	94.88
3810	Gontra Bidhan-3 (NC)		72.67	72.67			93.40		93.40	93.40	83.03
3811	28386	84.00	109.67	109.67	115.87	95.00	93.40	106.00	98.13	102.57	103.99
3812	28132	83.00	112.33	112.33	116.67	97.80	83.20	99.50	93.50	99.29	101.90
3813	28139	91.00	109.33	109.33	124.27	113.00	83.80	113.80	103.53	108.72	108.84
3814	28126	85.00	115.00	115.00	120.67	114.20	91.60	103.80	103.20	107.57	109.05
3815	28410	86.00	101.00	101.00	124.93	110.80	95.00	102.40	102.73	108.28	106.83
3816	28388	102.00	101.33	101.33	121.20	104.60	92.00	111.10	102.57	107.23	106.05
3817	28433	83.00	90.00	90.00	111.40	113.80	84.00	98.80	98.87	102.00	99.60
3818	28416		82.00	82.00	114.60	98.00	80.40	96.60	91.67	97.40	94.32
3819	Zonal Check (ZC)	60.00	110.67	110.67	96.20	83.00	73.80	79.10	78.63	83.03	88.55
3820	28143	78.00	81.00	81.00	123.73	118.00	94.00	120.50	110.83	114.06	107.45
3821	28138	87.00	93.33	93.33	128.93	115.00	98.60	114.80	109.47	114.33	110.13
3822	28133	78.00	90.00	90.00	112.33	117.20	97.40	110.10	108.23	109.26	105.41
3823	28145	77.00	95.00	95.00	116.00	99.00	72.20	100.50	90.57	96.93	96.54
3824	28136	95.00	99.33	99.33	119.93	121.80	82.00	119.70	107.83	110.86	108.55
3825	US 312 (HC)	75.00	83.33	83.33	125.47	98.00	82.80	112.30	97.70	104.64	100.38
3826	28128	82.00	89.00	89.00	112.80	105.40	92.80	105.90	101.37	104.23	101.18
3827	28421	85.00	82.33	82.33	126.87	93.00	94.00	103.10	96.70	104.24	99.86
3828	28397	93.00	100.00	100.00	122.20	118.60	121.80	110.10	116.83	118.18	114.54
3829	28393	73.00	85.00	85.00	104.60	101.00	91.80	112.60	101.80	102.50	99.00
3830	28402		72.00	72.00	90.80	77.20	62.40	85.00	74.87	78.85	77.48
3831	28409	85.00	98.67	98.67	137.40	124.60	106.00	109.30	113.30	119.33	115.19
3832	27358	87.00	101.00	101.00	123.13	129.00	96.40	116.50	113.97	116.26	113.21
3833	28425		97.33	97.33	117.33	110.40	87.60	104.20	100.73	104.88	103.37
3834	Local Check	68.00	118.67	118.67	106.67	108.00	100.40	103.80	104.07	104.72	107.51
3835	27907		87.67	87.67	120.20	121.80	108.60	114.60	115.00	116.30	110.57
3836	27923		83.33	83.33	128.27	123.80	102.20	102.70	109.57	114.24	108.06
3837	27908		75.33	75.33	132.33	122.20	102.80	118.90	114.63	119.06	110.31
<b>Exp. Mean</b>		<b>80.82</b>	<b>95.69</b>	<b>95.69</b>	<b>116.08</b>	<b>107.81</b>	<b>89.79</b>	<b>102.97</b>	<b>99.89</b>	<b>103.77</b>	<b>101.95</b>

## Annual Progress Report 2020 Volume I - Varietal Improvement

**Table No 1.21 contd.: Plant Height (cm) of entries in AVT 1 - IME (Zone III & IV), Kharif 2020**

Entry No.	IET NO.	ZONE III									ZONE IV		Overall (7) Mean
		OD			OD (3)	BI		BI (2)	UP (1)	Zone III (6)	AS (1)	Zone IV (1)	
		CTK	JYP	CHP	Mean	BKG	SBR	Mean	VRN	Mean	TTB	Mean	
3801	28389	89.93	75.00	85.54	83.49	84.67	84.33	84.50	104.33	87.30	89.00	89.00	87.54
3802	28391	67.93	83.73	88.94	80.20	73.00	70.67	71.83	81.07	77.56	78.80	78.80	77.73
3803	28395	96.93	81.87	90.78	89.86	85.00	94.33	89.67	101.93	91.81	97.40	97.40	92.61
3804	28396	97.20	93.87	94.72	95.26	89.00	90.67	89.83	103.60	94.84	94.40	94.40	94.78
3805	28401	86.00	82.73	93.09	87.27	88.33	94.33	91.33	106.20	91.78	100.50	100.50	93.03
3806	28403	89.13	85.93	95.26	90.11	82.67	84.67	83.67	95.53	88.87	94.30	94.30	89.64
3807	28415	97.33	83.47	96.22	92.34	93.67	88.33	91.00	97.93	92.83	98.40	98.40	93.62
3808	28387	89.53	83.80	87.58	86.97	94.33	81.67	88.00	108.87	90.96	77.60	77.60	89.05
3809	27695	98.20	76.73	91.08	88.67	84.00	92.67	88.33	106.27	91.49	83.20	83.20	90.31
3810	Gontra Bidhan-3 (NC)		92.00	85.78	88.89	82.33		82.33		86.70	73.60	73.60	83.43
3811	28386	90.53	83.63	92.02	88.73	99.67	90.33	95.00	104.50	93.45	94.70	94.70	93.63
3812	28132	86.67	87.00	95.52	89.73	85.00	82.33	83.67	103.20	89.95	93.90	93.90	90.52
3813	28139	97.40	87.20	89.92	91.51	95.33	97.00	96.17	109.93	96.13	97.80	97.80	96.37
3814	28126	93.93	82.87	77.82	84.87	106.33	100.00	103.17	111.00	95.33	97.30	97.30	95.61
3815	28410	93.13	91.07	86.62	90.27	97.67	87.67	92.67	116.00	95.36	99.60	99.60	95.97
3816	28388	94.07	73.10	90.88	86.02	100.67	100.67	100.67	106.93	94.39	101.20	101.20	95.36
3817	28433	86.47	84.27	91.68	87.47	91.67	87.67	89.67	95.10	89.48	83.30	83.30	88.59
3818	28416	93.73	85.80	94.36	91.30	87.00	84.67	85.83	91.27	89.47	90.40	90.40	89.60
3819	Zonal Check (ZC)	100.27	92.67	94.88	95.94	98.00	97.00	97.50	105.33	98.03	105.10	105.10	99.04
3820	28143	91.87	92.27	86.06	90.07	94.00	103.33	98.67	107.40	95.82	93.50	93.50	95.49
3821	28138	101.60	83.47	95.58	93.55	100.67	103.00	101.83	112.67	99.50	99.80	99.80	99.54
3822	28133	96.33	82.47	90.30	89.70	109.67	100.33	105.00	109.40	98.08	98.80	98.80	98.19
3823	28145	98.80	98.87	95.50	97.72	89.33	89.67	89.50	105.47	96.27	86.30	86.30	94.85
3824	28136	101.13	84.80	86.82	90.92	106.67	99.00	102.83	112.60	98.50	100.80	100.80	98.83
3825	US 312 (HC)	96.07	84.07	94.40	91.51	92.33	99.00	95.67	105.60	95.25	92.40	92.40	94.84
3826	28128	79.73	91.93	96.32	89.33	96.33	88.33	92.33	104.80	92.91	85.70	85.70	91.88
3827	28421	97.27	90.27	93.32	93.62	89.00	94.33	91.67	109.00	95.53	97.40	97.40	95.80
3828	28397	88.27	88.13	94.34	90.25	104.00	102.33	103.17	119.00	99.35	91.80	91.80	98.27
3829	28393	87.67	79.80	84.28	83.92	97.67	92.67	95.17	110.40	92.08	85.50	85.50	91.14
3830	28402	76.67	86.20	100.52	87.80	81.67	83.67	82.67	89.87	86.43	76.20	76.20	84.97
3831	28409	108.33	88.27	96.80	97.80	97.33	101.67	99.50	111.80	100.70	97.40	97.40	100.23
3832	27358	102.07	81.73	87.10	90.30	100.33	100.00	100.17	111.07	97.05	96.90	96.90	97.03
3833	28425	87.80	86.07	90.96	88.28	94.33	91.67	93.00	103.67	92.42	84.10	84.10	91.23
3834	Local Check (LC)	114.13	86.80	107.12	102.68	103.00	72.00	87.50	82.40	94.24	94.10	94.10	94.22
3835	27907	106.93	85.87	105.46	99.42	106.00	96.67	101.33	115.80	102.79	78.40	78.40	99.30
3836	27923	98.20	95.87	96.60	96.89	106.33	94.67	100.50	114.93	101.10	101.60	101.60	101.17
3837	27908	100.87	87.20	99.28	95.78	102.00	99.33	100.67	118.73	101.24	102.50	102.50	101.42
3847	29203	97.00	89.67	100.67	95.78	107.33	96.00	101.67	108.60	99.88	96.10	96.10	99.34
3848	29204	101.60	84.00	93.86	93.15	106.67	94.67	100.67	103.73	97.42	96.50	96.50	97.29
3849	Naveen (RP)	107.93	73.73	98.28	93.31	114.00	99.33	106.67	113.60	101.15	98.80	98.80	100.81
3850	29205	96.00	78.60	88.58	87.73	96.67	91.33	94.00	96.93	91.35	90.60	90.60	91.25
3851	29206	84.87	77.33	84.76	82.32	102.33	89.67	96.00	93.87	88.80	84.10	84.10	88.13
3852	Robin (DP)	76.80	83.33	85.64	81.92	120.67	101.00	110.83	113.07	96.75	99.80	99.80	97.19
Exp. Mean		93.96	85.29	92.45	90.53	96.20	92.68	94.32	105.32	94.19	92.55	92.55	93.93

**Table No. 1.21 contd.: Plant Height (cm) of entries in AVT 1 - IME (Zone -V), Kharif 2020**

Entry No	IET NO.	ZONE V							
		MP (1)	CH		CH (1)	MA		MA (2)	Zone-V(4)
		JBP	RPR	@JDP	Mean	SKL	SND	Mean	Mean
3801	28389	81.20	106.48	77.67	106.48	98.00	108.13	103.07	98.45
3802	28391	62.80	95.24	82.87	95.24	85.00	77.80	81.40	80.21
3803	28395	81.40	95.81	84.73	95.81	97.00	104.80	100.90	94.75
3804	28396	86.40	97.05	88.47	97.05	100.00	110.07	105.03	98.38
3805	28401	79.00	110.79	80.07	110.79	104.00	104.40	104.20	99.55
3806	28403	78.40	116.33	88.80	116.33	98.00	118.47	108.23	102.80
3807	28415	77.00	105.65	81.73	105.65	107.00	119.53	113.27	102.30
3808	28387	75.60	104.50	82.40	104.50	105.00	122.20	113.60	101.83
3809	27695	73.20	104.84	76.93	104.84	98.00	106.43	102.22	95.62
3810	Gontra Bidhan-3 (NC)	80.80		85.93					80.80
3811	28386	73.00	112.88	83.93	112.88	94.00	136.90	115.45	104.20
3812	28132	88.40	112.08	89.87	112.08	84.00	113.87	98.93	99.59
3813	28139	86.40	108.78	91.67	108.78	86.00	130.20	108.10	102.85
3814	28126	80.40	110.10	89.40	110.10	92.00	115.63	103.82	99.53
3815	28410	85.60	116.79	85.00	116.79	95.00	104.90	99.95	100.57
3816	28388	81.20	120.69	91.53	120.69	102.00	115.73	108.87	104.91
3817	28433	63.00	97.40	89.73	97.40	87.00	105.47	96.23	88.22
3818	28416	75.60	106.83	89.53	106.83	96.00	112.67	104.33	97.78
3819	Zonal Check (ZC)	82.00	97.99	87.27	97.99	92.00	103.43	97.72	93.86
3820	28143	85.60	118.11	79.00	118.11	90.00	107.00	98.50	100.18
3821	28138	90.60	125.95	90.53	125.95	97.00	115.63	106.32	107.30
3822	28133	93.20	116.77	89.40	116.77	96.00	113.00	104.50	104.74
3823	28145	90.20	114.39	82.13	114.39	97.00	112.73	104.87	103.58
3824	28136	95.00	113.44	88.87	113.44	108.00	117.97	112.98	108.60
3825	US 312 (HC)	88.20	117.94	88.53	117.94	76.00	123.27	99.63	101.35
3826	28128	86.40	105.67	92.87	105.67	76.00	108.80	92.40	94.22
3827	28421	82.40	106.43	97.33	106.43	106.00	117.60	111.80	103.11
3828	28397	100.40	123.17	85.27	123.17	118.00	129.43	123.72	117.75
3829	28393	88.20	115.42	78.53	115.42	109.00	112.07	110.53	106.17
3830	28402	65.40	94.58		94.58	87.00	109.57	98.28	89.14
3831	28409	85.60	116.87	83.47	116.87	111.00	120.93	115.97	108.60
3832	27358	96.60	119.16	85.13	119.16	91.00	113.83	102.42	105.15
3833	28425	81.40	111.09	86.07	111.09	116.00	115.20	115.60	105.92
3834	Local Check (LC)	83.60	107.21	90.27	107.21	116.00	119.83	117.92	106.66
3835	27907	82.40	122.59	86.13	122.59	113.00	122.40	117.70	110.10
3836	27923	81.00	115.95	91.93	115.95	103.00	124.83	113.92	106.20
3837	27908	84.60	118.14	87.47	118.14	82.00	112.57	97.28	99.33
3844	28033	63.60	94.86	83.60	94.86	87.00	94.27	90.63	84.93
3845	28032	67.60	105.19	83.00	105.19	111.00	95.40	103.20	94.80
3846	IR 64 Sub-1 (RP)	75.60	108.71	84.53	108.71	101.00	101.57	101.28	96.72
<b>Exp. Mean</b>		<b>81.48</b>	<b>110.05</b>	<b>86.19</b>	<b>110.05</b>	<b>97.72</b>	<b>112.78</b>	<b>105.25</b>	<b>100.02</b>



## Annual Progress Report 2020 Volume I - Varietal Improvement

Table No.1.21 contd.: Plant Height (cm) of entries in AVT 1 - IME (Zone -VII), Kharif 2020

Entry No.	IET NO	ZONE 7												
		AP (1)	TE		TE (2)	TN		KE		KE (2)	KA		KA (2)	Zone VII (7)
		MTU	RNR	WGL	Mean	@CBT	@ADT	MNC	PTB	Mean	MND	MGD	Mean	Mean
3801	28389	124.72	96.33	96.47	96.40	104.87	95.20	102.00	93.83	97.92	88.13	91.70	89.92	99.03
3802	28391	91.43	89.67	76.93	83.30	76.13	85.70	90.20	90.90	90.55	86.93	77.30	82.12	86.20
3803	28395	114.90	102.20	96.60	99.40	90.13	993.60	97.40		97.40	91.47	86.10	88.78	98.11
3804	28396	120.10	98.80	105.33	102.07	96.60	105.40	96.87		96.87	94.53	85.80	90.17	100.24
3805	28401	122.63	96.47	93.73	95.10	96.13	102.90	110.27		110.27	89.93	89.30	89.62	100.39
3806	28403	120.20	99.73	106.67	103.20	85.60	95.70	96.80		96.80	96.40	87.30	91.85	101.18
3807	28415	118.23	98.47	100.20	99.33	91.60	95.30	101.13		101.13	96.20	90.50	93.35	100.79
3808	28387	119.23	95.80	85.47	90.63	92.87	95.40	106.20	94.46	100.33	95.53	86.50	91.02	97.60
3809	27695	116.40	92.00	95.13	93.57	88.27	92.10	114.33	91.93	103.13	101.67	98.80	100.23	101.47
3810	Gontra Bidhan-3 (NC)		89.60	80.60	85.10		93.70	113.00	90.34	101.67	94.67		94.67	93.64
3811	28386	114.27	100.27	99.07	99.67	99.07	105.20	110.00	94.64	102.32	97.20	95.10	96.15	101.51
3812	28132	113.33	100.87	93.73	97.30	92.20	97.60	99.00	92.63	95.82	88.73	93.90	91.32	97.46
3813	28139	117.13	111.47	98.80	105.13	106.87	103.60	109.40	89.96	99.68	88.13	92.40	90.27	101.04
3814	28126	114.50	106.73	85.60	96.17	105.20	110.70		90.03	90.03	90.00	84.30	87.15	95.19
3815	28410	115.47	107.13	104.53	105.83	97.07	105.20	111.73	89.00	100.37	93.20	104.10	98.65	103.60
3816	28388	119.30	104.47	104.53	104.50	105.93	102.30	110.63	90.76	100.70	93.87	105.60	99.73	104.17
3817	28433	113.23	97.07	89.40	93.23	82.87	80.90	104.33	94.60	99.47	84.27	98.70	91.48	97.37
3818	28416	94.37	101.93	95.87	98.90	94.53	90.10	111.00	93.96	102.48	95.67	92.40	94.03	97.88
3819	Zonal Check (ZC)	112.03	98.87	96.00	97.43	90.20	75.40	95.67	100.63	98.15	87.87	95.70	91.78	98.11
3820	28143	123.33	107.47	98.87	103.17	105.07	105.70	115.07	88.06	101.56	98.07	93.90	95.98	103.54
3821	28138	136.80	104.40	95.27	99.83	103.73	95.30	113.33	97.20	105.27	95.33	94.20	94.77	105.22
3822	28133	133.80	104.27	105.00	104.63	93.60	76.40	114.73	91.00	102.87	94.80	92.70	93.75	105.19
3823	28145	115.27	101.07	95.93	98.50	104.60	110.20	108.13	87.33	97.73	89.20	90.40	89.80	98.19
3824	28136	114.77	103.00	114.53	108.77	107.40	120.80	118.27	83.30	100.78	93.07	96.10	94.58	103.29
3825	US 312 (HC)	123.37	101.20	97.33	99.27	88.13	92.80	107.80	95.63	101.72	87.80	83.20	85.50	99.48
3826	28128	107.20	106.27	86.20	96.23	73.53	89.30	104.53	87.90	96.22	94.67	93.40	94.03	97.17
3827	28421	133.63	99.33	100.60	99.97	97.67	104.00	111.60	94.50	103.05	91.80	93.10	92.45	103.51
3828	28397	134.97	110.13	111.53	110.83	101.53	110.70	133.93	90.43	112.18	101.80	105.00	103.40	112.54
3829	28393	113.13	102.53	85.73	94.13	93.80	90.70	92.47	92.43	92.45	81.73	100.20	90.97	95.46
3830	28402	99.60	91.27	94.73	93.00	79.33	82.50		86.33	86.33	85.33	91.80	88.57	91.51
3831	28409	133.93	106.60	110.47	108.53	104.40	97.40	82.33	97.66	90.00	94.60	102.20	98.40	103.97
3832	27358	138.07	119.80	104.93	112.37	102.40	105.60	115.33	87.46	101.40	97.27	92.40	94.83	107.89
3833	28425	125.60	103.40	102.73	103.07	100.23	75.80	106.40	87.86	97.13	91.00	86.00	88.50	100.43
3834	Local Check	114.20	93.53	112.73	103.13	84.13	83.40	109.07	90.26	99.66	96.07	108.60	102.33	103.49
3835	27907	133.10	100.60	117.47	109.03	97.67	96.90	112.73	93.80	103.27	95.80	94.10	94.95	106.80
3836	27923	141.20	105.47	106.73	106.10	105.33	90.20	103.93	94.36	99.15	90.80	98.70	94.75	105.88
3837	27908	143.77	110.33	108.67	109.50	105.40	104.70	125.20	94.30	109.75	98.13	98.60	98.37	111.29
3838	28010	114.90	98.80	96.53	97.67	87.00	90.20	103.80	94.43	99.12	93.67	94.20	93.93	99.48
3839	28008	120.80	97.13	111.13	104.13	104.60	93.70	101.80	93.66	97.73	94.60	103.60	99.10	103.25
3840	29201	92.93	98.20	114.07	106.13	103.93	95.80	111.50	96.20	103.85	93.53	100.90	97.22	101.05
3841	MTU 1010 (RP)	113.67	90.33	96.93	93.63	86.07	77.30	102.00	91.93	96.97	93.80	92.90	93.35	97.37
3842	29202	114.57	83.67	93.80	88.73	72.27	95.80	103.80	90.36	97.08	85.40	80.00	82.70	93.08
3843	NLR 34449 (RP)	94.10	79.00	75.60	77.30	75.07	75.40	86.50	94.63	90.57	83.27	84.70	83.98	85.40
3844	28033	112.27	91.33	81.93	86.63	91.93	112.00	108.40	92.63	100.52	91.80	84.90	88.35	94.75
3845	28032	115.93	91.67	86.00	88.83	76.33	109.90	89.00	89.96	89.48	97.73	86.00	91.87	93.76
3846	IR 64 Sub-1 (RP)	113.93	103.13	105.60	104.37	95.07	85.60	106.00	90.03	98.02	86.20	94.10	90.15	99.86
<b>Exp. Mean</b>		<b>118.23</b>	<b>99.82</b>	<b>98.17</b>	<b>98.99</b>	<b>94.14</b>	<b>115.09</b>	<b>106.08</b>	<b>91.98</b>	<b>99.11</b>	<b>92.43</b>	<b>93.14</b>	<b>92.80</b>	<b>99.95</b>

**Table No.1.22: Panicles/M<sup>2</sup> of entries in AVT 1 - IME (Zone II & VI), Kharif 2020**

Entry No.	IET NO.	ZONE II			ZONE VI						Overall (5)
		HA	RJ (1)	Zone II (1)	MA (1)	GU			GU (3)	Zone VI (4)	
		@KUL	KTA	Mean	KJT	NVS	NWG	VYR	Mean	Mean	Mean
3801	28389		243	243	242	236	272	358	289	277	270
3802	28391		265	265	237	259	273	334	288	275	273
3803	28395	263	283	283	240	202	276	271	250	247	254
3804	28396	280	308	308	216	236	276		256	242	259
3805	28401	242	255	255	253	194	287	286	255	255	255
3806	28403	258	230	230	240	221	277	291	263	257	252
3807	28415	276	338	338	185	266	272	301	280	256	272
3808	28387		262	262	200	269	271	298	279	259	260
3809	27695	266	263	263	180	247	273	300	273	250	253
3810	Contra Bidhan-3 (NC)		192	192			278		278	278	235
3811	28386	289	303	303	220	251	272	322	282	266	274
3812	28132	265	322	322	266	215	274	287	259	260	273
3813	28139	303	283	283	231	239	277	285	267	258	263
3814	28126	285	265	265	253	247	275	266	263	260	261
3815	28410	299	258	258	251	234	270	285	263	260	260
3816	28388	222	277	277	220	230	266	256	251	243	250
3817	28433	293	247	247	249	248	272	308	276	269	265
3818	28416		293	293	238	212	276	324	271	262	269
3819	Zonal Check (ZC)	232	262	262	231	229	274	347	283	270	268
3820	28143	235	292	292	284	244	286	354	295	292	292
3821	28138	309	277	277	231	241	272	287	266	258	261
3822	28133	280	237	237	216	229	272	277	259	248	246
3823	28145	264	213	213	231	243	275	327	282	269	258
3824	28136	271	235	235	257	227	277	271	258	258	253
3825	US 312 (HC)	252	268	268	231	233	275	324	277	266	266
3826	28128	284	317	317	244	209	281	265	252	250	263
3827	28421	277	247	247	271	236	270	279	262	264	260
3828	28397	237	243	243	264	277	273	314	288	282	274
3829	28393	249	277	277	194	234	282	315	277	256	260
3830	28402		270	270	218	216	269	243	242	236	243
3831	28409	249	258	258	279	245	282	314	280	280	276
3832	27358	242	263	263	288	225	281	250	252	261	262
3833	28425		260	260	249	248	264	237	250	249	252
3834	Local Check	286	288	288	282	276	275	268	273	275	278
3835	27907		213	213	222	251	268	330	283	268	257
3836	27923		200	200	213	216	274	296	262	250	240
3837	27908		213	213	249	195	279	259	244	245	239
<b>Exp. Mean</b>		<b>267</b>	<b>263</b>	<b>263</b>	<b>238</b>	<b>235</b>	<b>275</b>	<b>292</b>	<b>267</b>	<b>260</b>	<b>260</b>

## Annual Progress Report 2020 Volume I - Varietal Improvement

Table No.1.22 contd.: Panicles/M<sup>2</sup> of entries in AVT 1 - IME (Zone III&IV), Kharif 2020

Entry No.	IET NO.	ZONE III									ZONE IV			Overall (7)
		OD			OD (3)	BI		BI (2)	UP (1)	Zone III (6)	AS	AS (1)	Zone IV (1)	
		CTK	JYP	CHP	Mean	BKG	SBR	Mean	VRN	Mean	TTB	Mean	Mean	
3801	28389	374	300	210	295	277	245	261	234	273	163	163	163	258
3802	28391	394	264	222	293	250	161	206	250	257	143	143	143	241
3803	28395	304	331	189	274	226	225	225	216	248	158	158	158	235
3804	28396	352	337	266	318	251	202	227	181	265	268	268	268	265
3805	28401	290	291	238	273	253	252	253	186	252	153	153	153	238
3806	28403	339	315	217	290	232	261	247	221	264	162	162	162	250
3807	28415	334	317	208	287	255	233	244	184	255	148	148	148	240
3808	28387	319	325	174	273	262	233	248	225	256	123	123	123	237
3809	27695	339	347	234	307	240	242	241	209	268	147	147	147	251
3810	Gontra Bidhan-3 (NC)		309	228	268	258		258		265	111	111	111	226
3811	28386	312	346	201	287	280	284	282	275	283	173	173	173	267
3812	28132	348	309	198	285	229	240	235	223	258	180	180	180	247
3813	28139	389	309	221	306	262	245	254	214	273	172	172	172	259
3814	28126	350	311	164	275	271	229	250	219	257	152	152	152	242
3815	28410	339	332	190	287	280	211	246	240	265	173	173	173	252
3816	28388	295	295	186	258	266	149	207	133	220	118	118	118	206
3817	28433	315	367	255	312	248	277	262	239	283	133	133	133	262
3818	28416	341	344	226	304	242	221	232	231	268	145	145	145	250
3819	Zonal Check (ZC)	343	361	280	328	255	255	255	262	293	188	188	188	278
3820	28143	321	335	198	285	266	246	256	205	262	180	180	180	250
3821	28138	319	327	190	279	265	253	259	196	258	173	173	173	246
3822	28133	342	357	245	315	259	207	233	247	276	172	172	172	261
3823	28145	361	353	212	308	246	191	219	220	264	187	187	187	253
3824	28136	268	315	213	266	270	225	248	193	247	163	163	163	235
3825	US 312 (HC)	381	306	205	297	261	247	254	209	268	163	163	163	253
3826	28128	317	300	195	270	260	238	249	190	250	150	150	150	236
3827	28421	359	415	253	342	272	220	246	207	288	207	207	207	276
3828	28397	343	331	260	311	230	245	238	267	279	160	160	160	262
3829	28393	334	277	248	287	288	250	269	241	273	143	143	143	255
3830	28402	301	307	190	266	259	293	276	262	269	158	158	158	253
3831	28409	370	322	236	309	287	206	247	210	272	132	132	132	252
3832	27358	310	329	226	288	277	255	266	223	270	210	210	210	261
3833	28425	319	332	238	296	243	235	239	194	260	145	145	145	244
3834	Local Check (LC)	315	366	245	309	268	247	258	262	284	187	187	187	270
3835	27907	306	309	212	275	259	212	235	206	251	177	177	177	240
3836	27923	264	315	216	265	286	230	258	204	253	145	145	145	237
3837	27908	271	427	195	298	260	187	224	157	249	157	157	157	236
3847	29203	359	306	200	288	265	244	255	208	264	187	187	187	253
3848	29204	345	315	230	297	243	255	249	216	267	168	168	168	253
3849	Naveen (RP)	363	322	212	299	264	215	239	338	285	142	142	142	265
3850	29205	376	341	219	312	254	274	264	262	288	160	160	160	270
3851	29206	327	242	249	273	262	233	248	241	259	177	177	177	247
3852	Robin (DP)	233	281	182	232	236	212	224	219	227	165	165	165	218
	Exp. Mean	330	324	218	290	259	233	246	222	264	163	163	163	250

**Table No. 1.22 contd.: Panicles/M<sup>2</sup> of entries in AVT 1 - IME (Zone -V), Kharif 2020**

Entry No	IET NO.	ZONE V							
		MP (1)	CH		CH (1)	MA		MA(2)	Zone-V (4)
		JBP	RPR	@JDP	Mean	SKL	SND	Mean	Mean
3801	28389	273	126	172	126	287	230	258	229
3802	28391	240	165	125	165	234	178	206	204
3803	28395	231	83	157	83	218	214	216	186
3804	28396	196	77	148	77	226	289	257	197
3805	28401	283	100	133	100	189	251	220	206
3806	28403	246	132	181	132	240	191	216	202
3807	28415	235	116	147	116	252	191	222	198
3808	28387	205	124	208	124	145	247	196	180
3809	27695	306	102	175	102	226	270	248	226
3810	Gontra Bidhan-3 (NC)	300		196					300
3811	28386	234	147	228	147	226	199	212	201
3812	28132	178	137	155	137	212	203	208	183
3813	28139	267	118	162	118	212	193	202	197
3814	28126	275	136	180	136	228	177	202	204
3815	28410	197	124	193	124	209	223	216	188
3816	28388	264	140	192	140	204	199	202	202
3817	28433	300	127	116	127	196	288	242	228
3818	28416	226	138	184	138	213	233	223	203
3819	Zonal Check (ZC)	255	115	195	115	178	284	231	208
3820	28143	233	117	161	117	192	220	206	191
3821	28138	218	138	157	138	142	161	152	165
3822	28133	182	123	190	123	210	281	246	199
3823	28145	259	187	219	187	208	265	237	230
3824	28136	171	109	205	109	212	270	241	191
3825	US 312 (HC)	258	180	175	180	151	220	186	202
3826	28128	228	120	168	120	230	238	234	204
3827	28421	205	104	201	104	252	180	216	185
3828	28397	261	124	194	124	239	239	239	216
3829	28393	253	134	159	134	280	242	261	227
3830	28402	288	107	190	107	235	260	248	223
3831	28409	254	130	195	130	164	183	174	183
3832	27358	238	168	168	168	197	279	238	220
3833	28425	253	119	158	119	221	186	203	195
3834	Local Check (LC)	256	127	183	127	180	290	235	213
3835	27907	199	137	178	137	185	195	190	179
3836	27923	188	154	187	154	170	209	190	180
3837	27908	240	135	157	135	177	171	174	181
3844	28033	213	105	173	105	147	267	207	183
3845	28032	231	165	173	165	137	275	206	202
3846	IR 64 Sub-1 (RP)	238	103	182	103	171	226	198	184
<b>Exp. Mean</b>		<b>239</b>	<b>128</b>	<b>176</b>	<b>128</b>	<b>205</b>	<b>229</b>	<b>217</b>	<b>202</b>

**Table No. 1.22 contd.: Panicles/M<sup>2</sup> of entries in AVT 1 - IME (Zone -VII), Kharif 2020**

Entry No.	IET NO	ZONE 7												
		AP (1)	TE		TE (2)	TN		KE		KE (2)	KA		KA (2)	Zone VII (7)
		MTU	RNR	WGL	Mean	@CBT	@ADT	MNC	PTB	Mean	MND	MGD	Mean	Mean
3801	28389	306	536	409	472	335	510	260	350	305	244	303	273	344
3802	28391	320	464	430	447	195	473	304	280	292	251	194	222	321
3803	28395	264	453	433	443	338	483	273		273	242	285	263	325
3804	28396	294	564	419	492	350	513	216		216	249	185	217	321
3805	28401	286	391	411	401	335	480	264		264	229	127	178	285
3806	28403	282	529	473	501	280	478	269		269	236	263	249	342
3807	28415	285	491	446	468	258	383	204		204	220	231	225	313
3808	28387	307	524	426	475	345	513	218	461	339	238	207	222	340
3809	27695	300	480	439	459	487	416	287	362	324	233	295	264	342
3810	Gontra Bidhan-3 (NC)		522	450	486		487	417	456	436	231		231	415
3811	28386	271	511	452	482	330	413	198	333	265	251	188	219	315
3812	28132	317	467	432	449	383	508	218	444	331	242	312	277	347
3813	28139	301	522	438	480	400	516	220	273	246	247	252	249	322
3814	28126	290	553	430	492	367	406		353	353	242	198	220	344
3815	28410	299	469	427	448	378	557	218	456	337	280	319	299	353
3816	28388	257	329	449	389	347	410	190	355	272	256	239	247	296
3817	28433	284	544	433	489	365	378	218	341	280	233	192	213	321
3818	28416	292	480	432	456	363	400	316	340	328	258	203	230	331
3819	Zonal Check (ZC)	293	567	433	500	342	446	311	350	331	264	218	241	348
3820	28143	319	504	430	467	378	522	200	470	335	242	229	235	342
3821	28138	310	478	425	451	197	414	222	276	249	256	239	247	315
3822	28133	295	571	418	495	297	371	267	450	358	296	224	260	360
3823	28145	277	593	435	514	378	508	284	431	358	273	222	247	359
3824	28136	261	418	414	416	298	390	211	328	269	289	199	244	303
3825	US 312 (HC)	338	556	421	488	328	479	258	341	300	320	251	285	355
3826	28128	273	469	428	448	228	480	182	454	318	309	229	269	335
3827	28421	355	573	437	505	380	388	244	236	240	282	208	245	334
3828	28397	296	649	419	534	412	557	269	237	253	280	275	277	346
3829	28393	316	551	430	491	273	363	298	451	374	307	200	253	364
3830	28402	321	447	425	436	392	390		359	359	262	191	226	334
3831	28409	255	513	425	469	400	536	264	317	291	293	238	266	329
3832	27358	317	436	424	430	253	560	209	338	273	309	271	290	329
3833	28425	277	476	430	453	377	478	213	355	284	280	207	243	320
3834	Local Check	308	509	428	468	350	487	369	326	347	311	219	265	353
3835	27907	304	482	428	455	423	463	307	443	375	298	282	290	363
3836	27923	295	460	417	438	355	500	231	437	334	307	263	285	344
3837	27908	292	476	426	451	352	305	162	371	267	253	259	256	320
3838	28010	299	484	435	459	273	389	256	335	295	291	216	254	331
3839	28008	286	513	411	462	195	328	186	350	268	262	159	211	310
3840	29201	303	487	424	455	318	511	260	351	305	258	232	245	330
3841	MTU 1010 (RP)	309	527	438	482	310	378	383	440	411	282	242	262	374
3842	29202	285	527	426	476	252	468	282	350	316	269	324	296	352
3843	NLR 34449 (RP)	276	587	450	518	293	375	302	470	386	273	271	272	376
3844	28033	298	498	444	471	225	414	308	276	292	287	259	273	339
3845	28032	267	556	431	493	298	413	288	450	369	291	243	267	361
3846	IR 64 Sub-1 (RP)	259	471	433	452	432	409	216	431	323	278	169	223	322
<b>Exp. Mean</b>		<b>294</b>	<b>504</b>	<b>431</b>	<b>468</b>	<b>330</b>	<b>449</b>	<b>256</b>	<b>371</b>	<b>309</b>	<b>267</b>	<b>234</b>	<b>251</b>	<b>337</b>

Table No. 1.23: Grain quality characteristics of entries in AVT 1-IME, Kharif 2020

Entry No.	IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
3801	28389	79.1	67.6	45.0	5.82	1.96	2.96	MS	VOC	4.0	23.81	42
3802	28391	80.8	70.4	55.7	5.65	1.97	2.86	MS	VOC	7.0	23.64	22
3803	28395	81.8	71.1	33.5	4.91	1.92	2.55	MS	VOC	4.0	24.05	22
3804	28396	79.6	70.5	63.6	6.60	2.02	3.26	LS	VOC	4.0	26.6	37
3805	28401	80.5	64.1	36.2	6.18	2.03	3.04	LS	VOC	4.0	26.45	45
3806	28403	80.6	66.2	36.2	5.61	1.94	2.91	MS	VOC	4.0	26.61	53
3807	28415	79.6	66.0	19.5	5.46	1.89	2.88	MS	VOC	4.0	26.01	22
3808	28387	78.3	66.2	53.2	7.24	1.83	3.98	LS	VOC	4.0	24.52	61
3809	27695	79.4	65.7	34.6	5.92	2.24	2.64	MS	VOC	4.0	23.99	63
3810	Gontra Bidhan-3	78.9	66.3	56.6	4.89	2.20	2.22	SB	VOC	4.0	25.28	40
3811	28386	79.4	68.4	52.1	5.95	2.00	2.97	MS	A	4.0	23.11	55
3812	28132	81.9	70.0	43.5	6.29	2.25	2.79	LB	VOC	7.0	23.23	45
3813	28139	79.5	65.2	33.3	6.21	2.38	2.6	LB	VOC	4.0	26.75	42
3814	28126	82.6	68.9	34.6	6.25	2.25	2.77	LB	VOC	5.0	24.05	45
3815	28410	80.0	68.9	41.3	6.56	2.09	3.13	LS	VOC	7.0	26.22	22
3816	28388	81.1	73.3	44.2	6.54	2.31	2.83	LB	VOC	4.0	26.72	33
3817	28433	81.0	67.0	13.9	5.27	1.71	3.08	SS	VOC	4.0	24.87	22
3818	28416	79.3	68.2	55.9	6.35	2.09	3.03	LS	VOC	7.0	24.43	37
3819	Zonal Check	78.7	64.7	56.1	5.53	1.91	2.89	MS	VOC	7.0	25.28	40
3820	28413	80.3	69.0	46.1	5.81	2.04	2.84	MS	VOC	4.0	26.40	47
3821	28138	81.5	66.1	39.6	6.17	2.23	2.76	LB	VOC	4.0	24.55	58
3822	28133	82.6	66.4	49.6	5.49	2.10	2.61	MS	VOC	5.0	23.37	50
3823	28145	78.4	64.0	44.5	6.10	2.22	2.74	LB	VOC	5.0	23.78	50
3824	28136	81.7	68.3	44.7	6.55	1.85	3.54	LS	VOC	3.0	23.23	61
3825	US-312 (HC)	81.2	69.1	56.8	5.35	1.85	2.89	MS	VOC	5.0	22.05	53
3826	28128	81.2	70.4	45.6	6.22	2.18	2.85	LB	VOC	4.0	23.23	47
3827	28421	79.8	70.3	62.3	6.97	2.15	3.24	LS	VOC	5.0	28.10	47
3828	28397	78.7	69.4	44.4	6.28	2.11	2.97	LB	A	7.0	25.93	59
3829	28393	78.9	55.2	21.5	5.70	2.32	2.45	SB	OC	4.0	26.04	24
3830	28402	80.0	68.9	57.0	6.70	2.10	3.19	LS	VOC	4.0	26.63	55
3831	28409	81.3	70.2	46.0	6.91	2.10	3.29	LS	VOC	4.0	21.97	22
3832	27358	80.6	72.0	57.3	6.78	2.07	3.27	LS	VOC	5.0	23.02	63
3833	28425	80.0	68.7	47.3	6.52	2.04	3.19	LS	VOC	4.0	23.84	60
3834	Local Check	79.4	66.4	37.5	5.65	2.04	2.76	MS	A	4.0	23.73	67
3835	27907	78.4	63.9	25.1	6.67	1.93	3.45	LS	A	4.0	26.72	56
3836	27923	79.7	69.2	40.3	5.77	2.37	2.43	SB	VOC	5.0	26.54	22
3837	27908	80.5	68.8	40.0	5.48	2.03	2.69	MS	A	4.0	24.58	63
3838	28010	78.2	64.9	26.1	6.36	1.99	3.19	LS	VOC	4.0	23.55	61
3839	28008	78.9	66.3	29.5	6.55	1.89	3.46	LS	VOC	4.0	24.96	56
3840	29201	78.8	64.9	32.3	6.35	2.06	3.08	LS	A	7.0	24.56	48
3841	MTU 1010 (RP)	77.8	66.4	57.0	6.29	1.95	3.22	LS	A	4.0	23.96	63
3842	29202	79.2	62.6	30.7	4.87	1.78	2.73	MS	A	4.0	26.45	47
3843	NLR-34449 (RP)	79.5	63.0	25.3	4.57	1.75	2.61	MS	VOC	4.0	25.54	45
3844	28033 (R)	77.9	63.9	17.7	6.37	2.02	3.15	LS	VOC	4.0	23.61	22
3845	28032	78.1	65.8	27.3	6.45	2.00	3.22	LS	VOC	4.0	25.93	50
3846	IR 64 Sub-1(RP)	78.5	64.1	57.1	6.29	1.99	3.16	LS	VOC	4.0	24.69	59
3847	29203	78.1	68.3	62.0	5.32	2.08	2.55	MS	VOC	5.0	27.48	22
3848	29204	77.4	64.0	59.0	5.36	2.02	2.65	MS	VOC	5.0	26.81	22
3849	Naveen (RP)	78.4	68.1	60.7	5.49	2.05	2.67	MS	VOC	5.0	26.72	42
3850	29205	77.4	66.0	59.7	5.37	1.96	2.73	MS	VOC	4.5	27.92	22
3851	29206	77.9	64.2	57.3	5.38	2.07	2.59	MS	VOC	5.0	28.39	43
3852	Robin (DP)	75.4	64.7	42.0	4.92	2.19	2.24	SB	VOC	6.0	26.72	47

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent ASV: Alkali Spreading Value; AC: Amylose Content (%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

**Table No. 1.24: Composition of entries in Initial Variety Trial -Irrigated Mid Early (IVT-IME), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>1<sup>st</sup> year of testing:</b>				
3901	28331	NWGR 13041	Gurjari / IET 18672	MB
3902	28352	WGL 1191	RP 4092-115-08-5-3 / KMP 150	MS
3903	28353	NLR 3573	IET 21687 / NLR 40024	MS
3904	28357	UPR 3968-1-1-1-1	Pant Dhan 10 / NDR 2065	LS
3905	28374	HTW 30-IR 90257-B-273-1-B-B	CT 9993-5-10-1-M / 2* Sambha Mahsuri	MB
3906	28467	PAU 2K10-23-54-14-52-20-0-4 (RYT 3437)	PAU 201 / PAU 3699-13-2-3-1 // PAU 201	LS
3907	28337	RNR 26128	BPT 5204 / MTU 1081	LS
3908	28342	RP 5507-JBB 689-1	Swarna / IRGC 63248 // Swarna Sub1	LS
3909	28506	CR 3849-2-1-2-1-2	Pooja / IR64 MAS	MS
3910	28381	NLR 3581	IET 21687 / NLR 40024	MS
3911	28378	RCPR 61-IR14L572	IR10L146 / IR10L149	LS
3912	28380	UPR 4130-1-1-1-1	Pant Dhan 10 / CR 2707-185-10-4-1	LS
3913	29211	AD 12132	ADT 39 / Konark	MS
3914	29212	Shuats Dhan-7	IR 7405-297-2-1/IR 71700-247-1-1-5	LS
3915	29213	IR 12N198 (IRTON 118)		LS
3916	29214	OR 2523-6	Khandagiri / IR 72	MS
3917	29215	CB 16687	CB 05804 / ADT 39	MS
3918	29216	HTW 46-IR 16L1833	# WS 2018-STRASA-OYT-RAINFED	MS
3919	29217	Pusa 2090-17-20	Pusa 44 / CB501	MS
3920	29218	R 2223-979-1-394-1	R 1576-1765-1-599-1 / Mahamaya	
3921	29219	RP 6467-IR 143507-26-37-2-4-20-10-B	IR 82809:227 / Swarna / 12 // IR 96321-1447-561-B-1 / Aganni // IR 96321-1447-561-B-1 / Abhaya /// IR 96321-1447-561-B-1 / IRBB 4 // IR 96321-1447-561-B-1 / IRBB 60 / 11 // IR 96321-1447-561-B-1 / Aganni // IR 96321-1447-561-B-1 / Abhaya /// IR 96321-1447-561-B-1 / Rathu Heenathi // IR 96321-1447-561-B-1 / IRBL9	
3922	29220	NPT 14-9	NPT 70 / Pusa Basmati	LS
3923	28369	CR 3847-2-1-1-1	IR 84852-B-12-2 / IET 25345	LS
3924	<b>Gontra Bidhan-3 (NC)</b>			
3925	29221	P.3312	ASD 19 / CO 45	MS
3926	29222	WGL-1261	WGL-14 / JGL 3844	MS
3927	29223	YNPK 7206	YP 3 / YP 9068	LB
3928	29224	BRR 0014	Sita / IRRYC743	LS
3929	29225	CR 2829-39-1-1	Naveen / ARC 10075	LB
3930	29226	NVSR-556	(RP Bio-226 / IRGC 16449) / MTU 1081	MS
3931	29227	KAUM 230-2-1-1	Remya / Reshmi	MB
3932	29228	TRC 2020-4	Tripura Sharat / Hakuchuk 2	LS
3933	29229	KJTR-2010-4	Karjat 7 / Chandashasli	LS
3934	29230	RP 6112-MS-M-43-5-9-11-7-5-3	BPT 5204 Mutant	LS
3935	29231	R-RGY-SM-128	Swarna / MTU 1010-2-39-11 ( B )	
3936	29232	CB 14514	ADT 37 / CB 05501	MS
3937	29233	RNR 28360	Bhadrakali / NSN 20894	LS
3938	28370	NWGR 13087	Dandi / IR 61608-3B-16-2-3	MS

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Entry No.	IET No.	Designation	Cross Combination	GT
3939	28355	IR 73930-31-3-2 CR 3728-1-1	IR 65629-157-3-2-3-2-1/ IR 66160-121-4-1-1-1	LS
3940	28328	UPR 4142-2-1-1-4	Pant Dhan 11 / Pant Dhan 19	LS
3941	29234	RP 6480-RAF 3-GSR- IR-1-DQ136-Y8-Y1		LS
3942	29235	PNPK 7106	PNP 3 / SR	LB
3943	29236	CR 3580-3-1-1-1-1-2	Lalat / N 22	MB
3944	29237	MTU 1282	Ravi 003 / MTU 1156	MS
3945	29238	ORJ 1351 (TP 30600)	IRRI 154 / Mazhan(Red) // IR08N194	LB
3946	<b>PR 113-Northern, Lalat-Eastern and North Eastern, MTU 1010-Central and Southern, Karjat 7-Western-- ZC</b>			
3947	29239	ORR 1808	Nilagiri / ORR 110	MB
3948	29240	CRAC 3998-104-1	Doubled haploid of 27P63	MB
3949	29241	RP Bio 5479-30JF2 RIL	Jalmagna / Swarna	MS
3950	29242	RP 6329 -711-10-5-1-2	MTU1081 / Sinnasivappu	MS
3951	28499	RP 6337-144-9-1-B	JGL 3844 / IET 21510	MS
3952	29243	RCPR 75-IR 93810-17-1-2-3	IR 72022-46-2-3-3-2 / IR09L224	LS
3953	29244	NLR 3618	IET 21687 / NLR 40024	SB
3954	29245	PAU 6707-22-1-2-2 (RYT 3889)	PR 121 / IR 84678-25-5-B	LS
3955	29246	HKR 16-35	HKR 47 / HKR 99-60 // HKR 47	LS
3956	29247	NVSR 2830	Jaya / GR-7	LB
3957	29248	MTU 1342	MTU 1010 / MTU 7029	LS
3958	29249	RP 5596-B-12-1	MTU 1010 / MDU-5	LS
3959	29250	OROI-7-IR 87439-BTN-145-2-1	IR 70215-4-CPA 3-1-3-1 / NCIC RC 158	MS
3960	28371	UPR 3973-3-1-1-1	Pant Dhan 10 / CRMAS 2232-85	LB
3961	29251	HURS 20-1	Sarjoo 52 / HUR 105	
3962	29252	CR 4148-7	N 22 Mutant	MS
3963	29253	JGL 34450	JGL 15230 / RNR 15048	MS
3964	<b>Local Check</b>			



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Table No. 1.25: Grain Yield (kg/ha) of entries in IVT – IME Kharif 2020

Entry No.	IET No.	ZONE II						ZONE III								
		UT		RJ		Zone 2 (1)		ODP			OD (3)					
		@PNT	KTA	Mean		CTK	JYP	CHP	Mean							
3901	28331	47	5382	5382	5382	3417	7180	4770	5122							
3902	28352	183	5472	5472	5472	5989	5	1462	3507	3653						
3903	28353	54	4188	4188	4188	3129		1485	4928	3181						
3904	28357	143	5778	5778	5778	2718		7813	*	5013	5181	6%				
3905	28374	207	5688	5688	5688	3565		7242		4566	5124					
3906	28467	132	4028	4028	4028	4631		1038		3553	3074					
3907	28337	360	3	5319	5319	2563		1921		4888	3124					
3908	28342	140	4722	4722	4722	5097		3245		4770	4371					
3909	28506	99	4097	4097	4097	4761		8505	*	5467	6 *	28%				
3910	28381	99	3733	3733	3733	1982		9406	7 *	4428	5272	8%				
3911	28378	348	4	5083	5083	2116		8121	*	4612	4950					
3912	28380	232	5799	5799	5799	4839		8927	8 *	5092	6286	5 *	29%			
3913	29211	53	4167	4167	4167	1369		8580	10 *	3572	4507					
3914	29212		4458	4458	4458	4305		8877	9 *	4382	5855	10 *	20%			
3915	29213	272	7	5431	5431	4515		6246		3316	4692					
3916	29214	43	4715	4715	4715	3561		5540		5664	5 *	4922				
3917	29215	61	5104	5104	5104	3186		10143	3 *	5691	2 *	6340	4 *	30%		
3918	29216	185	6	6111	6111	6	11%	3370	10571	2 *	4566	6169	7 *	26%		
3919	29217	73	4292	4292	4292	4383		8252	*	2875	5170	6%				
3920	29218	183	5819	5819	5819	9	6%	4518	10598	1 *	4230	6449	3 *	32%		
3921	29219	186	6	6111	6111	6	11%	3491	8230	*	5697	1 *	5806	*	19%	
3922	29220	236	9	4097	4097	1663		1817		3289	2256					
3923	28369	113	4542	4542	4542	4139		1871		5112	3707					
3924	Gontra Bidhan-3 (NC)	61	5069	5069	5069	5033		1574		4138	3582					
3925	29221	139	4785	4785	4785	6964	3 *	1628		4520	4371					
3926	29222	220	5250	5250	5250	4618		5567		3434	4540					
3927	29223	45	4576	4576	4576	5045		1732		4151	3643					
3928	29224	415	2	4861	4861	2666		2867		4447	3327					
3929	29225	75	4104	4104	4104	2300		2766		3520	2862					
3930	29226	146	2	6236	6236	2	13%	5048		4815	3849	4571				
3931	29227	40	5465	5465	5465	2982		5745		3086	3938					
3932	29228	199	6	6146	6146	5	12%	2484		4973	4566	4008				
3933	29229	113	6299	6299	6299	1	15%	3289		7940	*	3684	4971			
3934	29230		5160	5160	5160			7504	*	2382	4943					
3935	29231	43	5111	5111	5111	5148	9	3738		3309	4065					
3936	29232	43	4681	4681	4681	2988		2296		3612	2965					
3937	29233		5188	5188	5188	3011		4711		5388	8 *	4370				
3938	28370	130	5208	5208	5208	2693		1941		4757	3130					
3939	28355	88	4993	4993	4993	2703		5378		3020	3700					
3940	28328	101	4646	4646	4646	4991		4055		4322	4456					
3941	29234	252	8	4778	4778	3760		4390		3658	3936					
3942	29235	166	4979	4979	4979	5116	10	2523		3355	3665					
3943	29236	155	4882	4882	4882	4992		9745	4 *	5671	4 *	6803	1 *	39%		
3944	29237		5410	5410	5410	3428		8221	*	4803	5484	12%				
3945	29238	301	6	5472	5472	7567	1 *	4090		3007	4888					
3946	Zonal Check (ZC)		5181	5181	5181	3580		6439		4638	4886					
3947	29239	234	10	6181	6181	3	12%	2879		9583	6 *	5461	7 *	5974	9 *	22%
3948	29240	172	5611	5611	5611	2458		8102	*	4270	4943					
3949	29241	326	5	4375	4375	4170		2631		2125	2975					
3950	29242	158	5174	5174	5174	2904		4097		3901	3634					
3951	28499	102	5076	5076	5076	2378		2704		4237	3106					
3952	29243	464	1	4299	4299	4449		9681	5 *	5342	9 *	6491	2 *	33%		
3953	29244	53	5063	5063	5063	4095		3742		3954	3930					
3954	29245		4549	4549	4549	5339	7	3283		5283	10 *	4635				
3955	29246		4431	4431	4431	5258	8	2539		5678	3 *	4492				
3956	29247	59	8	5972	5972	8	9%	841		3762	2816	2473				
3957	29248	121	5090	5090	5090	6286	4	2600		3967	4284					
3958	29249		4854	4854	4854	3803		7625	*	2586	4671					
3959	29250	192	4299	4299	4299	7547	2 *	6906		3941	6131	8 *	25%			
3960	28371		4500	4500	4500	5610	6	2400		4914	4308					
3961	29251	118	6153	6153	6153	4	12%	794		2469	2382	1882				
3962	29252	48	5160	5160	5160	2652		1971		3434	2686					
3963	29253	89	5042	5042	5042	3949		3943		4553	4148					
3964	Local Check (LC)	92	5500	5500	5500	3463		6331		4053	4616					
	<b>Exp. Mean</b>	<b>153</b>	<b>5062</b>	<b>5062</b>	<b>5062</b>	<b>3851</b>		<b>5251</b>		<b>4191</b>	<b>4436</b>					
	CD	211.26	1439.51	1439.51	1439.51	1410.14		1043.44		600.07	665.24					
	CV%	68.86	14.23	14.23	14.23	18.32		9.94		7.17	7.5					
	D/S	05-08-2020	31-07-2020			31-07-2020		10-08-2020		28-07-2020						
	D/P	29-08-2020	27-08-2020			28-08-2020		02-09-2020		02-09-2020						
	Local Check Name	Pant Dhan 12	Pratap-1			Naveen		Manaswini		Mandakini						

\* Superior to Best check % Superior over Best Check @ Not included in means

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Table No. 1.25 contd.: Grain Yield (kg/ha) of entries in IVT – IME Kharif 2020

Entry No.	IET No.	ZONE III									
		BI				BI (1)		UP (1)		Zone III (5)	
		@BKG		PTN		Mean		VRN		Mean	
3901	28331	2937		2440		2440		4044		4370	
3902	28352	2183		3320		3320		4173		3690	
3903	28353	2381		2890		2890		4616	10	3410	
3904	28357	3175	8	2930		2930		4119		4519	
3905	28374	2976		4560		4560		4068		4800	8%
3906	28467	2659		5350	*	5350	* 23%	4273		3769	
3907	28337	2262		6040	*	6040	* 39%	3737		3830	
3908	28342	3254	6	3530		3530		4051		4139	
3909	28506	2778		4280		4280		4869	7	5576	8 * 25%
3910	28381	2222		3380		3380		4071		4653	
3911	28378	2421		4010		4010		4069		4586	
3912	28380	2421		6020	*	6020	* 38%	4515		5879	6 * 32%
3913	29211	1071		2550		2550		3130		3840	
3914	29212	992		4390		4390		4069		5205	10 * 17%
3915	29213	2976		4690		4690	8%	3556		4465	
3916	29214	2698		6840	5 *	6840	5 * 57%	4149		5151	* 16%
3917	29215	2659		8150	3 *	8150	3 * 87%	4404		6315	1 * 42%
3918	29216	3056	10	3540		3540		4121		5234	9 * 17%
3919	29217	1508		2011		2011		3869		4278	
3920	29218	2857		5150	*	5150	* 18%	4141		5727	7 * 28%
3921	29219	2817		2640		2640		4069		4825	8%
3922	29220	1190		5620	*	5620	* 29%	3828		3243	
3923	28369	1984		2290		2290		4535		3589	
3924	Gontra Bidhan-3 (NC)	3730	2	4290		4290		5020	4	4011	
3925	29221	1190		3800		3800		3677		4118	
3926	29222	2302		2390		2390		4172		4036	
3927	29223	2579		3190		3190		4899	5	3803	
3928	29224	2024		3050		3050		4047		3415	
3929	29225	2460		1425		1425		4067		2816	
3930	29226	2381		5870	*	5870	* 35%	3808		4678	
3931	29227	1032		2920		2920		4043		3755	
3932	29228	3214	7	4420		4420		3758		4040	
3933	29229	3016		6370	8 *	6370	8 * 46%	3899		5036	* 13%
3934	29230							5535	1 * 10%	5140	* 15%
3935	29231	1984		1341		1341		4505		3608	
3936	29232	2381		2510		2510		4055		3092	
3937	29233	1548		5450	*	5450	* 25%	4626	8.5	4637	
3938	28370	2421		2900		2900		4167		3292	
3939	28355	2222		2320		2320		4045		3493	
3940	28328	3492	4	6450	6 *	6450	6 * 48%	4576		4879	9%
3941	29234	3929	1	5140	*	5140	* 18%	4465		4283	
3942	29235	3651	3	6250	10 *	6250	10 * 43%	5030	3	4455	
3943	29236	3056	10	6410	7 *	6410	7 * 47%	4626	8.5	6289	2 * 41%
3944	29237	2063		1335		1335		3828		4323	
3945	29238	2738		5170	*	5170	* 19%	5101	2	4987	* 12%
3946	Zonal Check (ZC)	2817		2750		2750		4058		4293	
3947	29239	2659		8670	1 *	8670	1 * 99%	4051		6129	4 * 37%
3948	29240	2579		3400		3400		3677		4381	
3949	29241	1587		2760		2760		4058		3149	
3950	29242	2540		4970		4970	14%	4040		3982	
3951	28499	1627		2430		2430		3727		3095	
3952	29243	2579		6360	9 *	6360	9 * 46%	3879		5942	5 * 33%
3953	29244	2341		2310		2310		4105		3641	
3954	29245	1944		5310	*	5310	* 22%	4160		4675	
3955	29246	2738		7160	4 *	7160	4 * 64%	4879	6	5103	* 14%
3956	29247	1944		2580		2580		4057		2811	
3957	29248	2262		2870		2870		4222		3989	
3958	29249	2460		3320		3320		4040		4275	
3959	29250	2778		8240	2 *	8240	2 * 89%	4182		6163	3 * 38%
3960	28371	3373	5	3630		3630		4606		4232	
3961	29251	1349		2370		2370		3173		2238	
3962	29252	3135	9	2570		2570		3394		2804	
3963	29253	2976		4420		4420		3606		4094	
3964	Local Check (LC)	2163		4360		4360		4083		4458	
	<b>Exp. Mean</b>	<b>2456</b>		<b>4129</b>		<b>4129</b>		<b>4163</b>		<b>4324</b>	
	CD	615.94		729.46		729.46		475.01		455.15	
	CV%	12.54		8.84		8.84		5.71		5.27	
	D/S	07-08-2020		06-08-2020				01-08-2020			
	D/P	01-09-2020		28-08-2020				18-08-2020			
	Local Check Name	R. Bhagwati		Rajendra Sweta				HUR-4-3			

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Table No. 1.25 contd.: Grain Yield (kg/ha) of entries in IVT – IME Kharif 2020

Entry No.	IET No.	ZONE IV				ZONE V							
		AS		TR		MP		MP (1)		CH			
		@TTB		@LMB		JBP		Mean		RPR	JDP		
3901	28331	4488	3	4900		2795		2795		4606	4	3262	
3902	28352	2975		1911		3385		3385		4498	5	3294	
3903	28353	3035		4185		2345		2345		4717	3	4388	
3904	28357	2485		3528		5600	5	5600	5	3988		4180	
3905	28374	4020	5	4851		4325		4325		4815	2	4212	
3906	28467	3278		5422		4695	9	4695	9	3686		3073	
3907	28337	2038		2940		4440		4440		4077		3854	
3908	28342	3625		5194		2555		2555		3803		3600	
3909	28506			4942		3370		3370		3907		4538	
3910	28381	2113		1960		3780		3780		3726		4245	
3911	28378	3243		5190		3765		3765		3917		4609	
3912	28380	3150		4630		4555		4555		3166		4993	1
3913	29211	2815		4655						2286		3385	
3914	29212	2780		5630	7	2695		2695		3525		3535	
3915	29213	1620		4402		3675		3675		3831		4049	
3916	29214	1510		5292						3219		4674	
3917	29215	1445		3528						3397		4844	4
3918	29216	2925		5563	8	3895		3895		3552		4876	3
3919	29217			3185		2620		2620		2331		4102	
3920	29218	3845	8	1715		3710		3710		3310		4596	
3921	29219	3888	7	3675		7355	1 *	7355	1 * 26%	3159		3997	
3922	29220	3555		3934		5925	2	5925	2	2701		3548	
3923	28369	2380		6061	2	2145		2145		3947		4616	
3924	Gontra Bidhan-3 (NC)	4785	1	5692	5	2725		2725		4399	6	4036	
3925	29221	1765		5387		5120	6	5120	6	2945		4714	10
3926	29222	2215		2840		2450		2450		3484		4082	
3927	29223	1100		4165		3475		3475		4143		3971	
3928	29224	2515		3833		2475		2475		3661		4460	
3929	29225	1590		4067		2885		2885		3721		4733	9
3930	29226	2965		3626		2515		2515		3239		3079	
3931	29227	1660		4655		2545		2545		3043		3001	
3932	29228	3278		4155		4385		4385				4466	
3933	29229	3703	10	3529		2970		2970				4479	
3934	29230			4126		2600		2600				3900	
3935	29231			1960								4466	
3936	29232	2925		4349		3450		3450		3192		4792	5
3937	29233	2210		5679	6					3011		3171	
3938	28370	2550		3934		3460		3460				4512	
3939	28355	2250		5529	10	2645		2645				3796	
3940	28328	2890		5728	4	3680		3680		3208		4779	7
3941	29234	3998	6	6100	1	4530		4530		4173	10	3971	
3942	29235	3055		4949		4645	10	4645	10	5335	1	3835	
3943	29236	4588	2	4900		3585		3585		4177	9	3385	
3944	29237			3920		4025		4025		3397		3242	
3945	29238	1840		3932		2040		2040		3850		4993	1
3946	Zonal Check (ZC)	4200	4	4753		5815	3	5815	3	2672		4115	
3947	29239	3730	9	3675		4735	8	4735	8	3981		4310	
3948	29240	3000		4447		3435		3435		3684		3099	
3949	29241	2123		3185		3610		3610		2960		3477	
3950	29242	3565		5508		3595		3595		3381		3802	
3951	28499	3145		2791		2045		2045		3171		4779	7
3952	29243	3250		4690		3615		3615		4281	8	3672	
3953	29244	1815		3430		3545		3545				3047	
3954	29245	2530		5378		3955		3955				4108	
3955	29246	3145		4613		5115	7	5115	7			4199	
3956	29247	3240		3392		2270		2270				4512	
3957	29248	2433		3098		4440		4440				3431	
3958	29249	3315		4176		3370		3370		3265		4095	
3959	29250	2830		4951		4490		4490		4376	7	4674	
3960	28371	3673		5545	9	2455		2455				3867	
3961	29251	1525		3205		2985		2985		3003		4538	
3962	29252	1453		2450		4065		4065		3565		4792	5
3963	29253	2598		2462		4035		4035		3995		3867	
3964	Local Check (LC)	2250		5874	3	5625	4	5625	4	3387		4010	
<b>Exp. Mean</b>		<b>2829</b>		<b>4249</b>		<b>3679</b>				<b>3632</b>		<b>4074</b>	
CD		990.64		1818.25		557.21				1153.71		1134.67	
CV%		17.49		21.41		7.57				15.82		13.94	
D/S		10-08-2020			16-07-2020			25-07-2020			30-07-2020		
D/P		05-09-2020			07-08-2020			14-08-2020			22-08-2020		
Local Check Name		Shraboni (TTB-404)		Tripura Nirog		JR 206				IGKV R2		IGKVR 1	

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**Table No. 1.25 contd.: Grain Yield (kg/ha) of entries in IVT – IME Kharif 2020**

Entry No.	IET No.	ZONE V							ZONE VI			
		CH (2)		MA1		MA1(2)		Zone V (5)		MA2 (1)		MA (3)
		Mean		SKL	SND	Mean		Mean		KJT		Mean
3901	28331	3934		4230	4439	4335		3866		4333	4334	
3902	28352	3896		4837	4347	4592		4072		4275	4486	
3903	28353	4553	2 8%	4480	4730	4605		4132		5625	4945 3	
3904	28357	4084		3730	4276	4003		4355		4958	4321	
3905	28374	4514	4 7%	4730	4411	4571		4499	6	4458	4533	
3906	28467	3380		4830	3707	4269		3998		4458	4332	
3907	28337	3966		4830	5987	5409	1 13%	4638	2	3792	4870 9	
3908	28342	3702		4280	4837	4559	10	3815		3917	4345	
3909	28506	4223		4980	4957	4969	8 3	4350		4542	4826	
3910	28381	3986		4234	4141	4188		4025		4042	4139	
3911	28378	4263		4730	3956	4343		4195		3583	4090	
3912	28380	4080		4430	4212	4321		4271		4025	4222	
3913	29211	2836		3930	3651	3791		3313		4542	4041	
3914	29212	3530		4480	4993	4737	6 10	3846		5625	5033 2	
3915	29213	3940		4230	4560	4395		4069		4125	4305	
3916	29214	3947		4838	4063	4451		4199		5875	4925 4	
3917	29215	4121		4980	3594	4287	8	4204		4375	4316	
3918	29216	4214		5080	4190	4635	3	4319		3958	4409	
3919	29217	3217		4430	3480	3955		3393		5917	4609 2 10%	
3920	29218	3953		3692	4574	4133		3976		4000	4089	
3921	29219	3578		3870	5057	4464	5	4688	1 6%	4625	4517	
3922	29220	3125		4080	3722	3901		3995		4042	3948	
3923	28369	4282		4730	4581	4656		4004		5458	4923 5	
3924	Gontra Bidhan-3 (NC)	4218		4630	4979	4805	7 8	4154		4125	4578	
3925	29221	3830		5046	4574	4810	5 6	4480	7	5125	4915 6	
3926	29222	3783		3636	4361	3999		3603		4375	4124	
3927	29223	4057		4980	4531	4756	8 9	4220		4083	4531	
3928	29224	4061		3480	3835	3658		3582		5417	4244 10	
3929	29225	4227		4220	5121	4671	4	4136		4625	4655	
3930	29226	3159		3634	3615	3625		3216		4125	3791	
3931	29227	3022		4936	4048	4492		3515		4250	4411	
3932	29228	4466	8 6%	5034	4148	4591	6	4508	4	4583	4588	
3933	29229	4479	7 6%	4380	3381	3881		3803		3542	3768	
3934	29230	3900		4680	3821	4251		3750		6167	4889 1 15% 7	
3935	29231	4466	8 6%	4830	4226	4528		4507	5	4667	4574	
3936	29232	3992		5130	4666	4898	2 4	4246		4167	4654	
3937	29233	3091		4834	4418	4626		3859		4833	4695	
3938	28370	4512	5 7%	4580	4105	4343		4164		4417	4367	
3939	28355	3796		4280	3935	4108		3664		4292	4169	
3940	28328	3994		3930	4645	4288		4048		4417	4331	
3941	29234	4072		2930	4794	3862		4080		3958	3894	
3942	29235	4585	1 9%	3580	3956	3768		4270		5333	4290	
3943	29236	3781		3830	3352	3591		3666		5458	4213 8	
3944	29237	3320		4180	4837	4509	10	3936		4542	4520	
3945	29238	4422	10	4880	4737	4809	7	4100		5050	4889 8	
3946	Zonal Check (ZC)	3394		2830	4063	3447		3899		4083	3659	
3947	29239	4146		3980	4091	4036		4219		4167	4079	
3948	29240	3392		3080	3494	3287		3358		4000	3525	
3949	29241	3219		3080	4034	3557		3432		4000	3705	
3950	29242	3592		3505	3693	3599		3595		4175	3791	
3951	28499	3975		3430	5859	4645	2 *	3857		3083	4124	
3952	29243	3977		4530	4205	4368		4061		4375	4370	
3953	29244	3047		3735	3949	3842		3569		4583	4089	
3954	29245	4108		4030	4943	4487	9	4259		4208	4394	
3955	29246	4199		4320	4233	4277		4467	8	5033	4529	
3956	29247	4512	5 7%	4580	4055	4318		3854		3875	4170	
3957	29248	3431		5336	4027	4682	1	4309		5167	4843 10	
3958	29249	3680		5071	4148	4610	4	3990		4250	4490	
3959	29250	4525	3 7%	4180	4425	4303		4429	10	5750	4785 4 7%	
3960	28371	3867		4380	4020	4200		3681		5667	4689 5 5%	
3961	29251	3771		2630	3878	3254		3407		4583	3697	
3962	29252	4179		4980	4737	4859	8 5	4428		4042	4586	
3963	29253	3931		4930	5767	5349	3 * 2 11%	4519	3	4708	5135 1 6.90%	
3964	Local Check (LC)	3699		4785	4347	4566		4431	9	5375	4836	
<b>Exp. Mean</b>		<b>3894</b>		<b>4308</b>	<b>4321</b>	<b>4314</b>		<b>4023</b>		<b>4550</b>	<b>4393</b>	
CD		845.53		1195.11	654.55	667.84		447.22		1038.86	529.23	
CV%		10.87		13.88	7.58	7.75		5.56		11.42	6.74	
D/S				28-07-2020	24-07-2020					30-07-2020		
D/P				13-08-2020	26-08-2020					31-08-2020		
Local Check Name				PKV Ganes	PKV Ganes					Karjat -3		

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Table No. 1.25 contd.: Grain Yield (kg/ha) of entries in IVT – IME Kharif 2020

Entry No.	IET No.	ZONE VI							ZONE VII						
		GU			GU (3)		Zone VI(4)		AP(1)		TE				
		NVS	NWG	YVR	Mean		Mean		MTU		RNR	WGL			
3901	28331	3748	3811	4509	4023		4100		3784		6345	4 *	5350		
3902	28352	3903	3381	3958	3747		3879		5152		4863		6584		
3903	28353	5268	3579	4471	4439		4736	5%	3962		5373		5693		
3904	28357	4402	3394	4234	4010		4247		4505		4430		6859		
3905	28374	4519	3916	4580	4338		4368		4106		5394		7956	1	
3906	28467	4800	3594	4388	4261		4310		6239	4 * 18%	3010		4527		
3907	28337	5197	3705	4050	4317		4186		3803		7158	2 *	6310		
3908	28342	4827	2527	4928	4094		4050		4023		4524		5967		
3909	28506	4290	4530	7 * 5170	5 4663		4633		5783	7 10%	4562		6859		
3910	28381	5533	4621	6 * 3897	4684	9	4523		3849		3821		3841		
3911	28378	5720	7 4438	9 * 5406	3 5188	2 12%	4787	7 7%	3909		7473	1 *	4390		
3912	28380	5753	6 4520	8 * 4653	4975	3 8%	4738	10 5%	4517		4854		5487		
3913	29211	4069		3362	4242		3891		4054		4211		2590	5830	
3914	29212	5698	8	3297	5020	8	4672		4910	5 9%	5561	8 5%	3758	6447	
3915	29213	5463		3495	4039		4332		4281		5182		4596	7476	4.5
3916	29214	4522		3235	3624		3794		4314		5383	9	2478	7545	3
3917	29215	5389		4101	3932		4474		4449		3712		3155	6584	
3918	29216	5060		4203	3857		4373		4270		4826		3146	3086	
3919	29217	6009	2	2712	4507		4409		4786	8 6%	3674		2286	3292	
3920	29218	5545		4366	4720	10	4877	4 6%	4658		4030		4081	6241	
3921	29219	5339		2402	4057		3933		4106		4114		5651	9	5898
3922	29220	4285		2254	4022		3520		3651		3924		2485	2469	
3923	28369	5535		2936	5569	2	4680	10	4875	6 8%	5008		4371	6722	
3924	Contra Bidhan-3 (NC)	5788	5	3220	4842		4617		4494		4814		4590	4938	
3925	29221	3620		5062	4 * 4406		4363		4553		6106	5 16%	6963	3 * 7407	6
3926	29222	3992		5307	2 * 4954	10	4751	8	4657		4648		3827	6104	
3927	29223	5073		3216	4384		4224		4189		6671	1 * 26%	2652	4595	
3928	29224	4821		2710	4584		4038		4383		5175		3449	5350	
3929	29225	4771		3322	3944		4012		4166		4685		3583	6310	
3930	29226	5639	9	2785	4575		4333		4281		4242		3757	3978	
3931	29227	3646		3497	4257		3800		3913		3924		5748	8	4664
3932	29228	3849		3094	4289		3744		3954		3948		4590	4390	
3933	29229	3605		2828	3539		3324		3379		5801	6 10%	5918	6 * 5761	
3934	29230			3685			3685		4926	4 10%			2449		
3935	29231	3163		2580	3761		3168		3543		3725		3717	5487	
3936	29232	4127		3724	4459		4103		4119		3958		3975	3841	
3937	29233	3416		5179	3 * 5702	1	4766	7	4783	9 6%	3768		5264	5830	
3938	28370	3611		5336	1 * 3556		4168		4230		3780		4898	5967	
3939	28355	3940		3877	5037	7	4285		4287		4121		3643	7064	8
3940	28328	3553		3811	4057		3807		3960		3645		3360	4047	
3941	29234	4739		2025	4844		3869		3892		3370		2201	3361	
3942	29235	5538		3918	5010	9	4822	6	4950	3 10%	6595	2 * 25%	5407	6996	9.5
3943	29236	5875	4	4717	5 * 5086	6	5226	1 13%	5284	1 * 18%	3556		3994	6927	
3944	29237	3407		2952	3459		3273		3590		3808		1924	5898	
3945	29238	5306		4085	4386		4592		4707				3160	5761	
3946	Zonal Check (ZC)	3795		2910	2673		3126		3365		3864		4014	6379	
3947	29239	5196		3417	4054		4222		4209				5089	3224	
3948	29240	5022		3659	4393		4358		4269				2618	6996	9.5
3949	29241	5985	3	3010	3920		4305		4229				2636	6790	
3950	29242	4910		3193	4513		4205		4198		3682		3546	3292	
3951	28499	4048		3523	4129		3900		3696		4106		3727	4321	
3952	29243	6402	1	3595	3674		4557		4512		3833		5467	10	4047
3953	29244	4743		2733	4827		4101		4222		3861		3233	5213	
3954	29245	5554	10	2485	4937		4325		4296		5313	10	2537	5075	
3955	29246	4645		1515	4677		3612		3968		4598		5818	7	6516
3956	29247	4670		1920	4892		3827		3839		3773		2618	4390	
3957	29248	4944		3215	4287		4149		4403		6393	3 * 21%	4071	7133	7
3958	29249	4834		3863	3881		4193		4207		3955		3629	7476	4.5
3959	29250	5243		4013	5289	4	4848	5 5%	5074	2 13%	4836		4905	6584	
3960	28371	4160		3021	3650		3610		4125		4120		5173	5830	
3961	29251	4617		1910	3329		3285		3610		3602		3105	3978	
3962	29252	4285		3461	3906		3884		3924				4208	5075	
3963	29253	4360		4237	4117		4238		4356				5981	5 * 7750	2
3964	Local Check (LC)	5004		3474	3191		3890		4261		5280		4823	6722	
<b>Exp. Mean</b>		<b>4742</b>	<b>3476</b>	<b>4338</b>	<b>4177</b>		<b>4280</b>		<b>4470</b>		<b>4167</b>		<b>5601</b>		
CD		1105.61	923.91	1220.6	658.04		599.94		893.01		1051		1272		
CV%		11.66	13.3	14.08	7.88		7.01		9.97		12.62		11.36		
D/S		25-07-2020	31-07-2020	29-07-2020						27-07-2020	21-07-2020		24-07-2020		
D/P		27-08-2020	10-09-2020	19-08-2020						29-08-2020	01-09-2020		23-08-2020		
Local Check Name		GNR-3	Mahisagar	GR-7						MTU 1121	Krishna		RNR-15048		

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Table No.1.25 contd.: Grain Yield (kg/ha) of entries in IVT – IME Kharif 2020

Entry No.	IET No.	ZONE VII																
		TE (2)		TA			TA (2)			KE			KA (1)		Zone VII (8)		Overall (23)	
		Mean		ADT	CBT	Mean	MNC	PTB	Mean	MND	Mean	Mean						
3901	28331	5848	9	4167	6709	5438	5153	5694	5424	5368	5321	4589						
3902	28352	5724		5917	7034	6476	3875	6101	4988	5660	5648	4565						
3903	28353	5533		6667	7980	7324	7208	4	4428	5818	4951	5783	9	4657				
3904	28357	5645		5667	7482	6575	3806	4879	4343	5389	5377	4789						
3905	28374	6675	4	16%	4833	6547	5690	6639	5578	6109	7	7%	5663	5840	7	5060	6	
3906	28467	5769		5167	6045	5606	6167	4651	5409	3604	4926	4327						
3907	28337	6734	3	17%	2917	7564	5241	6944	8	3750	5347	5184	5454	4697				
3908	28342	5246		7083	10	5658	6371	5417	3939	4678	5833	5306	4484					
3909	28506	5711		7833	4	6846	7340	9	6958	7	4494	5726	7014	1	6294	3	5331	1
3910	28381	3831		4833	7347	6090	5528	6461	3	5995	9	4684	5046	4591				
3911	28378	5932	8	3917	6061	4989	5236	6400	4	5818	5882	5409	4844					
3912	28380	5171		6333	4960	5647	5042	6206	10	5624	3476	5109	5060	6				
3913	29211	4210		6667	9348	8	8008	4	7792	1	3601	5697	4410	5556	4422			
3914	29212	5103		5500	6550	6025	6972	6	4279	5626	5285	5544	4944					
3915	29213	6036	7	4167	5690	4929	4319	5910	5115	5451	5349	4696						
3916	29214	5012		8833	1*	3723	6278	6333	6258	7	6296	4	10%	4972	5691	5002	10	
3917	29215	4870		3833	4584	4209	6347	4717	5532	5444	4797	4985						
3918	29216	3116		4583	9561	6	7072	5694	4594	5144	5448	5117	4865					
3919	29217	2789		4833	6048	5441	4208	6386	5	5297	5215	4493	4249					
3920	29218	5161		5450	6633	6042	5625	5122	5374	6146	5	5416	5056	8				
3921	29219	5775		4667	9881	3	7274	3903	4344	4124	4007	5308	4894					
3922	29220	2477		4833	5233	5033	6333	3660	4997	3941	4110	3816						
3923	28369	5547		6917	6085	6501	5875	4582	5229	5521	5635	4656						
3924	Gontra Bidhan-3 (NC)	4764		6833	5756	6295	6694	3326	5010	6854	2	5476	4681					
3925	29221	7185	1*	24%	7167	9	6514	6841	5139	5922	5531	6427	4	6456	1	5114	4	
3926	29222	4966		5917	5842	5880	4444	4684	4564	4903	5046	4454						
3927	29223	3624		7333	6	7063	7198	7069	5	5715	6392	3	11%	4493	5699	4654		
3928	29224	4400			6233	6233	4944	6257	8	5601	5705	5302	4295					
3929	29225	4947		4667	4068	4368	6208	6225	9	6217	5	8%	6045	6	5224	4231		
3930	29226	3868		4500	4819	4660	3750	4400	4075	5201	4331	4238						
3931	29227	5206		7750	5	7736	7743	5	6347	5653	6000	8	5764	5948	6	4567		
3932	29228	4490		4500	6088	5294	4292	3315	3804	4823	4493	4370						
3933	29229	5840	10	5167	6684	5926	4125	4611	4368	5028	5387	4695						
3934	29230	2449			7114	7114	6486	4512	5499	5580	5228	4772						
3935	29231	4602		8333	3	6790	7562	7	6181	5160	5671	4547						
3936	29232	3908		5167	9974	1	7571	6	6764	9	4459	5612	5670	5476	4420			
3937	29233	5547		4333	6144	5239	6681	5224	5953	10	5399	5330	4799					
3938	28370	5433		7250	7	5912	6581	6514	6356	6	6435	2	12%	5326	5750	10	4602	
3939	28355	5354		7011	3875	5042	5122	4459	5125	5125	5125	4292						
3940	28328	3704		5333	5486	5410	5472	5328	5400	4497	4646	4447						
3941	29234	2781		4083	5094	4589	4097	4835	4466	4472	3939	4073						
3942	29235	6202	5	7%	6083	5688	5886	5875	4286	5081	5569	5812	8	4996				
3943	29236	5461		3833	5662	4748	5441	4461	4995	5441	4925	5008	9					
3944	29237	3911		8417	2	8716	8567	1	6%	4944	4389	4667	5663	5470	4558			
3945	29238	4461		4833	7017	5925	7347	3	4872	6110	6	7%	6028	7	5574	4943		
3946	Zonal Check (ZC)	5197		4083	9022	9	6553	3014	6678	1	4846	4698	5219	4407				
3947	29239	4157		4833	9860	4	7347	8	5764	5028	5396	5688	5641	5193	3			
3948	29240	4807		5500	5722	5611	4875	3458	4167	4785	4851	4334						
3949	29241	4713		4583	8018	6301	4319	5220	4770	4049	5088	4082						
3950	29242	3419		4500	6943	5722	6083	5618	5851	5115	4847	4288						
3951	28499	4024		6667	6292	6480		4835	4835	5330	5040	4086						
3952	29243	4757		4917	5702	5310	5083	4340	4712	5073	4808	4818						
3953	29244	4223		5250	6176	5713	6388	3744	5066	3500	4671	4173						
3954	29245	3806		4333	5116	4725	6736	10	6500	2	6618	1*	15%	3830	4930	4617		
3955	29246	6167	6	7%	4917	6037	5477	5028	6111	5570	4720	5468	4883					
3956	29247	3504		4917	9746	5	7332	10	6111	5239	5675	4712	5188	4196				
3957	29248	5602		6667	9889	2	8278	2	5729	3063	4396	5941	9	6111	5	4944		
3958	29249	5553		5583	6633	6108	4778	5433	5106	5250	5342	4597						
3959	29250	5745		5667	5255	5461	5776	4789	5283	5917	10	5466	5273	2				
3960	28371	5502		5500	7063	6282	7444	2	3157	5301	5691	5497	4584					
3961	29251	3542		4667	5449	5058	4049	4767	4408	4545	4270	3608						
3962	29252	4642		3917	9455	7	6686	5208	5083	5146	5205	5450	4326					
3963	29253	6866	2*	19%	6833	5870	6352	5667	4428	5048	6694	3	6175	4	4943			
3964	Local Check (LC)	5773		7250	7	8943	10	8097	3	6694	4778	5736	5979	8	6309	2	5107	5
<b>Exp. Mean</b>		<b>4859</b>		<b>5536</b>	<b>6753</b>	<b>6174</b>	<b>5602</b>	<b>4958</b>	<b>5274</b>	<b>5227</b>	<b>5299</b>	<b>4622</b>						
CD		962.59		1464.94	1358.59	961.14	1400.77	502.84	770.83	907.48	444.18	262.72						
CV%		9.91		13.23	10.07	7.79	12.51	5.07	7.31	8.69	4.19	2.84						
DS				06-09-2020	29-07-2020		24-09-2020	24-08-2020										
D/P				05-10-2020	21-08-2020		12-10-2020	30-09-2020										
Local Check Name				TKM 13	CO 47		Uma (MO 16)	Jyothi										

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Entry No.	IET No.	ZONE II			ODP			OD (3)			ZONE III			ZONE IV	
		UT	RJ	Zone II (1)	CTK	JYP	CHP	Mean	BI		BI (1)	UP (1)	Zone III (5)	AS	TR
		@PNT	KTA	Mean					@BKG	PTN	Mean	VRN	Mean	@TTB	@LMB
3901	28331	105	101	101	81	99	101	93	86	80	80	76	87	88	79
3902	28352	90	103	103	89	94	104	96	90	88	88	77	90	102	77
3903	28353	101	104	104	93	92	112	99	95	88	88	78	93	107	79
3904	28357	95	99	99	90	100	112	101	85	84	84	72	91	97	77
3905	28374	96	104	104	84	102	113	99	91	83	83	75	91	100	77
3906	28467	93	105	105	95	99	125	106	94	85	85	83	97	102	78
3907	28337	88	103	103	89	91	114	98	86	79	79	76	90	91	67
3908	28342	95	101	101	89	107	114	103	92	86	86	73	94	92	73
3909	28506	101	107	107	95	101	117	104	94	97	97	77	97		87
3910	28381	97	101	101	91	98	113	100	86	88	88	78	93	100	81
3911	28378	96	101	101	83	92	113	96	87	79	79	68	87	90	78
3912	28380	90	101	101	84	90	114	96	87	79	79	69	87	97	76
3913	29211	109	103	103	105	106	114	108	119	102	102	83	102	86	92
3914	29212		106	106	100	107	114	107	90	97	97	80	99	109	88
3915	29213	94	102	102	83	98	114	98	87	83	83	71	90	104	79
3916	29214	111	101	101	96	118	123	112	95	91	91	83	102	107	90
3917	29215	104	104	104	92	96	117	101	94	83	83	80	93	110	89
3918	29216	94	99	99	95	98	108	100	92	87	87	74	92	92	78
3919	29217	97	107	107	96	102	111	103	95	101	101	88	99		91
3920	29218	93	101	101	83	95	107	95	82	81	81	76	88	91	77
3921	29219	92	96	96	82	98	100	93	86	80	80	73	86	93	77
3922	29220	92	101	101	95	117	108	107	94	83	83	79	96	101	86
3923	28369	98	98	98	100	97	123	107	93	95	95	81	99	111	89
3924	Gontra Bidhan-3 (NC)	92	101	101	85	115	108	103	80	83	83	71	92	92	75
3925	29221	110	98	98	103	95	114	104	94	97	97	84	98	111	91
3926	29222	104	102	102	93	97	117	102	95	95	95	86	98	99	83
3927	29223	99	101	101	95	103	125	107	92	93	93	88	100	104	83
3928	29224	102	103	103	96	97	115	103	94	91	91	80	96	106	84
3929	29225	101	100	100	95	97	114	102	91	92	92	78	95	107	84
3930	29226	95	95	95	86	94	114	98	80	79	79	75	89	111	73
3931	29227	114	100	100	100	122	113	111	116	101	101	71	101	114	89
3932	29228	93	101	101	93	96	114	101	80	82	82	67	90	93	71
3933	29229	89	89	89	84	94	100	93	81	73	73	89	88	88	83
3934	29230		99	99		92	113	102				80	95		88
3935	29231	116	100	100	98	98	130	108	96	105	105	77	101		86
3936	29232	100	101	101	87	105	126	106	92	88	88	75	96	98	78
3937	29233		102	102	96	103	126	108	115	92	92	82	100	107	84
3938	28370	97	99	99	95	100	122	106	86	91	91	77	97	109	86
3939	28355	99	103	103	88	97	118	101	90	79	79	76	91	104	86
3940	28328	100	101	101	89	102	117	102	85	88	88	74	94	100	85
3941	29234	91	101	101	82	90	115	95	81	81	81	72	88	89	81
3942	29235	96	102	102	92	102	126	106	81	82	82	76	95	106	74
3943	29236	102	100	100	91	96	111	99	85	88	88	82	93	92	79
3944	29237		101	101	97	100	126	107	116	108	108	86	103		92
3945	29238	108	103	103	95	97	118	103	86	93	93	82	97	103	86
3946	Zonal Check (ZC)		101	101	87	90	112	96	85	86	86	77	90	99	76
3947	29239	95	96	96	84	92	111	96	87	86	86	83	91	93	75
3948	29240	95	102	102	95	98	113	102	85	87	87	76	93	103	77
3949	29241	97	103	103	92	97	107	99	81	82	82	70	89	106	81
3950	29242	95	101	101	91	94	117	101	80	82	82	76	92	107	77
3951	28499	110	105	105	94	115	130	113	95	88	88	80	101	83	82
3952	29243	93	105	105	82	89	104	92	80	84	84	85	89	91	68
3953	29244	116	101	101	93	102	117	104	82	93	93	79	96	93	81
3954	29245		101	101	92	107	112	104	95	94	94	86	98	103	85
3955	29246		100	100	86	107	115	103	94	91	91	81	96	102	80
3956	29247	113	94	94	90	94	112	99	93	91	91	79	93	92	80
3957	29248	100	99	99	97	105	108	103	94	97	97	82	98	109	84
3958	29249		100	100	83	107	111	100	86	85	85	73	92	93	72
3959	29250	94	97	97	96	94	109	100	85	85	85	86	94	103	78
3960	28371		99	99	90	105	109	101	90	80	80	77	92	93	74
3961	29251	100	92	92	99	97	117	104	91	88	88	78	96	108	85
3962	29252	98	103	103	84	99	118	100	86	84	84	77	92	93	78
3963	29253	106	102	102	91	98	107	98	87	89	89	75	92	107	78
3964	Local Check (LC)	91	100	100	95	93	96	94	83	101	101	86	94	104	99
	Exp. Mean	99	101	101	91	99	114	101	90	88	88	78	94	100	81

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Table No. 1.26 contd.: Days to 50% Flowering of entries in IVT – IME Kharif 2020

Entry No.	IET No.	ZONE V								ZONE VI						
		MP (1)		CH		MA1		MA1(2)	Zone V (5)	MA2 (1)	MA (3)	GU			GU (3)	Zone VI (4)
		JBP	RPR	JDP	Mean	SKL	SND	Mean	Mean	KJT	Mean	NVS	NWG	VYR	Mean	Mean
3901	28331	104	85	110	97	84	87	85	94	86	86	85	87	85	85	86
3902	28352	102	89	110	100	81	91	86	95	88	86	90	90	86	88	88
3903	28353	106	90	100	95	89	93	91	96	92	91	89	98	90	92	92
3904	28357	102	84	108	96	79	90	84	93	89	86	86	96	83	88	88
3905	28374	101	86	105	96	84	93	88	94	90	89	86	93	86	88	89
3906	28467	105	90	118	105	90	96	93	100	90	92	93	101	92	95	94
3907	28337	99	83	94	89	78	85	82	88	82	82	84	81	81	82	82
3908	28342	105	88	101	95	84	91	87	94	84	86	89	90	87	89	87
3909	28506	105	92	99	96	89	98	93	97	92	93	90	96	91	92	92
3910	28381	104	87	101	95	84	101	92	96	89	91	88	99	84	90	90
3911	28378	101	83	97	90	80	87	83	89	84	83	85	85	80	83	83
3912	28380	101	82	90	86	81	88	84	88	85	85	85	83	82	83	84
3913	29211		100	121	110	96	102	99	105	97	98	100	80	102	94	95
3914	29212	107	97	107	103	93	106	99	102	94	97	90	104	94	96	95
3915	29213	102	81	107	95	82	89	85	92	83	85	87	122	85	98	94
3916	29214		100	94	97	94	110	102	99	92	98	97	103	100	100	98
3917	29215		93	96	95	89	108	98	97	84	93	90	87	94	90	88
3918	29216	100	88	101	94	83	101	92	95	85	90	87	85	86	86	85
3919	29217	105	94	122	108	91	103	97	103	116	103	96	105	94	98	102
3920	29218	104	86	102	95	88	94	91	95	82	88	85	88	84	85	84
3921	29219	98	82	94	89	83	81	82	88	88	84	87	90	86	87	87
3922	29220	107	91	97	93	88	93	91	95	81	87	90	87	88	88	86
3923	28369	105	93	102	98	89	100	94	98	97	95	95	102	89	95	95
3924	Gontra Bidhan-3 (NC)	116	85	102	94	88	86	87	95	84	86	87	83	87	85	85
3925	29221	104	107	103	105	94	117	105	105	97	102	95	104	104	101	100
3926	29222	116	94	105	99	93	98	96	101	95	95	95	102	91	96	95
3927	29223	108	88	93	91	87	95	91	94	94	92	91	100	90	93	93
3928	29224	107	92	113	103	90	103	96	101	98	97	95	104	93	97	97
3929	29225	106	86	100	94	88	94	91	95	94	92	95	103	86	94	94
3930	29226	99	84	100	92	83	88	85	91	87	86	87	90	83	86	86
3931	29227	117	98	103	101	95	105	100	104	114	104	101	109	104	104	107
3932	29228	101		109	109	83	100	92	98	81	88	90	92	86	89	87
3933	29229	96		103	103	78	81	80	90	77	79	83	83	82	82	81
3934	29230	117		102	102	90		90	103	114	102		98		98	106
3935	29231			102	102	94	95	94	97	101	96	100	109	99	102	102
3936	29232	119	85	99	93	88	93	90	97	90	90	92	106	90	96	94
3937	29233		99	99	100	95	105	100	100	93	97	95	106	95	98	97
3938	28370	119		97	97	87	89	88	98	94	90	92	90	89	90	91
3939	28355	105		89	89	90	93	91	94	93	92	93	91	86	90	90
3940	28328	103	85	103	95	86	89	88	94	94	90	90	106	88	94	94
3941	29234	99	77	95	86	78	82	80	86	79	79	86	87	84	85	84
3942	29235	103	86	104	96	88	88	88	94	78	84	92	95	87	91	88
3943	29236	107	85	109	98	89	91	90	96	93	91	92	90	89	90	91
3944	29237	119	100	99	100	96	114	105	106	97	102	106	112	101	106	104
3945	29238	106	94	102	99	89	94	91	97	90	91	97	103	90	97	95
3946	Zonal Check (ZC)	102	78	98	89	80	88	84	89	88	85	85	81	82	82	84
3947	29239	103	84	105	95	88	96	92	95	87	90	87	86	87	86	86
3948	29240	103	87	101	94	86	100	93	95	86	90	95	90	86	90	89
3949	29241	104	85	107	97	86	93	89	95	92	90	92	99	86	92	92
3950	29242	105	84	91	88	90	97	93	94	82	90	90	99	87	92	89
3951	28499	108	94	102	98	96	104	100	101	95	98	90	110	91	97	96
3952	29243	99	83	95	89	79	93	86	89	80	84	86	84	81	83	83
3953	29244	106		97	97	91	93	92	97	90	91	89	104	90	94	93
3954	29245	108		99	99	95	95	95	99	92	94	95	107	94	98	97
3955	29246	107		94	94	91	96	93	97	95	94	90	101	90	93	94
3956	29247	106		108	108	88	89	88	97	84	87	87	101	89	92	90
3957	29248	119		94	94	89	101	95	100	97	95	93	106	92	97	97
3958	29249	107	86	96	92	82	92	87	93	82	85	86	99	87	90	88
3959	29250	102	92	102	97	84	92	88	94	92	89	90	99	86	91	91
3960	28371	106		94	94	87	93	90	95	82	87	86	91	84	87	85
3961	29251	101	93	94	94	90	97	93	95	51	79	90	101	89	93	83
3962	29252	102	86	106	96	88	87	87	94	92	89	86	99	89	91	91
3963	29253	105	84	108	97	84	91	88	95	81	85	88	104	90	94	90
3964	Local Check (LC)	95	85	94	90	89	104	96	94	90	94	87	91	83	87	87
	Exp. Mean	105	89	101	96	87	95	91	96	89	90	90	96	89	92	91



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Entry No.	IET No.	ZONE VII																			
		AP (1)		TE		TE (2)		TA		TA (2)		KE		KE (2)		KA (1)		Zone VII (8)		Overall (23)	
		MTU	RNR	WGL	Mean	ADT	CBT	Mean	MNC	PTB	Mean	MND	Mean	MND	Mean	Mean	Mean				
3901	28331	91	99	80	89	98	92	95	91	87	89	98	92	92	92	92	92	92	92	90	
3902	28352	99	104	91	98	91	100	95	90	93	92	96	95	95	95	95	95	95	93	93	
3903	28353	94	103	87	95	110	98	104	93	93	93	101	97	97	97	97	97	95	95	95	
3904	28357	95	103	90	97	96	98	97	90	95	92	94	95	94	94	94	94	94	94	93	
3905	28374	99	105	96	100	106	91	98	90	95	92	94	97	97	97	97	97	97	94	94	
3906	28467	95	117	96	107	104	103	104	95	93	94	105	101	101	101	101	101	99	99	99	
3907	28337	89	99	86	93	109	97	103	90	91	90	92	94	94	94	94	94	90	90	90	
3908	28342	90	120	87	104	99	94	96	92	91	92	101	97	97	97	97	97	94	94	94	
3909	28506	95	126	96	111	113	93	103	93	93	93	101	101	101	101	101	101	98	98	98	
3910	28381	95	106	87	97	115	87	101	90	94	92	88	95	95	95	95	95	94	94	94	
3911	28378	92	102	85	93	113	89	101	88	95	91	92	94	94	94	94	94	90	90	90	
3912	28380	96	104	87	95	114	92	103	91	93	92	117	99	99	99	99	99	91	91	91	
3913	29211	106	125	100	112	106	110	108	98	96	97	102	105	105	105	105	105	102	102	102	
3914	29212	106	123	97	110	96	106	101	93	96	94	98	102	102	102	102	102	100	100	100	
3915	29213	99	107	88	98	94	97	95	86	98	92	97	96	96	96	96	96	94	94	94	
3916	29214	103	125	102	113	101	105	103	95	93	94	102	103	103	103	103	103	101	101	101	
3917	29215	97	114	92	103	97	99	98	94	92	93	99	98	98	98	98	98	95	95	95	
3918	29216	108	105	92	99	112	91	101	90	93	92	94	98	98	98	98	98	94	94	94	
3919	29217	96	129	105	117	103	103	103	94	93	93	101	103	103	103	103	103	102	102	102	
3920	29218	93	103	84	93	94	97	95	92	95	93	96	94	94	94	94	94	92	92	92	
3921	29219	90	104	86	95	106	93	99	90	96	93	94	95	95	95	95	95	90	90	90	
3922	29220	94	112	88	100	100	96	98	94	94	94	98	97	97	97	97	97	95	95	95	
3923	28369	98	104	89	96	106	98	102	95	91	93	103	98	98	98	98	98	98	98	98	
3924	Gontra Bidhan-3 (NC)	87	104	88	96	94	108	101	92	93	92	97	95	95	95	95	95	93	93	93	
3925	29221	104	108	104	106	103	104	103	98	94	96	101	102	102	102	102	102	101	101	101	
3926	29222	95	106	94	100	100	105	102	97	93	95	102	99	99	99	99	99	99	99	99	
3927	29223	94	108	94	101	106	104	105	91	95	93	101	99	99	99	99	99	97	97	97	
3928	29224	97	124	97	110	100	100	100	93	95	94	101	101	101	101	101	101	99	99	99	
3929	29225	95	109	98	103	98	100	99	94	95	95	102	99	99	99	99	99	96	96	96	
3930	29226	93	104	87	95	103	94	98	90	93	91	91	94	94	94	94	94	91	91	91	
3931	29227	101	109	102	106	113	112	112	98	97	97	107	105	105	105	105	105	104	104	104	
3932	29228	94	101	89	95	107	94	100	90	94	92	90	95	95	95	95	95	93	93	93	
3933	29229	94	100	86	93	113	91	102	89	92	91	88	94	94	94	94	94	89	89	89	
3934	29230		98		49		105	105	92	91	91	103	81	81	81	81	81	93	93	93	
3935	29231	103	128	104	116	113	105	109	98	91	94	104	106	106	106	106	106	102	102	102	
3936	29232	92	109	89	99	99	107	103	97	93	95	104	98	98	98	98	98	97	97	97	
3937	29233	96	105	97	101	100	104	102	95	92	94	98	98	98	98	98	98	99	99	99	
3938	28370	93	115	92	103	114	102	108	93	95	94	103	101	101	101	101	101	97	97	97	
3939	28355	94	109	92	100		93	93	94	99	96	96	97	97	97	97	97	94	94	94	
3940	28328	92	104	88	96	109	96	102	93	94	93	101	97	97	97	97	97	95	95	95	
3941	29234	89	98	81	89	91	92	91	91	93	92	92	91	91	91	91	91	88	88	88	
3942	29235	94	110	88	99	96	101	99	92	92	92	101	97	97	97	97	97	94	94	94	
3943	29236	93	106	95	101	113	97	105	91	93	92	96	98	98	98	98	98	95	95	95	
3944	29237	108	122	104	113	115	104	109	99	95	97	107	107	107	107	107	107	105	105	105	
3945	29238		119	99	109	98	98	98	91	96	94	102	100	100	100	100	100	98	98	98	
3946	Zonal Check (ZC)	92	100	84	92	113	92	102	91	94	93	92	95	95	95	95	95	91	91	91	
3947	29239		102	90	96	90	92	91	90	96	93	94	93	93	93	93	93	92	92	92	
3948	29240		115	94	104	96	100	98	90	97	93	94	98	98	98	98	98	95	95	95	
3949	29241		119	92	106	101	100	100	86	94	90	104	99	99	99	99	99	95	95	95	
3950	29242	94	123	87	105	96	105	100	91	92	92	94	98	98	98	98	98	94	94	94	
3951	28499	96	111	90	100	115	92	103		92	92	103	100	100	100	100	100	100	100	100	
3952	29243	92	98	86	92	112	111	111	92	92	92	94	97	97	97	97	97	91	91	91	
3953	29244	95	104	85	94	112	104	108	93	95	94	103	99	99	99	99	99	97	97	97	
3954	29245	94	122	92	107	95	103	99	93	93	93	99	99	99	99	99	99	98	98	98	
3955	29246	92	119	91	105	114	88	101	99	99	99	98	100	100	100	100	100	97	97	97	
3956	29247	94	132	83	107	90	103	96	97	95	96	98	99	99	99	99	99	95	95	95	
3957	29248	95	116	96	106	115	105	110	94	94	94	96	101	101	101	101	101	99	99	99	
3958	29249	90	124	88	106	93	92	92	92	93	92	74	93	93	93	93	93	92	92	92	
3959	29250	100	115	99	107	97	104	100	90	94	92	94	99	99	99	99	99	95	95	95	
3960	28371	93	101	88	94	100	101	100	93	94	94	92	95	95	95	95	95	93	93	93	
3961	29251	95	122	96	109	95	102	98	91	100	95	94	99	99	99	99	99	94	94	94	
3962	29252		105	89	97	96	101	98	90	92	91	92	95	95	95	95	95	94	94	94	
3963	29253		98	87	93	96	94	95	90	92	91	92	93	93	93	93	93	93	93	93	
3964	Local Check (LC)	105	103	85	94	99	99	99	98	95	96	86	96	96	96	96	96	94	94	94	
	Exp. Mean	96	110	90	100	103	99	101	92	94	93	98	98	98	98	98	98	95	95	95	

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Table No. 1.27: Plant Height (cm) of entries in IVT – IME Kharif 2020

Entry No.	IET No.	ZONE II			ZONE III							ZONE IV			
		UT	RJ	Z2 (1)	ODP			OD (3)	BI		BI (1)	UP (1)	Zone II (5)	AS	TR
		@PNT	KTA	Mean	CTK	JYP	CHP	Mean	@BKG	PTN	Mean	VRN	Mean	@TTB	@LMB
3901	28331	55	80	80	81	72	86	79	105	82	82	98	80	89	85
3902	28352	112	97	97	89	78	94	87	108	84	84	113	88	92	98
3903	28353	58	71	71	94	71	100	88	86	91	91	98	85	91	78
3904	28357	92	79	79	90	85	89	88	98	80	80	109	84	76	87
3905	28374	93	69	69	83	72	97	84	90	82	82	97	81	79	92
3906	28467	73	67	67	95	73	87	85	85	77	77	90	80	70	80
3907	28337	90	89	89	91	90	95	92	102	99	99	111	93	86	83
3908	28342	64	67	67	88	76	93	86	88	76	76	100	80	86	94
3909	28506	59	72	72	95	78	99	90	86	74	74	97	83		84
3910	28381	72	73	73	88	75	130	98	89	79	79	95	89	71	70
3911	28378	73	86	86	84	85	102	90	115	99	99	112	91	88	99
3912	28380	83	81	81	84	80	90	85	96	98	98	101	87	77	86
3913	29211	54	68	68	105	78	89	91	84	72	72	79	82	72	80
3914	29212	57	78	78	98	75	97	90	84	87	87	85	87	71	92
3915	29213	78	82	82	83	75	95	84	99	87	87	108	84	87	102
3916	29214	51	70	70	98	75	96	90	82	79	79	78	84	70	74
3917	29215	66	78	78	92	77	106	92	79	91	91	102	89	68	87
3918	29216	65	75	75	95	81	97	91	85	75	75	95	84	79	83
3919	29217	69	105	105	95	71	88	85	84	78	78	98	88		81
3920	29218	78	93	93	82	79	93	85	90	87	87	106	87	95	93
3921	29219	88	91	91	82	84	106	90	88	79	79	105	88	90	89
3922	29220	87	86	86	95	70	89	85	83	88	88	104	86	73	64
3923	28369	67	87	87	98	78	100	92	98	71	71	106	87	88	94
3924	Gontra Bidhan-3 (NC)	64	79	79	85	73	101	86	95	83	83	97	84	79	97
3925	29221	80	85	85	102	78	88	90	96	88	88	101	88	78	93
3926	29222	64	76	76	94	78	86	86	87	71	71	175	81	77	95
3927	29223	52	74	74	95	68	96	86	72	72	72	88	81	82	83
3928	29224	57	79	79	96	78	100	91	92	75	75	101	86	81	93
3929	29225	88	103	103	94	87	95	92	103	91	91	118	94	91	109
3930	29226	85	104	104	84	81	97	88	98	104	104	99	94	67	96
3931	29227	46	79	79	98	68	92	86	79	66	66	77	81	65	81
3932	29228	87	83	83	94	79	102	92	82	90	90	100	90	82	88
3933	29229	71	103	103	84	70	100	85	92	86	86	94	89	81	77
3934	29230	.	75	75		81	95	88				95	84		91
3935	29231	58	79	79	97	70	95	87	81	62	62	88	80		80
3936	29232	49	107	107	85	77	90	84	82	76	76	107	87	78	85
3937	29233	55	106	106	97	71	104	91	87	73	73	86	90	77	83
3938	28370	86	91	91	95	81	97	91	98	76	76	109	88	89	89
3939	28355	76	90	90	85	83	102	90	108	98	98	103	92	68	83
3940	28328	57	77	77	88	70	92	83	86	75	75	101	80	87	85
3941	29234	83	88	88	81	74	92	82	97	84	84	95	84	85	78
3942	29235	68	97	97	91	74	105	90	106	91	91	105	92	85	94
3943	29236	98	79	79	90	89	91	90	103	92	92	110	88	103	98
3944	29237	56	77	77	96	77	93	89	75	61	61	73	81	.	72
3945	29238	66	103	103	95	82	96	91	89	76	76	102	90	78	89
3946	Zonal Check (ZC)	51	107	107	86	81	100	89	86	86	86	107	92	81	96
3947	29239	62	99	99	84	84	98	88	105	85	85	100	90	76	88
3948	29240	75	90	90	91	88	103	94	103	85	85	114	91	86	100
3949	29241	114	98	98	91	86	95	91	137	115	115	153	97	102	114
3950	29242	67	94	94	90	85	99	91	82	88	88	104	91	84	87
3951	28499	54	85	85	94	70	92	85	85	76	76	93	83	67	89
3952	29243	67	79	79	82	82	104	89	98	97	97	104	89	85	81
3953	29244	52	72	72	93	65	93	84	75	68	68	90	78	77	96
3954	29245	42	88	88	92	69	100	87	79	74	74	88	85	72	83
3955	29246	59	91	91	87	75	103	88	87	93	93	97	90	73	91
3956	29247	87	101	101	91	77	119	95	97	67	67	93	91	89	78
3957	29248	69	91	91	97	82	116	98	96	73	73	91	92	69	83
3958	29249	76	81	81	84	76	114	91	101	93	93	102	89	88	93
3959	29250	63	82	82	97	83	96	92	100	94	94	94	90	87	94
3960	28371	65	86	86	88	69	113	90	87	97	97	99	91	81	85
3961	29251	83	101	101	96	75	98	90	116	92	92	115	92	93	92
3962	29252	50	90	90	84	60	91	78	98	84	84	99	82	77	81
3963	29253	67	99	99	90	82	109	93	97	83	83	98	92	76	84
3964	Local Check (LC)	65	108	108	92	78	100	90	94	86	86	76	92	86	80
	Exp. Mean	70	86	86	91	77	98	89	92	83	83	100	87	81	87

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Table No. 1.27 contd.: Plant Height (cm) of entries in IVT – IME Kharif 2020

Entry No.	IET No.	ZONE V								ZONE VI							
		MP (1)		CH		MA1		MA1 (2)		MA2 (1)		MA (3)		GU		Zone VI (4)	
		JBP	RPR	JDP	Mean	SKL	SND	Mean	Mean	KJT	Mean	NVS	NWG	YVR	Mean	Mean	
3901	28331	74	103	77	90	95	97	192	89	94	95	100	89	108	99	98	
3902	28352	77	125	63	94	99	130	229	99	112	114	134	107	120	120	118	
3903	28353	61	105	68	86	75	98	173	81	102	92	98	79	91	89	92	
3904	28357	74	107	85	96	96	111	207	95	104	104	122	79	110	104	104	
3905	28374	68	94	86	90	84	99	183	86	102	95	109	75	103	96	97	
3906	28467	51	88	87	87	77	88	165	78	90	85	93	79	84	85	87	
3907	28337	91	113	69	91	99	111	210	97	108	106	118	100	113	110	109	
3908	28342	68	102	84	93	91	97	188	88	103	97	93	78	99	90	93	
3909	28506	61	100	87	94	96	97	193	88	103	99	95	78	95	89	93	
3910	28381	64	95	77	86	90	95	185	84	91	92	88	74	96	86	87	
3911	28378	73	105	89	97	92	112	204	94	109	104	112	95	107	105	106	
3912	28380	68	98	72	85	86	91	177	83	102	93	107	83	112	101	101	
3913	29211		94	86	90	80	94	174	88	105	93	90	78	90	86	91	
3914	29212	59	97	72	85	81	97	178	81	106	95	94	77	95	89	93	
3915	29213	70	118	81	100	99	111	210	96	115	108	113	95	107	105	107	
3916	29214		95	81	88	74	88	162	84	101	88	78	70	76	75	81	
3917	29215		95	76	86	98	91	189	90	104	98	107	83	93	94	97	
3918	29216	64	92	87	89	84	100	184	85	94	93	92	78	101	91	92	
3919	29217	70	103	76	89	84	117	201	90	110	103	104	89	103	99	101	
3920	29218	71	105	81	93	100	106	206	93	112	106	115	83	108	102	104	
3921	29219	79	106	79	93	92	105	197	92	106	101	112	88	89	96	99	
3922	29220	61	107	93	100	99	98	197	91	102	99	105	90	103	99	100	
3923	28369	70	111	86	99	91	113	204	94	111	105	101	93	98	97	101	
3924	Gontra Bidhan-3 (NC)	64	102	82	92	84	104	188	87	109	99	101	83	108	97	100	
3925	29221	57	105	67	86	100	116	216	89	112	109	109	100	94	101	104	
3926	29222	54	104	79	91	91	104	195	86	106	100	93	78	92	88	92	
3927	29223	50	96	88	92	86	98	184	84	93	92	94	68	101	88	89	
3928	29224	62	108	66	87	92	93	185	84	110	98	103	83	115	100	103	
3929	29225	76	137	76	106	115	129	244	107	132	125	128	96	112	112	117	
3930	29226	74	106	108	107	99	105	204	98	121	108	107	94	115	105	109	
3931	29227	44	88	68	78	75	86	161	72	98	86	79	76	69	74	80	
3932	29228	66		63	63	85	99	184	78	98	94	92	84	95	90	92	
3933	29229	63		68	68	85	90	175	76	92	89	93	86	91	90	91	
3934	29230	49		79	79	100		100	76	126	113		97		97	112	
3935	29231			83	83	76	99	175	86	99	92	120	75	86	94	95	
3936	29232	46	108	75	92	84	90	174	81	102	92	100	81	92	91	94	
3937	29233		94	89	92	80	96	176	90	89	88	98	82	92	90	90	
3938	28370	60		72	72	95	110	205	84	115	106	109	93	107	103	106	
3939	28355	61		79	79	92	97	189	82	112	100	83	87	111	94	98	
3940	28328	63	106	71	88	66	92	158	80	101	86	80	77	98	85	89	
3941	29234	79	112	85	99	75	94	169	89	90	86	94	84	106	95	94	
3942	29235	75	118	92	105	80	100	180	93	107	95	110	95	99	101	103	
3943	29236	85	128	82	105	94	116	210	101	118	109	113	96	122	110	112	
3944	29237	53	87	76	82	64	80	144	72	91	78	74	73	95	81	83	
3945	29238	54	106	84	95	87	106	193	87	104	99	100	83	91	91	95	
3946	Zonal Check (ZC)	69	105	89	97	72	98	170	87	84	85	80	79	89	83	83	
3947	29239	68	115	79	97	83	89	172	87	100	90	99	86	99	94	96	
3948	29240	69	118	95	107	87	116	203	97	120	108	113	88	109	103	107	
3949	29241	122	141	63	102	105	148	253	116	144	132	121	146	156	141	142	
3950	29242	65	108	94	101	82	97	179	89	103	94	113	88	104	101	102	
3951	28499	67	117	83	100	86	99	185	90	107	97	98	85	103	95	98	
3952	29243	78	114	72	93	78	105	183	89	109	97	112	81	116	103	104	
3953	29244	52		75	75	79	82	161	72	95	85	93	83	89	88	90	
3954	29245	51		75	75	73	97	170	74	96	89	95	76	86	86	88	
3955	29246	51		80	80	90	110	200	83	95	98	102	84	93	93	94	
3956	29247	61		70	70	77	100	177	77	92	90	91	75	99	88	89	
3957	29248	60		73	73	103	108	211	86	104	105	102	94	102	99	101	
3958	29249	57	117	78	97	108	113	221	95	109	110	113	93	101	102	104	
3959	29250	83	114	75	94	89	112	201	95	113	105	101	91	100	97	101	
3960	28371	68		82	82	94	99	193	86	102	98	99	90	98	96	97	
3961	29251	92	119	90	105	91	111	202	101	126	110	111	103	114	109	113	
3962	29252	65	106	66	86	98	102	200	87	101	100	99	93	91	94	96	
3963	29253	70	97	63	80	83	108	191	84	104	99	97	80	94	90	94	
3964	Local Check (LC)	76	98	78	88	113	115	228	96	89	106	97	89	96	94	93	
	Exp. Mean	67	106	79	90	88	102	189	88	105	99	101	86	100	96	98	

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Table No. 1.27 contd.: Plant Height (cm) of entries in IVT – IME Kharif 2020

Entry No.	IET No.	ZONE VII												Overall (23) Mean				
		AP (1)		TE		TE (2)		TA		KE		KE (2)			KA (1)		Z7 (8)	
		MTU	RNR	WGL	Mean	ADT	CBT	Mean	MNC	PTB	Mean	MND	Mean		Mean			
3901	28331	107	88	97	92	100	105	102	99	94	96	86	97	92				
3902	28352	107	92	128	110	99	91	95	108	99	104	89	102	101				
3903	28353	96	76	95	85	86	91	88	99	86	92	84	89	87				
3904	28357	114	89	102	96	90	106	98	97	95	96	90	98	96				
3905	28374	106	78	107	93	91	83	87	97	93	95	85	92	90				
3906	28467	100	67	80	73	89	81	85	93	91	92	83	85	83				
3907	28337	115	90	111	100	90	95	93	105	89	97	95	99	99				
3908	28342	102	78	101	90	92	85	89	97	85	91	84	91	89				
3909	28506	114	78	107	93	103	87	95	102	87	95	103	98	92				
3910	28381	101	78	90	84	115	82	99	100	94	97	74	92	89				
3911	28378	118	94	114	104	114	94	104	112	93	103	92	104	100				
3912	28380	114	82	108	95	90	84	87	96	85	90	95	94	92				
3913	29211	122	85	110	97	93	97	95	102	95	98	88	99	91				
3914	29212	124	80	98	89	95	83	89	100	90	95	90	95	89				
3915	29213	115	91	115	103	105	92	99	117	102	110	86	103	98				
3916	29214	114	69	87	78	84	79	81	103	92	98	87	89	85				
3917	29215	100	81	98	89	95	80	88	105	93	99	87	92	92				
3918	29216	118	74	87	80	73	84	78	95	95	95	74	87	87				
3919	29217	99	81	102	92	95	96	95	105	94	99	94	96	94				
3920	29218	111	80	107	94	93	92	92	109	94	101	90	97	96				
3921	29219	108	81	103	92	83	94	89	95	115	105	87	96	94				
3922	29220	116	76	95	86	84	89	87	118	102	110	79	95	93				
3923	28369	114	83	107	95	100	102	101	108	81	95	95	99	96				
3924	Contra Bidhan-3 (NC)	91	76	101	88	94	86	90	107	104	106	80	92	91				
3925	29221	122	93	104	98	106	91	99	114	105	109	89	103	97				
3926	29222	115	73	107	90	91	93	92	107	98	103	84	96	93				
3927	29223	102	71	95	83	90	91	91	99	103	101	85	92	87				
3928	29224	113	82	106	94	.	105	105	105	99	102	89	100	94				
3929	29225	139	102	116	109	82	114	98	121	98	110	80	107	106				
3930	29226	117	85	106	96	106	99	103	110	100	105	89	102	100				
3931	29227	104	80	92	86	91	81	86	100	105	103	83	92	82				
3932	29228	103	83	108	95	96	78	87	96	88	92	87	92	89				
3933	29229	95	71	89	80	73	75	74	96	91	93	90	85	86				
3934	29230	.	100	.	100	.	102	102	114	97	106	116	106	95				
3935	29231	106	76	87	81	96	95	96	97	91	94	89	92	89				
3936	29232	102	82	90	86	95	95	95	99	105	102	92	95	90				
3937	29233	102	80	98	89	92	82	87	107	89	98	94	93	91				
3938	28370	125	93	106	100	95	113	104	121	100	111	89	105	98				
3939	28355	125	87	118	103	.	93	93	101	99	100	81	101	95				
3940	28328	103	77	107	92	85	93	89	101	109	105	81	94	87				
3941	29234	119	65	90	78	82	84	83	96	95	96	82	89	89				
3942	29235	112	83	116	100	93	97	95	115	89	102	99	101	98				
3943	29236	130	93	117	105	96	93	94	110	87	98	90	102	101				
3944	29237	121	61	84	72	96	76	86	76	77	76	78	84	80				
3945	29238	82	105	94	92	90	91	107	84	96	90	93	92	92				
3946	Zonal Check (ZC)	95	73	96	85	76	91	83	91	80	85	95	87	88				
3947	29239		80	91	86	86	95	90	101	86	94	89	90	91				
3948	29240		102	102	102	95	138	117	108	99	104	90	105	101				
3949	29241		102	139	121	121	89	105	156	74	115	97	111	116				
3950	29242	108	87	100	94	96	97	96	109	88	98	93	97	95				
3951	28499	110	88	106	97	106	92	99		101	101	90	99	93				
3952	29243	122	78	107	92	95	82	89	97	84	90	92	95	94				
3953	29244	93	73	89	81	86	87	87	100	90	95	76	87	83				
3954	29245	102	77	99	88	84	81	82	102	113	107	90	93	87				
3955	29246	118	77	98	88	95	92	93	91	96	93	88	94	91				
3956	29247	86	83	91	87	83	89	86	105	93	99	81	89	87				
3957	29248	113	83	96	89	97	109	103	100	84	92	88	96	94				
3958	29249	114	85	111	98	97	94	96	113	86	99	98	100	97				
3959	29250	124	80	100	90	96	85	91	104	96	100	84	96	95				
3960	28371	103	91	101	96	82	103	93	112	85	98	106	98	94				
3961	29251	124	99	108	103	119	88	103	122	85	103	106	106	104				
3962	29252		80	105	93	91	92	91	97	88	93	85	91	89				
3963	29253		75	109	92	98	83	90	101	114	107	91	96	92				
3964	Local Check (LC)	121	77	110	94	85	89	87	97	85	91	95	95	93				
	Exp. Mean	111	82	102	92	93	92	93	104	93	99	89	96	93				

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Table No.1.28: Panicles/ M<sup>2</sup> of entries in IVT – IME Kharif 2020

Entry No.	IET No.	ZONE II			ZONE III							ZONE IV			
		UT	RJ	Zone II (1)	ODP			OD (3)	BI		BI (1)	UP (1)	Zone III (5)	AS	TR
		@PNT	KTA	Mean	CTK	JYP	CHP	Mean	@BKG	PTN	Mean	VRN	Mean	@TTB	@LMB
3901	28331	265	208	208	292	331	244	289	283	203	203	228	255	253	188
3902	28352	170	215	215	309	324	231	288	295	234	234	220	262	250	198
3903	28353	235	170	170	305	333	279	306	254	184	184	251	254	225	193
3904	28357	225	223	223	280	416	234	310	300	231	231	307	277	240	195
3905	28374	180	253	253	340	340	282	321	289	193	193	254	281	275	170
3906	28467	160	195	195	287	371	262	306	266	266	266	254	276	310	218
3907	28337	205	220	220	314	337	289	313	295	230	230	269	278	223	238
3908	28342	218	165	165	333	366	259	319	358	247	247	224	274	275	208
3909	28506	200	163	163	314	363	335	337	254	188	188	228	272		243
3910	28381	198	178	178	299	344	240	294	219	265	265	228	265	223	200
3911	28378	210	195	195	300	363	255	306	277	176	176	232	258	268	228
3912	28380	248	205	205	305	375	252	311	323	229	229	253	273	230	215
3913	29211	230	153	153	334	364	268	322	254	220	220	283	268	240	195
3914	29212		180	180	310	360	291	320	266	224	224	239	273	255	173
3915	29213	245	205	205	343	419	201	321	254	188	188	255	271	285	173
3916	29214	242	170	170	304	416	226	315	254	267	267	272	277	405	253
3917	29215	320	198	198	300	396	219	305	277	221	221	227	267	290	208
3918	29216	230	233	233	320	320	293	311	225	209	209	288	275	240	240
3919	29217	165	153	153	335	326	207	289	219	221	221	221	248		223
3920	29218	210	223	223	290	370	282	314	254	271	271	241	287	218	248
3921	29219	198	273	273	295	342	313	317	266	175	175	255	279	304	218
3922	29220	185	158	158	302	357	202	287	254	177	177	219	239	171	210
3923	28369	240	173	173	300	360	237	299	289	232	232	242	260	200	160
3924	Gontra Bidhan-3 (NC)	232	193	193	322	336	182	280	243	220	220	246	250	263	188
3925	29221	150	193	193	333	363	268	321	266	185	185	239	268	198	215
3926	29222	200	205	205	295	321	255	290	219	212	212	235	258	280	198
3927	29223	242	168	168	310	273	258	280	277	206	206	262	243	188	248
3928	29224	238	158	158	365	360	250	325	266	230	230	248	272	222	185
3929	29225	186	153	153	309	290	194	264	266	200	200	231	229	205	173
3930	29226	255	285	285	332	303	236	290	266	230	230	218	277	195	213
3931	29227	209	228	228	295	337	232	288	243	203	203	225	259	250	218
3932	29228	278	248	248	314	340	293	315	208	243	243	256	287	288	175
3933	29229	168	298	298	327	374	257	319	277	231	231	244	297	225	245
3934	29230		193	193		357	203	280				258	251		163
3935	29231	242	200	200	300	316	270	295	254	227	227	248	263		245
3936	29232	235	195	195	294	456	269	339	254	261	261	251	295	208	213
3937	29233	170	230	230	333	296	244	291	283	175	175	252	256	270	218
3938	28370	235	235	235	330	359	309	333	214	261	261	294	299	235	180
3939	28355	265	203	203	330	327	253	303	300	236	236	243	270	315	203
3940	28328	248	228	228	267	357	252	292	248	210	210	279	263	275	190
3941	29234	262	210	210	310	296	220	275	231	257	257	230	259	205	238
3942	29235	208	225	225	285	290	228	268	266	248	248	240	255	278	215
3943	29236	248	213	213	343	343	277	321	277	213	213	250	278	235	240
3944	29237	150	225	225	297	393	340	343	231	270	270	282	305		208
3945	29238	165	243	243	310	454	266	343	243	241	241	241	303	273	200
3946	Zonal Check (ZC)		205	205	328	387	312	342	318	197	197	307	286	335	198
3947	29239	215	275	275	309	321	235	288	312	279	279	249	283	280	205
3948	29240	220	243	243	297	376	294	322	283	196	196	253	281	300	245
3949	29241	162	150	150	378	370	194	314	277	183	183	274	255	330	240
3950	29242	240	183	183	302	340	279	307	254	232	232	266	267	283	203
3951	28499	196	195	195	322	310	230	287	254	217	217	203	254	255	218
3952	29243	275	193	193	322	326	305	318	312	292	292	264	287	210	228
3953	29244	205	203	203	307	333	300	313	237	198	198	249	268	185	178
3954	29245	180	198	198	284	306	243	278	231	232	232	219	252	245	235
3955	29246	180	160	160	360	340	276	325	231	229	229	268	273	245	190
3956	29247	255	260	260	294	390	277	320	266	228	228	236	290	218	278
3957	29248	172	225	225	297	309	225	277	219	182	182	215	247	245	238
3958	29249		230	230	291	326	295	304	306	205	205	243	269	223	220
3959	29250	220	168	168	309	356	248	304	300	230	230	239	262	270	240
3960	28371		155	155	287	301	170	253	260	174	174	223	217	265	185
3961	29251	140	273	273	320	276	154	250	283	183	183	183	241	235	205
3962	29252	266	175	175	314	373	268	318	237	229	229	284	272	200	225
3963	29253	242	200	200	348	358	275	327	254	203	203	241	277	308	200
3964	Local Check (LC)	262	238	238	347	286	280	304	283	271	271	273	284	285	188
	Exp. Mean	217	205	205	313	347	255	305	265	221	221	247	268	253	210

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Table No.1.28 contd.: Panicles/ M<sup>2</sup> of entries in IVT – IME Kharif 2020

Entry No.	IET No.	ZONE V								ZONE VI						
		MP (1)		CH		CH (2)		MA1		MA2 (1)	MA (3)		GU		GU (3)	Zone VI (4)
		JBP	RPR	JDP	Mean	SKL	SND	Mean	Mean	KJT	Mean	NVS	NWG	VYR	Mean	Mean
3901	28331	225	165	191	178	312	230	271	224	208	250	216	272	288	259	246
3902	28352	246	186	190	188	273	216	244	222	234	241	257	277	302	278	267
3903	28353	247	192	252	222	207	140	174	208	208	185	183	286	270	246	237
3904	28357	339	157	203	180	184	210	197	218	236	210	267	278	293	279	268
3905	28374	281	180	205	192	193	209	201	213	310	237	219	267	314	266	277
3906	28467	338	137	190	163	243	181	212	217	269	231	220	269	290	259	262
3907	28337	256	193	260	226	203	213	208	225	188	201	228	274	257	253	237
3908	28342	430	193	233	213	316	290	303	292	198	268	213	258	324	265	248
3909	28506	260	180	186	183	264	196	230	217	281	247	188	283	276	249	257
3910	28381	279	158	143	150	231	183	207	199	193	202	209	287	255	250	236
3911	28378	244	143	210	176	201	175	188	194	266	214	202	283	291	258	260
3912	28380	317	176	181	179	261	228	245	233	211	233	210	276	330	272	257
3913	29211		167	224	195	256	229	242	219	281	255	240	267	351	286	285
3914	29212	278	165	210	187	205	218	211	215	231	218	183	267	263	237	236
3915	29213	328	200	183	191	252	211	231	234	208	223	219	269	332	273	257
3916	29214		167	238	202	324	245	284	243	284	284	246	266	303	272	275
3917	29215		163	220	192	210	270	240	216	238	239	237	272	353	287	275
3918	29216	340	190	165	178	317	242	279	251	244	267	255	270	341	289	277
3919	29217	175	113	223	168	195	119	157	165	219	178	141	270	224	212	213
3920	29218	286	151	210	180	263	254	258	233	238	251	219	271	302	264	257
3921	29219	380	171	186	178	227	129	178	218	259	205	222	262	270	251	253
3922	29220	277	158	152	155	173	105	139	173	210	162	234	262	231	242	234
3923	28369	179	161	189	175	272	157	215	191	234	221	213	266	254	244	242
3924	Gontra Bidhan-3 (NC)	210	194	135	164	216	227	222	196	215	219	198	267	278	248	239
3925	29221	313	177	228	202	193	227	210	227	191	203	162	278	246	228	219
3926	29222	182	163	204	183	169	206	188	185	246	207	159	280	276	238	240
3927	29223	364	193	221	207	193	151	172	224	223	189	222	267	323	270	258
3928	29224	173	176	193	184	209	234	221	197	239	227	171	264	378	271	263
3929	29225	243	140	163	151	195	187	191	185	234	205	224	268	240	244	241
3930	29226	228	184	204	194	195	178	186	198	244	205	172	264	273	236	238
3931	29227	261	189	228	208	228	220	224	225	320	256	234	268	278	260	275
3932	29228	308		241	241	234	232	233	253	257	241	199	266	327	264	262
3933	29229	258		224	224	260	198	229	235	261	239	201	264	333	266	264
3934	29230	224		215	215	220		220	220	256	238		271		271	263
3935	29231			210	210	136	149	143	165	267	184	147	264	300	237	244
3936	29232	365	205	210	208	197	177	187	231	238	204	216	272	312	267	259
3937	29233		138	208	173	247	218	232	202	234	233	231	272	243	249	245
3938	28370	311		201	201	205	164	184	220	221	196	225	273	330	276	262
3939	28355	245		262	262	229	164	196	225	274	222	240	276	330	282	280
3940	28328	222	112	188	150	169	187	178	175	276	210	165	276	275	238	248
3941	29234	268	146	190	168	174	234	204	202	248	219	216	260	287	254	252
3942	29235	232	205	188	196	216	201	208	208	219	212	174	271	213	219	219
3943	29236	270	206	191	198	180	187	183	207	284	217	213	270	312	265	270
3944	29237	359	192	242	217	223	190	206	241	264	226	243	267	348	286	281
3945	29238	209	189	221	205	136	183	160	187	218	179	210	264	335	270	257
3946	Zonal Check (ZC)	343	141	236	188	222	249	235	238	244	238	273	268	341	294	281
3947	29239	309	177	247	212	253	233	243	243	229	238	243	272	308	274	263
3948	29240	253	149	245	197	218	237	227	220	234	230	186	264	310	253	249
3949	29241	251	161	222	191	303	225	264	232	267	265	168	275	225	223	234
3950	29242	326	143	212	178	164	196	180	208	262	207	174	266	336	259	260
3951	28499	230	148	242	195	211	222	217	210	241	225	162	270	288	240	240
3952	29243	238	192	228	210	180	233	206	214	276	229	234	270	282	262	265
3953	29244	267		182	182	202	187	195	210	205	198	189	272	313	258	245
3954	29245	287		237	237	173	205	189	225	211	196	243	275	257	258	246
3955	29246	311		194	194	200	210	205	229	248	219	246	277	359	294	282
3956	29247	296		262	262	198	199	198	239	251	216	210	275	228	238	241
3957	29248	279		164	164	207	222	215	218	221	217	228	281	263	257	248
3958	29249	264	168	162	165	245	223	234	212	224	231	225	273	323	274	261
3959	29250	215	171	229	200	270	231	250	223	231	244	204	274	260	246	242
3960	28371	200		184	184	179	204	192	192	191	191	198	269	287	251	236
3961	29251	174	118	229	174	130	145	138	159	228	168	188	254	302	248	243
3962	29252	322	152	196	174	228	199	213	219	208	211	228	268	329	275	258
3963	29253	231	196	237	216	313	194	253	234	254	254	219	273	282	258	257
3964	Local Check (LC)	235	187	228	208	392	310	351	270	261	321	174	269	323	255	256
	Exp. Mean	271	169	208	193	223	204	214	216	240	223	210	270	294	258	254

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Entry No.	IET No.	ZONE VII												Overall (23)				
		AP (1)		TE		TE (2)		TA		KE		KE (2)			KA (1)		Zone VII (8)	
		MTU	RNR	WGL	Mean	ADT	CBT	Mean	MNC	PTB	Mean	MND	Mean		Mean	Mean	Mean	
3901	28331	294	343	437	358	414	295	354	217	407	312	307	339	275				
3902	28352	300	317	434	350	391	340	365	287	566	426	343	372	291				
3903	28353	314	380	431	375	411	408	409	263	487	375	360	382	285				
3904	28357	307	323	441	357	295	338	316	217	453	335	323	337	285				
3905	28374	307	353	450	370	278	284	281	350	555	452	360	367	294				
3906	28467	332	317	429	359	289	298	293	247	445	346	300	332	279				
3907	28337	281	317	454	350	400	285	342	250	367	308	307	332	278				
3908	28342	304	313	446	354	319	313	316	253	390	322	330	333	292				
3909	28506	327	350	436	371	401	300	351	307	448	377	283	356	285				
3910	28381	287	320	426	344	277	288	282	227	572	399	323	340	270				
3911	28378	284	353	434	357	306	233	269	363	590	476	307	359	278				
3912	28380	287	333	452	358	317	323	320	367	587	477	327	374	296				
3913	29211	290	343	449	361	413	288	350	357	363	360	283	348	292				
3914	29212	300	370	446	372	337	269	303	250	453	351	293	340	276				
3915	29213	294	357	452	367	302	306	304	277	491	384	337	352	288				
3916	29214	320	337	447	368	420	518	469	370	521	445	340	409	318				
3917	29215	304	300	437	347	407	526	466	270	415	342	370	379	298				
3918	29216	281	307	452	346	301	278	289	337	447	392	310	339	293				
3919	29217	290	340	452	361	430	253	341	243	511	377	297	352	259				
3920	29218	274	357	422	351	431	393	412	273	514	393	360	378	300				
3921	29219	307	347	437	364	309	263	286	300	406	353	310	335	280				
3922	29220	304	327	446	359	320	205	262	267	366	316	283	315	249				
3923	28369	264	317	459	346	387	235	311	233	430	332	380	338	268				
3924	Gontra Bidhan-3 (NC)	274	307	450	344	302	280	291	240	337	288	277	308	257				
3925	29221	350	313	446	370	322	231	276	280	510	395	310	345	276				
3926	29222	294	357	444	365	389	238	313	243	512	378	313	349	269				
3927	29223	327	423	439	396	366	273	319	220	539	379	350	367	286				
3928	29224	347	340	442	376	305	305	290	496	393	337	337	365	282				
3929	29225	317	330	450	366	327	273	300	253	540	397	327	352	264				
3930	29226	238	290	447	325	387	295	341	287	480	383	350	347	275				
3931	29227	277	380	437	365	275	273	274	357	527	442	367	361	288				
3932	29228	287	310	434	344	390	290	340	340	408	374	290	344	296				
3933	29229	353	393	444	397	309	238	273	350	523	436	353	370	304				
3934	29230	297	297	297	248	248	387	457	422	320	342	342	279					
3935	29231	277	310	432	340	387	250	319	230	478	354	330	337	273				
3936	29232	290	313	432	345	289	295	292	297	440	368	317	334	287				
3937	29233	340	313	450	368	313	253	283	287	515	401	293	345	277				
3938	28370	333	393	441	389	331	370	350	237	610	423	357	384	309				
3939	28355	290	360	441	364	280	280	257	491	374	310	347	287					
3940	28328	294	297	432	341	387	331	359	373	366	369	330	351	273				
3941	29234	294	260	441	331	331	284	307	233	504	369	323	334	270				
3942	29235	307	400	449	385	317	318	317	270	471	370	307	355	273				
3943	29236	290	380	429	366	316	253	284	220	319	269	343	319	274				
3944	29237	287	357	449	364	297	288	292	307	305	306	310	325	293				
3945	29238	340	446	393	328	273	300	250	441	345	320	342	278					
3946	Zonal Check (ZC)	403	367	447	405	321	323	322	233	630	432	303	378	308				
3947	29239	377	426	401	307	331	319	257	454	355	290	349	290					
3948	29240	410	449	429	300	320	310	280	358	319	307	346	281					
3949	29241	343	446	394	404	303	353	370	486	428	343	385	288					
3950	29242	363	387	437	396	407	338	372	307	463	385	303	375	291				
3951	28499	307	317	437	354	400	338	369	512	512	297	372	277					
3952	29243	274	370	422	355	299	285	292	300	426	363	360	342	286				
3953	29244	373	333	421	376	404	295	349	257	354	305	303	342	279				
3954	29245	373	333	442	383	383	284	333	260	555	407	357	373	289				
3955	29246	314	293	441	349	361	268	314	223	585	404	323	351	295				
3956	29247	459	343	444	415	356	275	316	257	543	400	333	376	300				
3957	29248	323	303	436	354	394	283	338	287	272	279	357	332	271				
3958	29249	297	337	450	361	317	380	348	233	353	293	327	337	278				
3959	29250	281	333	432	349	392	234	313	303	516	410	303	349	279				
3960	28371	281	360	434	358	353	250	302	300	256	278	353	323	255				
3961	29251	271	373	434	359	401	300	350	233	363	298	287	333	253				
3962	29252	340	446	393	337	265	301	200	285	242	330	314	271					
3963	29253	333	432	383	376	435	406	200	471	335	333	369	291					
3964	Local Check (LC)	307	330	444	360	313	378	345	367	375	371	313	353	300				
	Exp. Mean	308	340	441	365	350	301	323	279	458	370	323	350	282				

## ADVANCED VARIETY TRIAL 2-IRRIGATED MEDIUM (AVT2-IM)

**Locations: 45**

**Test Entries: 15**

**Checks: NDR 359-National; PR 121 (Northern), CR Dhan 300 (Eastern and North Eastern), Karma Mahsuri (Central), Akshyadhan (Western), Jaya (Southern)-Zonal; HRI 174 (Hybrid) and Local check; Four Recurrent Parents (Sarjoo 52, Akshyadhan, ADT 46 and Pusa 44) and 6 NILs.** **Table: 1.29**

AVT 2-IM was constituted with 15 entries with 9 entries (6 varietal and 3 hybrid) in 3<sup>rd</sup> year of testing and 6 NILs (2<sup>nd</sup> year of testing) in the background of various recurrent parents. NDR 359 as national, PR121 in northern, CR Dhan 300 in eastern and north eastern, Karma Mahsuri in central, Akshyadhan in western and Jaya in southern zones as zonal, HRI-174 as hybrid checks and a local check were included in the trial along with 4 recurrent parents (Akshyadhan, Sarjoo 52, ADT 46 and Pusa 44). The status of the trial conduct/data receipt from 45 locations is presented in the following table.

Trial data/Status	Location	Total
Seed returned	Chatha	1
Trial not conducted	Masodha, Gerua and Aduthurai	3
Trial failed	Brahmavar	1
Data not received	Ludhiana, Kota, Bhubaneswar, Arundathinagar, Lembuchera, Dhaboi, Karaikal	7
Data not included due to high CV%	Waraseoni and Kurumbapet	2
Data not included due to low CV%	Patna, Varanasi, Rudrur	3
Data not included due to high CV% and low experimental mean	Ranchi	1
Data included in the analysis	Kaul, Cuttack, Jeypore, Chiplima, Bikramgunj, Sabour, Chinsurah, Titabar, Karjat, Shirgoan, Navsari, Nawagam, Raipur, Jagdalpur, Bilaspur, Sakoli, Sindewahi, Maruteru, Ragolu, Rajendranagar, Kunaram, Warangal, Jagitial, Coimbatore, Pattambi, Mandya and Gangavati,	27
<b>Total no of locations</b>		<b>45</b>

CV % at the locations varied from 3.15 at Rudrur to 26.99 % at Kurumbapet while experimental mean from 1599 kg/ha at Ranchi to 7586 kg/ha at Kurumbapet. Overall mean ranged from 1461 kg/ha in eastern zone for IET 28018 to 8229 kg/ha in southern zone for IET 27705. Days to 50% flowering ranged from 88 days for NDR 359 (NC) in north eastern and western zones to 109 days for IET 28018 in southern zone, plant height from 52 cm (Pusa 44) in northern zone to 116 cm (IET 27280) in southern zone and panicles per square metre from 186 in IET 28018 in northern zone to 371 in IET 28791 in southern zone. The data pertaining to yield, days to 50% flowering, plant height, panicles/m<sup>2</sup> and quality are presented in tables 1.30, 1.31, 1.32, 1.33 and 1.34 respectively.



Five entries recorded required yield superiority in eastern (IETs 27263, 27380 [H], 25530, 27387 [H] and 27689) and two entries in southern (IETs 27686 and 27705) zones. The details of the same are furnished in the below table. In northern, north eastern, western and central zones best varietal check is the top ranking entry and test entries were inferior to BVC.

**Zonal/state performance of the entries in AVT2-IM, kharif 2020**

S. No	IET No/ Designation / Cross combination	Zonal performance			Performance across states		
		Rank	Yield (kg/ha)	% BVC /HC	Rank	Yield (kg/ha)	% BVC/HC
1	IET 27263 (R) (CR 4113-3-2-1) CR 3724-1/TJ171-1	III-6	5155	12	BI-1	4785	32
2	IET 25530 (CR 3561-3-2-1-1-1-1) Surendra/Annapurna	III-3	5540	21	OD-1 BI-5	6135 4224	19,13 16
3	IET 27380 (NPH-X8)	III-4	5332	16, 5			
4	IET 27387 (PHI 18104)	III-2	5648	23, 11	OD-3	5947	15, 9
5	IET 27689 (CR 3516-1-1-2-1-1-4) Birupa/Pusa 44	III-5	5296	15	OD-2	6050	17, 11
6	IET 27686 (MTU 1310 [MTU 2613-25-1-4]) MTU 1075/CR 3598-1-4-2-1	VII-2	6064	11, 16	TE-4	5412	11, 30
7	IET 27705 (MTU 1280 [MTU 2274-8-1-1-9]) MTU 1001/KMP150	VII-1	6359	16, 22	AP-1 TE-2	6218 5782	9, 18 18, 39
	<b>BVC</b>	III-(LC) VII-(LC)	4597 5469		OD (LC) BI (NC) AP TE	5150 3633 5709 4885	
	<b>HC</b>	III VII	5091 5212		OD BI AP TE	5438 4406 5250 4159	

**Three years performance of the entries**

IET 27263 (R) CR 4113-3-2-1 derived from the cross of CR 3724-1/TJ171-1. From 2017 to 2020, IET 27263 recorded required yield superiority of more than 5% over the best varietal check in Odisha and Bihar. But it was found inferior in grain quality traits in terms of low HRR %. This entry was considered for one more year of repetition as per 55<sup>th</sup> ARGV virtual workshop proceedings for want of grain quality data. Due to low HRR of 42.9% both in 2019 and 2020, IET 27263 is discontinued.

**Three years performance of the entries of AVT2-IM, kharif 2020**

S. No	IET No/ Designation / Cross combination	Year	Performance across states			Quality HRR/GT/ASV/AC/GC	Remarks
			Rank	Yield (kg/ha)	% BVC/HC		
1	IET 27263 (R) (CR 4113-3-2-1) CR 3724-1/TJ171-1	2020 (AVT1-IM)	BI-1	4785	32	42.9/LB/5.0/25.98/60  Low HRR also in 2019	Discontinued due to low HRR both in 2019 and 2020
		2019 (AVT1-IM)	OD-8	7064	10		
			BI-3 WB-2	6806 6463	12.4 6.54		
		2018 (IVT-NPT)	OD-1 UP-1	8291 6730	19.86 12.0		
2	IET 25530 (CR 3561-3-2-1-1-1-1) Surendra/Annapurna	2020	OD-1 BI-5	6135 4224	19,13 16	62.4/SB/7.0/26.19/22  2017: HRR-63.6; AC-24.66	Promising for Odisha and Bihar
		2017 (AVT1-NPT)	OD-3	7020	39		
		2016 (IVT-NPT)	OD-4	7192	21		
		2015 (IVT-NPT)	BI-1	5556	43		
3	IET 27380 (NPH-X8)	2020	OD-6	5218	1.32, -4	54.1/LB/5.3/22.46/36	Discontinued due to inconsistency in yield performance
		2019	OD-3	7738	20, 9		
		2018	OD—	4232	-24, -14		
			BI— UP WB-1	6649 6985 7472	0.18, 9 10, 12 30, 15		
4	IET 27387 (PHI 18104)	2020	OD-3	5947	15, 9	51.1/MS/4.0/26.89/36  2019: HRR-62%; AC-22.95%	Promising for Odisha & Chhattisgarh
			CH-1	5638	14, 8		
		2019	OD-1	8143	27, 15		
			WB-1	6689	10, 18		
			CH-1	6276	16, 13		
			MP-1	8173	18, 19		
2018	UP	6932	9,11				
	OD-4	6559	18, 33				
	BI	6647	1.5, 8.5				
	CH	8359	21, 12				
5	IET 27689 (CR 3516-1-1-2-1-1-4) Birupa/Pusa 44	2020	OD-2	6050	17, 11	55.3/MS/7.0/24.34/22  2019: HRR-64.6, AC-24.08	Promising for Odisha
		2019	OD-5	7450	16		
			WB-4	6387	5		
2018	OD-1	6742	13				
6	IET 27686 (MTU 1310 [MTU 2613-25-1-4]) MTU 1075/CR 3598-1-4-2-1	2020	TE-4	5412	11, 30	51.1/MS/4.0/26.13/30  60%HRR & 23.77% AC in 2019	Promising for AP and Telangana
		2019	AP-1	8422	20		
			TS-6	8884	15		
2018	AP-5	9307	16				
7	IET 27705 (MTU 2274-8-1-1-9) MTU 1001/KMP150	2020	AP-1	6218	9, 18	58.1/LB/7.0/23.55/22	Promising for AP, Telangana and Karnataka
			TE-2	5782	18, 39		
		2019	AP-3	7681	9		
			TS-3	9625	25		
			KA-4	8985	8		
		2018	AP-2	10197	27		
KA-1	8490		11				

IET 25530 (CR 3561-3-2-1-1-1-1) derived from the cross of Surendra/Annapurna was tested during 2015 to 2017 in NPT trials and again during 2020 in AVT2-IM. It recorded

yield advantage of 19, 39 and 21 % over BVC in Odisha during 2020, 2017 and 2016 respectively and 16 and 43% in Bihar during 2020 and 2015 respectively. Considering desirable grain quality parameters, IET 25530 is found promising for Bihar and Odisha.

IET 27380 (NPH-X8), a hybrid entry recorded 9.68 and 11.87 % yield advantage over BVC and HC in UP during 2018 only. While in Odisha, it recorded required yield advantage over BVC and HC only during 2019 and was found significantly inferior to both during 2018. In West Bengal, it recorded required yield advantage over BVC and HC only during 2018. Due to inconsistency in yield performance, IET 27380 is discontinued.

IET 27387 (PHI 18104), a hybrid entry recorded yield advantage of 18 & 33, 27 & 15 and 15 & 9 % over the BVC and HC in Odisha and 21 & 12, 16 & 13 and 14 & 8 % in Chhattisgarh during 2018, 2019 and 2020 respectively and 10 & 18% in West Bengal only during 2019. Considering the grain quality data of both 2019 and 2020, IET 27387 is found promising for Odisha and Chhattisgarh.

IET 27689 (CR 3516-1-1-2-1-1-4) derived from Birupa/Pusa 44 recorded 13, 16 and 17% yield superiority over BVC during 2018, 2019 and 2020 respectively in Odisha while 5% yield advantage over BVC in West Bengal only during 2019. Considering grain quality data of 2019, IET 27689 is promising for Odisha only and hence state proposal may be made.

IET 27686 (MTU 1310 [MTU 2613-25-1-4]) from the cross of MTU 1075/CR 3598-1-4-2-1 showed 11 and 15 % yield advantage over BVC in Telangana during 2010 and 2019 respectively while 20 and 16% in Andhra Pradesh during 2019 and 2018 respectively. In 2019, it recorded 60% HRR and 23.77 % AC and hence is promising for Telangana and Andhra Pradesh.

IET 27705 (MTU 1280 [MTU 2274-8-1-1-9]) derived from the cross of MTU 1001/KMP150 recorded yield advantage of 27, 9 and 9% over BVC in Andhra Pradesh during 2018, 2019 and 2020 respectively. In Telangana, it showed 25 and 18% yield advantage over BVC in 2019 and 2020 respectively and 11 and 8% yield advantage over BVC in Karnataka during 2018 and 2019 respectively. Owing to desirable quality traits, IET 27705 is promising for Andhra Pradesh, Telangana and Karnataka.

### **Performance of the NIL entries in AVT2-IM**

**IET 28783-NIL in the background of Sarjoo 52 for salinity tolerance:** IET 28783 is a near isogenic line with *Saltol* QTL for salinity tolerance in the background of Sarjoo 52. Under salinity stress, it recorded a mean yield of 2628 kg/ha while recurrent parent yielded higher (3034 kg/ha) than NIL under similar stress situations. ***Due to inferior performance of IET 28783 over its RP under salinity stress conditions by -13.38% and significant inferior yield performance by -21.65%\*, IET 28783 is discontinued. Also, it is differing in grain type with RP and has high AC of 26.25% with hard GC of 22 mm (inferior grain quality traits)***

**IET 27280-NIL in the background of Akshayadhan for Bacterial blight resistance:** IET 27280 (RP-5989-47-15-11-1-126-2-13-11) derived from Akshayadhan\*2/FBR1-15 with *Xa33* gene for bacterial blight resistance is in the 2<sup>nd</sup> year of

testing as a repeat entry during 2020. Performance of IET 27280 during 2018 and 2020 is given in the following table.

State	2018				2020			
	RP	CD	NIL	%RP±CD	RP	CD	NIL	%RP±CD
AP	5419	881	5459	13*/20 <sup>#</sup>	3711	564	4420	3*/40 <sup>#</sup>
TE	5197	662	6272	7*/38 <sup>#</sup>	5050	406	5948	9*/28 <sup>#</sup>
KA	4701	603	5731	8*/40 <sup>#</sup>	6470	1151	4802	-37*/-10 <sup>#</sup>
TN	4603	785	6357	18*/67 <sup>#</sup>	6323	1475	6060	-22*/25 <sup>#</sup>
ZVII					5073	351	5300	-2.29*/12.24 <sup>#</sup>
DSI			4.0				4.8	

\*% increase/decrease over RP+CD; #% increase/decrease over RP-CD value; RP-recurrent parent CD-critical difference

IET 27280 recorded statistically on par performance with RP in almost all the gazette notified states of RP both in 2018 and 2020. On overall basis, it recorded 5% yield advantage over RP and was statistically on par with RP. Also, it recorded resistant BLB reaction with *dsi* of 4.0 and 4.8 in 2018 and 2020. ***Owing to its on par yield performance with RP, BLB resistance, acceptable quality parameters and similarity in the grain type with RP, IET 27280 is promising for the Akshaydhan growing regions of the country.***

**IETs 28791 and 28789-NILs for submergence tolerance:** IETs 28791 (KR 16024) and 28789 (KR 16022), NILs derived from ADT 46\*3/Swarna sub 1 with *sub1* QTL for submergence tolerance in the background of ADT 46 (Gazette notified state-Tamil Nadu) are repeat entries in the 1<sup>st</sup> year of testing (since single location data in the entire trial in 2019, entries have to be repeated irrespective of the performance-55<sup>th</sup> ARGM approved proceedings from council). The performance of the NILs under control (single location) and submergence stress (2 locations) in 2020 is presented below

Entry	Control-TN		Stress	
	Yield	RP±CD	Yield	%RP+CD/TC/TC±CD
IET 28791	6734	-13.73*/38.67 <sup>#</sup>	2708	48.10*/-16.61/-26.88*/-2.99 <sup>#</sup>
IET 28789	7433	-4.8*/53.07 <sup>#</sup>	2173	18.84*/-33.09/-41.33*/-22.16 <sup>#</sup>
ADT 46 (RP)	6331		1373	
Sw sub1(TC)			3248	
CD	1475		456	

\*% increase/decrease over RP±CD or TC+CD; #% increase/decrease over RP-CD or TC-CD; TC-tolerant check., RP- recurrent parent.

Both IETs 28791 and 28789 were statistically on par in yield under normal conditions and significantly superior to recurrent parent under submergence stress conditions. ***But both IETs 28791 and 28789 were not statistically on par with tolerant check under submergence conditions. Further, IET 28791 differed in grain type with RP and IET 28789 recorded very low HRR of 42.6%, hence both are dropped.***

**IETs 28017 and 28018- NILs for drought tolerance in the background of Pusa 44 with *qDTY2.1+qDTY3.1* for high yield under drought stress**

The recommendation for crop improvement in the **approved 55<sup>th</sup> ARGM proceedings** from council states that *‘the elite lines developed using precision breeding tools need to be phenotyped with utmost care in suitable testing facility with appropriate statistical design, at centres where appropriate facilities are available so that good lines are not lost due to faulty testing procedure’*. Accordingly, as suggested during the 55<sup>th</sup> ARGM, NILs introgressed with QTLs governing reproductive stage drought tolerance, data from 2018-2020 was re-looked at as given below:

- **Rainout shelter data and moisture data** have been considered as the primary criteria for trait verification in the evaluation of NILs for drought tolerance.
- Based on the rainout shelter facility and drought spells/rainfall duration during reproductive stage under rainfed conditions, centres are classified into severe stress, moderate stress and no stress situations as given in the following table.

**Drought situation at locations during 2018-2020**

Location	2018	2019	2020
<b>Hazaribagh</b>	Trial conducted in rainout shelter and very severe drought stress during reproductive stage		
<b>Patna</b>	Moderate stress	Moderate stress	No data
<b>Varanasi</b>	Moderate stress	Rainfed, though stress imposed, trial experienced rainfall during reproductive stage, hence no stress	No data
<b>Rewa</b>	Moderate stress	Moderate stress	No data
<b>Coimbatore</b>	No information	No information	Rainout shelter

- It is to be noted that centres like Masodha, Warangal, Jagdalpur and Raipur where no information on drought was provided or drought stress was not imposed during reproductive stage, such centres are not listed in the above table.
- At Raipur, there was no flowering in the entries under drought stress in 2019.
- As trait verification for abiotic stresses involves comparison with tolerant check for yield under stress, tolerant check was selected among the entries tested during 2018-2020 having comparable DFF with that of NIL entries and recurrent parent.
- Choosing the tolerant check with matching DFF of NILs/RP ensured that NIL entries, recurrent parent and the tolerant check having matching DFF experienced drought stress at the same time/period/duration. In the present situation, donor parent (IR 81896 B-B-142) was found with comparable DFF of IETs 28017, 28018 and their RP. Data on DFF across the locations where drought situation was maintained is given in the following table.

**Days to 50% flowering in IETs 28017 and 28018 under drought stress**

Entry/RP/ TC	2020			2019	2018				
	HZB	CBT	PTN	HZB	REW	PTN	HZB	VRN	REW
IET 28017	94	96	91	103	109	111	109	79	105
IET 28018	98	99	93	102	109	109	112	103	98
Pusa 44 (RP)	98	94	96	104	92	106	112	71	104
TC (DP)	95	95	93	104	109	100	100	78	99

- Since sensitive check (SC) of comparable DFF was not available among the entries tested in the trait verification trial, % increase/decrease over SC is not taken in this case. Performance of the entries for trait verification was assessed in comparison with RP and tolerant check.
- In the trait verification trial, statistically on par performance of the NIL entry with tolerant check and significant superior performance (but not statistically on par performance) of the NIL entry over the recurrent parent are considered in the promotion of NIL entries introgressed with QTLs for drought tolerance.

**Performance under severe drought stress conditions (rainout shelter) (Trait verification)**

Entry/RP/TC /CD	2018		2019		2020			
	HZB	RP+CD TC/TC $\pm$ CD	HZB	RP+CD TC/TC $\pm$ CD	HZB	CBT	Mean	RP+CD TC/ TC $\pm$ CD
IET 28017	556	-3.14* -11.04 -35.80* 44.79 <sup>#</sup>	877	107.82* 42.14 9.08* 103.95 <sup>#</sup>	704	2295	1500	+3.09* -16.18 -26.06* -3.26 <sup>#</sup>
IET 28018	521	-9.23* -16.64 -39.84* 35.68 <sup>#</sup>	809	91.71* 31.12 0.62* 88.14 <sup>#</sup>	795	2016	1406	-3.37* -21.44 -30.7* -9.32 <sup>#</sup>
Pusa 44 (RP)	333		235		318	2113	1216	
CD	241		187		257	370	239	
TC (DP)	625		617		1364	2214	1789	

\*% increase/decrease over RP+CD or TC+CD; <sup>#</sup>% increase/decrease over RP-CD or TC-CD; Tolerance check; RP- recurrent parent.

**Performance under moderate drought stress conditions (Trait verification)**

Entry/ RP/ TC/CD	2018					2019			
	PTN	VRN	REW	Mean	%RP+CD /TC/ TC±CD	PTN	REW	Mean	%RP+CD/ TC/ TC±CD
IET 28017	1215	2107	2207	1843	-5.28* 3.44 -14.15* 30.09 <sup>#</sup>	4833	1141	2987	-10.98* -0.96 -11.52* 12.46 <sup>#</sup>
IET 28018	543	2498	2172	1738	-10.69* 2.47 -19.05* 22.66 <sup>#</sup>	5033	915	2974	-11.37* -1.39 -11.91* 11.97 <sup>#</sup>
Pusa 44 (RP)	655	2334	1753	1581		5292	699	3231	
CD	350	294	702	449		459	443	451	

\*% increase/decrease over RP+CD or TC+CD; #% increase/decrease over RP-CD or TC-CD; Tolerance check; RP- recurrent parent.

**Performance under normal conditions (NIL similarity with RP)**

Entry	Rajasthan (2019)		Uttar Pradesh (2019)	
	Yield	%RP±CD	Yield	% (RP±CD)
IET 28017	3123	-34*/5.34 <sup>#</sup>	7460	-6.36*/7.51 <sup>#</sup>
IET 28018	3696	-22*/24.67 <sup>#</sup>	7457	-6.4*/7.46 <sup>#</sup>
Pusa 44 (RP)	3846		7453	
CD	881		514	

\*% increase/decrease over RP+CD; #% increase/decrease over RP-CD; RP- recurrent parent.

**IET 28017**

**Trait verification:** Under rainout shelter (severe drought stress), IET 28017 is significantly inferior to recurrent parent by -3.14 in 2018 and significantly superior to recurrent parent by +107.82% and +3.09 % in 2019 and 2020 respectively. It was statistically on par in performance with tolerant check of comparable DFF in the range of -35.8 to +44.79, +9.08 to +103.95 in 2018 and 2019 respectively. But it was significantly inferior to TC in 2020 by as low as -26.06 to -3.26%.

Under moderate stress situations, IET 28017 was significantly inferior to RP by -5.28 and -10.98% in 2018 and 2019 respectively and was statistically on par with tolerant check in the range of -14.15 to 30.09% in 2018 but significantly inferior to TC in 2019 to the range of -12.46 to -1%.

**NIL similarity with RP-statistically on par with RP in yield performance under normal conditions:** IET 28017 was on par with RP in yield performance to the tune of -33.94 to +5.34 and -6.36 to +7.51 % in Rajasthan and Uttar Pradesh respectively.

## **IET 28018**

**Trait verification:** Under rainout shelter (severe drought stress), IET 28018 is significantly inferior to recurrent parent by -9.23 and -8.08% in 2018 and 2020 respectively and significantly superior to recurrent parent by +91.71% only in 2019. It was statistically on par in performance with tolerant check of comparable DFF in the range of -39.84 to +35.68, +0.62 to +88.14 % in 2018 and 2019 respectively but was significantly inferior to TC by -30.7 to -9.32% in 2020.

Under moderate stress situations, IET 28018 was significantly inferior to RP by -10.69 and -11.37% in 2018 and 2019 respectively and was statistically on par with tolerant check in the range of -19.05 to 22.66% and -11.91 to +11.97% in 2018 and 2019 respectively. ***NIL similarity with RP-statistically on par with RP in yield performance under normal conditions:*** IET 28018 was on par with RP in yield performance to the tune of -21.82 to +24.67 and -6.4 to +7.46 % in Rajasthan and Uttar Pradesh respectively.

***IET 28017 is significantly inferior to RP in 2018 under rainout shelter and in 2018 and 2019 under moderate stress. It is statistically not on par in performance with TC under drought stress (rain out shelter) in 2020. IET 28018 is significantly inferior to RP in 2018 and 2020 under rainout shelter and in 2018 and 2019 under moderate stress. Further, it is statistically not on par with TC under drought stress in rainout shelter during 2020 and under moderate stress in 2019. Quality wise, both IETs 28017 and 28018 are inferior with high AC 25.75 to 27.22 % and hard GC of 22-25 mm during 2018-2020, hence discontinued.***



## ADVANCED VARIETY TRIAL 1-IRRIGATED MEDIUM (AVT 1-IM)

**Locations: 46**

**Test Entries: 30**

**Checks: NDR 359-National; PR 121 (Northern), CR Dhan 300 (Eastern and North Eastern), Karma Mahsuri (Central), Akshyadhan (Western), Jaya (Southern)-Zonal; HRI 174 (Hybrid) and Local check.** **Table: 1.35**

AVT1-IM trial constituted with 34 entries in the second year of testing was sent to 46 locations across the country. Of the total 34 entries in AVT1-IM, 10 are hybrid test entries, 20 are varietal test entries and 4 are checks. NDR359 served as national check and HRI-174 as hybrid check while PR121 in northern, CR Dhan 300 in eastern and north eastern, Karma Mahsuri in central, Akshaydhan in western and Jaya in southern as zonal checks and a local check was included. Status of trial conduct/data receipt from locations is given in the following table.

**Status of trial conduct/ data receipt in AVT1-IM, kharif 2020**

S. No	Status of trial conduct/ receipt	No of locations	Locations/remarks
1	Data receipt	31	<ul style="list-style-type: none"> <li>• Trial failed (2) at Brahmavar and Pantnagar</li> <li>• Data not included in analysis (4): Varanasi and Rudrur (low CV), Coimbatore and Kurumbapet (high CV)</li> <li>• Data included in the analysis: 25 locations</li> </ul>
2	Non conduct of the trial	6	Patna, Chinsurah, Masodha, Gerua, Waraseoni and Bilaspur
3	Non receipt of data	7	Ludhiana, Kaul, Kota, Arundatinagar, Lembuchera, Daboi and Kunaram
4	Trial failure	1	Ranchi
5	Seed returned to HQ	1	Chattha

Experimental mean across the locations was in the range of 3482 kg/ha at Titabar to 9818 kg/ha at Karaikal and overall mean varied from 4685 kg/ha (IET 28451) to 6114 kg/ha (IET 28160). CV spanned from as low as 1.68 at Rudrur to as high as 23.73 at Kurumbapet. DFF ranged from 95±0.4 days for NDR 359 (NC), IETs 28159 and 28174 to 104±0.4 days for IET 28471, plant height from 90.51 cm (IET 28442) to 115.03 cm (IET 28451) and panicles per square metre from 263 (IET 28487) to 298 (IET 28489). The data pertaining to yield, days to 50% flowering, plant height, panicles/m<sup>2</sup> and quality are presented in tables 1.36, 1.37, 1.38, 1.39 and 1.40 respectively.

On overall basis, only one hybrid entry IET 28160 (HRI 202) recorded required yield superiority over both BVC and HC and one varietal entry IET 28481 recorded required yield superiority over both BVC. IET 28160 with an overall mean yield of 6114 kg/ha recorded 15% yield advantage over both BVC and HC on overall basis and 16 & 17% and 19 & 22% in eastern and southern zones respectively over BVC and HC. It ranked first in Odisha, Chhattisgarh and Puducherry with state mean yield of 6285, 5468 and 13656 kg/ha and yield advantage of 15 & 24, 10 & 29 and 38 & 63% respectively over BVC and HC. In Andhra Pradesh, it ranked second with mean yield of 6695 kg/ha and yield advantage of 10 and 23% over BVC and HC. Owing to its desirable quality parameters of high HRR of 63.5 %, 1.111

medium slender grain type, ASV of 5.3, intermediate amylose content of 24.46 % and soft gel consistency of 61 mm, IET 28160 is promoted to AVT2-IM.

### Overall/zonal/state performance of the entries in AVT1-IM, kharif 2020

S. No	IET No/ Designation / Cross combination	Overall/Zonal			Performance across states			HRR/GT/AC/GC/ASV	Remarks
		Rank	Yield	% BVC /HC	Rank	Yield	% BVC/HC		
1	IET 27900 [MTU1276 (MTU 2578-56-1)] MTU 1156/MTU 1081	VI-2	5668	12, 17	GU-4	6223	9; 14	64.2/MS/5.0/ 24.84/22	Promoted
2	IET 28444 ORR 1803-OR 2573-4-1 Birupa/IR 76561-AC-8-8	III-4	5540	5	OD-2	6125	12; 25	45.9/LB/4.0/ 27.80/42	Dropped due to low HRR
3	IET 28439 [OR 2487-13] OR2076-2/Ashoka 228	VII-3	6874	12; 14	AP-5 TE-2 KA-9 PU--	6489 6351 7635 10484	6; 19 22; 18 7 6; 25	57.8/LS/5.0/ 27.16/40	Dropped due to high AC (>27%) and low GC (<60 mm)
4	IET 28159 [PHI-19103] (Hybrid)	VI-1	5775	14; 19	GU-1	6539	15, 20	42.0/LB/5.0/ 25.75/38	Dropped due to low HRR
5	IET 28481 [OR 2573-7] Birupa/IR76561-AC-8-8	O-5 VI-5 VII-5 V-2	5718 5389 6762 5392	8 6; 11 10; 12 8; 31	MA-1 TE-5 KA-4 PU-9	5392 5925 8268 11678	6, 30 15; 11 16; 10 18; 39	47.8/LS/4.0/ 26.81/42	Dropped due to low HRR
6	IET 28171 [RNE-0122] (Hybrid)	VII-1	7431	21; 24	TE-3 TA-1 KA-1 PU-8	6141 7315 8650 11722	18; 34 37; 116 21; 15 18; 40	55.2/MS/5.6/ 26.57/43	Promoted
7	IET 28160 [HRI-202] (Hybrid)	O-1 III-1 VII-2	6114 6133 7337	15; 15 16; 17 19; 22	OD-1 CH-1 AP-2 PU-1	6285 5468 6695 13656	15; 24 10; 29 10; 23 38; 63	63.5/MS/5.3/ 24.46/61	Promoted
8	IET 28163 [PHI-19105] (Hybrid)	VII-4	6870	12; 14	KA-3 PU-3	8432 13133	18; 12 33; 57	40.2/LB/4.0/ 23.11/73	Dropped due to low HRR
9	IET 28472 [ORR1806-OR 2577-41-1] IR 43/Jogesh	VI-4	5496	9, 13				38.5/SB/7.0/ 26.72/25	Dropped due to low HRR
	Best varietal check	O (LC) III (ZC) V (LC) VI (LC) VII (NC)	5314 5267 4980 5065 6141		OD(LC) CH(LC) MA(LC) GU(NC) AP(NC) TE(NC) TA(LC) KA(LC) PU(LC)	5474 4972 5103 5703 6094 5201 5324 7157 9911			
	HRI 174 (HC)	O III V VI VII	5302 5247 4118 4858 6013		OD CH MA GU AP TE TA KA PU	5049 4244 4164 5443 5451 5403 3380 7497 8389			

Note: Zone-IV: single location, no data for HC; Zone-V: HC is inferior to BVC by -17.3%, none of the hybrid and varietal entries recorded required yield superiority over BVC.

IET 28481 (OR 2573-7) from the cross of Birupa/IR76561-AC-8-8 ranked 5<sup>th</sup> on overall basis with a mean yield of 5718 kg/ha and 8% yield advantage over the BVC. On zonal basis, it ranked 2<sup>nd</sup> in central with 5392 kg/ha and yield advantage of 8% over the BVC and 5<sup>th</sup> both in western and southern zones with zonal mean yield 5389 and 6762 kg/ha and 6 and 10% yield advantage over the BVC respectively. It ranked 1<sup>st</sup>, 5<sup>th</sup>, 4<sup>th</sup> and 9<sup>th</sup> in Maharashtra, Telngana, Karnataka and Pudhucherry with 5392, 5925, 8268 and 11678 kg/ha and 6, 15, 16 and 18% yield advantage over the BVC respectively. However, due to low HRR of 47.8%, IET 28481 is dropped.

In addition, 8 more entries (5 varietal and 3 hybrid) viz., IETs 27900, 28444, 28439, 28159 (H), 28481, 28171 (H), 28163 (H) and 28472 on zonal basis recorded required yield superiority over BVC (and HC in case of hybrid entries) and details are furnished in the below table.

### **General observations in AVT1-IM, Kharif 2020**

- On overall basis and across the zones, HRI174 used as hybrid check in AVT 1-IM during *kharif* 2020 recorded inferior performance over the best varietal check (BVC) and it was significantly inferior (-17.3%) to BVC in zone-V. Hence, it is suggested to consider another promising hybrid as check in future IHRT-M and AVT trials.
- Of the 25 locations that sent data, only 13 locations viz., Jeypore, Chiplima, Jagdalpur, Shirgoan, Maruteru, Ragolu, Rajendranagar, Warangal, Aduthurai, Coimbatore, Pattambi, Brahmavar and Gangavati used appropriate duration variety as local check. Also, DFF of NDR 359 (NC) at these locations was well fitting in the IM duration.
- At Mandya, 50% flowering in LC was as low as 62±1 days.
- At most of the places (14 locations), data of DFF shows that LC used in AVT 1-IM trial flowered much earlier (85 to 98 days) viz., Bhubaneswar-93±0.06, Cuttack-92±1.27, Bikramgunj-85±0.58, Sabour-97±0.57, Varanasi-90±0.48, Titabar-96±2.6, Raipur-90±0.86, Sakoli-98±0.37, Sindewahi-98±0.67, Karjat-96±0.77, Navsari-94±0.24, Nawagam-92±0.62, Karaikal-86±1.43, Kurumbapet-94±0.83. Further, similar pattern was observed with NDR 359 (NC).
- At Rudrur, LC is missing

**Considering quality data and required yield advantage, the following three entries are promoted to AVT2-IM (3<sup>rd</sup> year of testing).**

- **IET 27900 [MTU1276 (MTU 2578-56-1)],**
- **IET 28171 [RNE-0122] (Hybrid) and**
- **IET 28160 [HRI-202] (Hybrid).**

## INITIAL VARIETY TRIAL -IRRIGATED MEDIUM (IVT-IM)

**Locations: 45** **Test Entries: 61**

**Checks: NDR 359-National; PR 121 (Northern), CR Dhan 300 (Eastern and North Eastern), Karma Mahsuri (Central), Akshyadhan (Western), Jaya (Southern)- Zonal and Local check.** **Table: 1.41**

IVT-IM trial constituted with 64 entries was sent to 45 locations across the country. The 64 entries included 61 test entries and 3 checks. NDR359 served as national check, while PR121 in northern, CR Dhan 300 in eastern and north eastern, Karma Mahsuri in central, Akshayadhan in western and Jaya in southern as zonal checks and a local check was included. Status of trial conduct/data receipt from locations is given in the following table.

**Status of trial conduct/ data receipt in IVT-IM, kharif 2020**

S. No	Status of trial conduct/ receipt	No of locations	Locations/remarks
1	Data receipt	28	<ul style="list-style-type: none"> <li>• Trial failed at Brahmavar</li> <li>• Data not included in analysis: 8 locations</li> <li>• Data included in the analysis: 18 locations</li> </ul>
2	Non conduct of the trial	8	Kaul, Patna, Chinsurah, Masodha, Varanasi, Gerua, Bilaspur and Rudrur
3	Non receipt of data	8	Pantnagar, Ludhiana, Kota, Bhubaneswar, Arundatinagar, Dhaboi, Kunaram, Jagitial and Aduthurai
4	Trial failure	1	Ranchi

Experimental mean across the locations was in the range of 1983 kg/ha at Jagdalpur to 8106 kg/ha at Karaikal and overall mean varied from 3659 kg/ha (IET 29256) to 6098 kg/ha (IET 27284). CV spanned from as low as 0.34 at Karaikal to as high as 27.14 % at Lembuchera. DFF ranged from 90±11.7 days for IETs 29273 and 29280 to 115±11.7 days for IET 29292, plant height from 81 (IET 28503) to 132 cm (IET 29297) and panicles per square metre from 247 (IET 29255) to 319 (29274). Low experimental mean yield was recorded at Bikramgunj, Sabour, Titabar, Lembuchera, Jagdalpur and Rajendranagar, high CV at Lembuchera and Kurumbapet and low CV at Karaikal, hence these locations were not included in the analysis. The data pertaining to yield, days to 50% flowering, plant height and panicles/m<sup>2</sup> are presented in tables 1.42, 1.43, 1.44, and 1.45 respectively.

On overall basis, local check with mean yield of 5528 kg/ha is the best varietal check (BVC) and three entries (IETs 29284, 29268 and 28383) recorded required yield superiority of more than 5% over the BVC. IET 29284 [MTU 1348 (MTU 2689-45-1-1)] derived from the cross of MTU 1010/Swarna ranked first on overall basis with mean yield of 6098 kg/ha and 10% yield advantage over the BVC. Also, it ranked first in eastern and third in central and southern zones with mean yield of 6270, 5552 and 6875 kg/ha and 17, 12 and 9% yield advantage over the BVC respectively. Among the states, it ranked 1<sup>st</sup>, 3<sup>rd</sup> and 4<sup>th</sup> in Odisha,

Madhya Pradesh and Telangana with mean yield of 6270, 6742 and 9487 kg/ha and yield superiority of 17, 11 and 29% over the BVC respectively. Further, it recorded mean yield of 6468 kg/ha and 9% yield advantage over BVC in Kerala.

### Performance of the promoted entries in IVT-IM, Kharif 2020

S. No	IET No/Designation/Cross combination	Overall			States			DFF
		Rank	Yield	%BVC	Rank	Yield	%BVC	
1	27908 [MTU 1275 (MTU 2385-123-1-2-3)] MTU 1075/MTU 1081/MTU 1121	VII-6	6650	6	AP— TE-9 TA-2	6409 8889 8571	15 21 9	105
2	28383 (OR 2573-11) Birupa/IR 76561-AC-8-8	O-3 III-2 VII-2	5833 5973 7061	6 11 12	OD-2 AP-2 TE-9	5973 7791 8889	11 39 21	101
3	29256 (BPT 3050) BPT 5204/BPT 3291	V-2	5838	18				101
4	29257 (RNR 28399) BPT 5204/IR-79216-141-1-3-3-3	V-6	5415	9	MP-1	6981	15	99
5	29260 (WGL 1377) WGL 14/NLR 34449	VII-7	6647	6	AP— TE— TA-7	6579 8632 8260	18 17 6	103
6	29263 [MTU 1347 (MTU 2414-5-1-1-1-1)] MTU 2077/IR 72	V-4	5434	10	CH-1 MA-2	4563 5797	13 5	102
7	29264 (KJT-2010-3) KJT2/RP Bio 226	V-1	6006	21	MA-1	5859	6	102
8	29268 (OROI-8-IR 88228-33-3-5-2) IR 80410-B-197-4/IR 64 Sub 1//NCIC RC 158	O-2 III-3 VII-1	5899 5791 7195	7 8 14	OD-3 GU-3 AP-5 TE-7 KA-1	5791 5383 6954 9231 7523	8 5 24 26 11	96
9	29276 (WGL 1380) BPT 5204/NR 950	V-5	5422	9				102
10	29278 (NWGR 8001) GR 3/NWGR 97011 (5-1-1-1)	V-8	5257	6	MP-1	6981	15	97
11	29284 [MTU 1348 (MTU 2689-45-1-1)] MTU 1010/Swarna	O-1 III-1 V-3 VII-3	6098 6270 5552 6875	10 17 12 9	OD-1 MP-3 TE-4 KE--	6270 6742 9487 6468	17 11 29 9	100
12	29290 (HURS-19-3) CR 2407/ IR 64	VII-4	6664	6	AP-4 TE--	7197 8034	29 9	100
13	29301 (AD 16124) CO (R) 50 /AD 08132	VII-5	6652	6	AP-6 TE-1	6878 9829	23 34	107
14	29302 (TRC 2020-9) Tripura Sharat/Hakuchuk 2	V-7	5400	9	MP-5	6523	8	97
	BVC	O (LC) III (ZC) V (ZC) VII(LC)	5528 5361 4961 6297		OD (ZC) MA(LC) MP (ZC) CH(LC) GU (NC) AP(LC) TE (NC) KE (NC) KA (NC) TN(LC)	5361 5539 6064 4043 5120 5597 7350 5912 6771 7829		

The second ranking entry on overall basis is IET 29268 (OROI-8-IR 88228-33-3-5-2) derived from IR 80410-B-197-4/IR 64 Sub 1/NCIC RC 158 recorded mean yield of 5899 kg/ha and yield advantage of 7% over the BVC. Further, it ranked 3<sup>rd</sup> and 1<sup>st</sup> in eastern and southern zones with zonal mean yield of 5791 and 7195 kg/ha and 8 and 14% yield advantage over the BVC respectively. It out yielded the BVC in 5 states viz., Odisha, Gujarat, Andhra Pradesh, Telangana and Karnataka with state mean yield of 5791, 5383, 6954, 9231 and 7523 kg/ha and yield advantage of 8, 5, 24, 26 and 11% over the BVC respectively.

IET 28383 (OR 2573-11) from Birupa/IR 76561-AC-8-8 ranked 3<sup>rd</sup> on overall basis with mean yield of 5833 kg/ha and 6% yield advantage over the BVC. In the zones, it ranked 2<sup>nd</sup> both in eastern and southern zones with mean yield of 5973 and 7061 kg/ha and yield advantage of 11 and 12% respectively. It ranked 2<sup>nd</sup> in Odisha and Andhra Pradesh and 9<sup>th</sup> in Telangana with state mean yield of 5973, 7791 and 8889 kg/ha and yield advantage of 11, 39 and 21 % over the BVC respectively.

In addition to the above three entries (IETs 29284, 29268 and 28383), 11 more entries viz., IETs 27908, 29256, 29257, 29260, 29263, 29264, 29276, 29278, 29290, 29301 and 29302 outperformed the respective BVCs on zonal basis and details are given the table. All the 14 entries listed in the table are promoted to AVT 1-IM.

Further, it is observed that yield data is missing at few locations for some of the entries viz., IETs 28503, 28523, 29286, 29287, 29288 and 29289 with more than 5% yield advantage (up to 28%) in two or more states in southern zone, hence should be repeated in IVT-IM.

**Promoted to AVT1-IM: IETs 29284, 29268 and 28383, IETs 27908, 29256, 29257, 29260, 29263, 29264, 29276, 29278, 29290, 29301 and 29302**

**Considered as repeat in IVT-IM: IETs 28503, 28523, 29286, 29287, 29288 and 29289.**

**Table No. 1.29: Composition of entries in Advance Variety Trial 2 - Irrigated Medium (AVT 2-IM), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>3<sup>rd</sup> year of testing:</b>				
4001	27263 (R)	CR 4113-3-2-1	CR 3724-1 / TJ 171-1	LB
4002	27686	MTU 1310 (MTU 2613-25-1-4)	MTU 1075 / CR 3598-1-4-2-1	MS
4003	27384	<i>PHI-18102 (Hybrid)</i>	-	LB
4004	25530	CR 3561-3-2-1-1-1-1	Surendra / Annapurna	SB
4005	<b>NDR 359 (NC)</b>			
4006	27380	<i>NPH-X8 (Hybrid)</i>	-	LB
4007	<b>PR121-Northern, CR Dhan 300- Eastern and North Eastern, Karma Mahsuri-Central, Akshyadhan-Western, Jaya- Southern--ZC</b>			
4008	26418 (R)	CR 3969-24-1-2-1-1	IR 73907-753-2-3 / Pratiksyta	LB
4009	27705	MTU 1280 (MTU 2274-8-1-1-9)	MTU 1001 / KMP 150	LB
4010	<b>HRI 174 (HC)</b>			
4011	27387	<i>PHI-18104 (Hybrid)</i>	-	MS
4012	27689	CR 3516-1-1-2-1-1-4	Birupa / Pusa 44	MS
4013	<b>Local Check</b>			
<b>2<sup>nd</sup> year of testing:</b>				
4014	28783	CSR 189-11-123	Sarjoo 52 / FL 478 /*4	MS
4015	<b>Sarjoo 52 (RP)</b>			
4016	27280 (R)	RP 5989-47-15-11-1-126-2-13-11	Akshyadhan /// FBRI-15	LB
4017	<b>Akshyadhan (RP)</b>			
4018	28791	KR 16024	ADT 46 *3 / Swarna sub-1	LS
4019	28789	KR 16022	ADT 46 *3 / Swarna sub-1	LB
4020	<b>ADT 46 (RP)</b>			
4021	28017	Pusa 1823-12-62	Pusa 44 / IR81896-B-B-142 // Pusa 44*3	LB
4022	28018	Pusa 1823-12-82	Pusa 44 / IR81896-B-B-142 // Pusa 44*3	LB
4023	<b>Pusa 44 (RP)</b>			

**Table No.1.30: Grain Yield (Kg/ha) of entries in AVT2- IM, Kharif, 2020 Zone -II**

Entry No	IET No.	Zone II	
		HR	KUL
4005	NDR 359 (NC)	4474	1
4007	Zonal Check (ZC)		
4008	26418		
4010	HRI 174 (HC)	3355	4
4013 (LC)	Local Check (LC)	4283	2
4021	28017	3437	3
4022	28018	2646	6
4023	Pusa 44 (RP)	2864	5
<b>Exp. Mean</b>		<b>3510</b>	
CD		429.48	
CV		<b>6.73</b>	
D/S		19-07-2020	
D/P		15-08-2020	
Local Check Name		HKR-128	

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Table No.1.30 contd.: Grain Yield (Kg/ha) of entries in AVT2- IM, Kharif, 2020 Zone-III

Entry No.	IET No.	ZONE III														
		PU			PU (3)			OD								
		CTK	JYP	CHP	Mean			BKG	SBR	@PTN						
4001	27263	6386	1 * #	1400	6261	6 #	4682	10	5541	1 * #	4029	3 *	6667	3		
4003	27384	5190	8	1169	6314	5 #	4224		4514	7	4278	2 *	5360			
4004	25530	5787	3	5412	6	7206	1 * #	6135	1 * 19% #	13%	4784	3 *	3664	7	6403	6
4005	NDR 359 (NC)	3877		4012	4503		4131		4108	9	3157	10	6833	2		
4006	27380	5336	5	3226	7092	2 * #	5218	6	4703	4 *	4386	1 *	5447			
4007	Zonal Check (ZC)	5283	6	5486	5	4167	4979	9	3270		1501		3113			
4008	26418	3606		1420	4761		3262		4568	5 *	2817		6567	4		
4010	HRI 174 (HC)	5225	7	5788	3	5300	9	5438	5	6%	4811	2 *	4000	4 *	5593	
4011	27387	6011	2 * #	4887	7	6944	3 * #	5947	3 * 15% #		4270	8	3788	5	7553	1
4012	27689	5721	4	5844	2	6586	4 #	6050	2 * 17% #	11%	3865		3737	6	6277	7
4013	Local Check (LC)	4615	9	4621	8	6214	7 #	5150	7		4090	10	2663		4053	
4014	28783	4135		4519	9	3736		4130					3473	8	6020	8
4015	Sarjoo 52 (RP)	4247	10	2037		3347		3210			4568	5 *	3413	9	5867	9
4016	27280	4194		5926	1	5153	10	5091	8		4054		2269		5713	10
4017	Akshyadhan (RP)	4060		3745		5681	8	4495			3622		3111		6493	5
4021	28017			4109	10			4109								
4022	28018			1461				1461								
4023	Pusa 44 (RP)			5698	4			5698	4 * 11%							
<b>Exp. Mean</b>		<b>4911</b>		<b>3931</b>		<b>5551</b>		<b>4634</b>			<b>4340</b>		<b>3352</b>		<b>5864</b>	
CD		689.87		614.64		541.72		349.22			428.3		654.18		475.8	
CV%		8.4		9.42		5.84		4.54			5.88		11.67		4.85	
DIS		25-07-2020		11-08-2020		20-07-2020					27-07-2020		21-07-2020		23-07-2020	
DIP		01-09-2020		05-09-2020		21-08-2020					22-08-2020		14-08-2020		21-08-2020	
Local Check Name		Tapaswini		Pratikshya		Pratikshya					Rajendra Mahsuri-1		Rajendra Sweta		Rajendra Sweta	

Table No.1.30 contd.: Grain Yield (Kg/ha) of entries in AVT2- IM, Kharif, 2020 Zone-III

Entry No.	IET No.	ZONE III									
		OD (2)		BI		JH (1)		UP		Zone III (6)	
		Mean		@RCI		CHN		@VRN		Mean	
4001	27263	4785	1 * 32%	1022		7310	3 # 35%	4428	6	5155	6 * 12%
4003	27384	4396	4 * 21%	3200	1	6910	5 # 27%	5273	2 * #	4729	8
4004	25530	4224	5 * 16%	2022	5	6387	6 # 18%	4099	10	5540	3 * 21% #
4005	NDR 359 (NC)	3633	10	2089	3	7898	2 # 46%	4512	5	4593	
4006	27380	4545	2 * 25%	2867	2	7248	4 # 34%	4677	3	5332	4 * 16% #
4007	Zonal Check (ZC)	2386		178		5522	10	4068		4205	
4008	26418	3693	9	1289		5371		4085		3757	
4010	HRI 174 (HC)	4406	3 * 21%	1556	8	5423		4350	8	5091	7 * 11%
4011	27387	4029	6 11%	1378		7987	1 # 47%	5609	1 * #	5648	2 * 23% # 11%
4012	27689	3801	8	1244		6023	8 11%	4529	4	5296	5 * 15%
4013	Local Check (LC)	3377		1556	8	5380		4073		4597	10
4014	28783	3473		1000		5075		4145	9	4188	
4015	Sarjoo 52 (RP)	3991	7 10%	1644	7	5713	9	4061		3888	
4016	27280	3162		1444	10	6079	7 # 12%	4054		4613	9
4017	Akshyadhan (RP)	3367		2089	3	5448		4374	7	4278	
4021	28017			1244						4109	
4022	28018			1178						1461	
4023	Pusa 44 (RP)			1778	6					5698	1 * 24% # 12%
<b>Exp. Mean</b>		<b>3817</b>		<b>1599</b>		<b>6252</b>		<b>4422</b>		<b>4565</b>	
CD		439.81		688.12		613.27		359.24		218.83	
CV%		6.89		25.94		5.87		4.86		2.89	
DIS						27-07-2020				17-07-2020	
DIP						21-08-2020				07-08-2020	
Local Check Name						NAVEEN				HUR-105	



**Table No.1.30 contd.: Grain Yield (Kg/ha) of entries in AVT2- IM, Kharif 2020 Zone -IV &VI**

Entry No.	IET No.	ZONE IV (1)		ZONE VI					
		AS (1)		MA				MA (2)	
		TTB		KJT		SHR		Mean	
4005	NDR 359 (NC)	4730	2	4657	5	5510	4	5084	5
4007	Zonal Check (ZC)	2069	5	5417	2	5730	2	5574	2
4008	26418	3720	3	5633	1	5333	5	5483	3
4010	HRI 174 (HC)	3449	4	4973	4	6250	1	5612	1
4013	Local Check (LC)	4906	1	5217	3	5620	3	5419	4
<b>Exp. Mean</b>		<b>3775</b>		<b>5179</b>		<b>5689</b>		<b>5434</b>	
CD		661.69		791.59		574.52		539.54	
CV%		13.07		11.4		7.53		7.41	
D/S		12-08-2020		19-07-2020		21-07-2020			
D/P		01-09-2020		10-08-2020		17-08-2020			
<b>Local Check Name</b>		Shraboni (TTB-404)		Karjat -5		Ratnagiri 8			

**Table No. 1.30 contd.: Grain Yield (Kg/ha) of entries in AVT2- IM, Kharif 2020 Zone -IV & VI**

Entry No.	IET No.	ZONE VI							
		GU				GU (2)		Zone VI (4)	
		NVS		NWG		Mean		Mean	
4005	NDR 359 (NC)	5095	1	4485	4	4790	4	4937	4
4007	Zonal Check (ZC)	4696	3	5670	1	5183	2	5378	2
4008	26418	4017	5	4484	5	4251	5	4867	5
4010	HRI 174 (HC)	4853	2	5560	3	5207	1	5409	1
4013	Local Check (LC)	4068	4	5590	2	4829	3	5124	3
<b>Exp. Mean</b>		<b>4546</b>		<b>5158</b>		<b>4810</b>		<b>5146</b>	
CD		791.7		607.08		449.61		382.34	
CV%		12.99		7.56		6.97		5.54	
D/S		21-07-2020		31-07-2020					
D/P		19-08-2020		10-09-2020					
<b>Local Check Name</b>		GNR-5		GAR-13					

**Table No.1.30 contd.: Grain Yield (Kg/ha) of entries in AVT2- IM, Kharif, 2020 Zone V**

Entry No.	IET NO.	ZONE V							
		MP		CH					
		@WRS		RPB		JDP		BLP	
4005	NDR 359 (NC)	4720	4	5558	3	3692	3	5600	4
4007	Zonal Check (ZC)	4543	6	4375	6	3524	5	6400	1
4008	26418	4630	5	5007	4	3298	6	4200	6
4010	HRI 174 (HC)	4959	2	5913	1	3604	4	6200	3
4011	27387	6307	1 *	5630	2	4917	1 * #	6367	2
4013	Local Check (LC)	4812	3	4761	5	4304	2	5233	5
<b>Exp. Mean</b>		<b>4995</b>		<b>5207</b>		<b>3890</b>		<b>5667</b>	
CD		1438.2		810.19		604		954.63	
CV%		<b>21.82</b>		<b>11.79</b>		<b>11.77</b>		<b>11.08</b>	
D/S		24-07-2020		16-07-2020		15-07-2020		16-07-2020	
D/P		26-08-2020		30-07-2020		07-08-2020		31-07-2020	
<b>Local Check Name</b>		JRB 1		IGKV R 1244		IGKVR 1244		Chandrasani	

**Table No.1.30 contd.: Grain Yield (Kg/ha) of entries in AVT2- IM, Kharif, 2020 Zone-V**

Entry No.	IET NO.	ZONE V									
		CH (3)		MA			MA (2)		Zone V (5)		
		Mean		SKL	SND		Mean		Mean		
4005	NDR 359 (NC)	4950	3	6058	2	4290	3	5174	2	5040	3
4007	Zonal Check (ZC)	4766	4	4194	6	5087	1	4641	3	4716	4
4008	26418	4168	6	5388	4	3434	4	4411	5	4265	6
4010	HRI 174 (HC)	5239	2	6612	1	4890	2	5751	1	5444	1
4011	27387	5638	1 * 14%	5691	3	3411	5	4551	4	5203	2
4013	Local Check (LC)	4766	4	4585	5	3290	6	3938	6	4435	5
<b>Exp. Mean</b>		<b>4856</b>		<b>5421</b>		<b>4067</b>		<b>4744</b>		<b>4818</b>	
CD		486.69		635.18		648.4		448.91		293.02	
CV%		<b>7.60</b>		<b>8.88</b>		<b>12.08</b>		<b>7.17</b>		<b>4.61</b>	
D/S				22-07-2020		15-07-2020					
D/P				12-08-2020		05-08-2020					
Local Check Name				PDKV Kisan		SYE-2001					

**Table No.1.30 contd.: Grain Yield (Kg/ha) of entries in AVT2- IM, Kharif, 2020 Zone-VII**

Entry No.	IET No.	ZONE VII												
		AP			AP (2)				TE					
		MTU	RGL		Mean				@RDR	RNR		KNP		
4002	27686	4483	6	7292	2 * #	5888	3	# 12%	3523	9	7345	1 #	5549	7 #
4005	NDR 359 (NC)	2682		6069	7	4376	10		3685	6	5358	8	6466	1
4007	Zonal Check (ZC)	2874	10	4992		3933			3015		5277	9	4382	
4008	26418	3985	7	6404	5 #	5195	7		3577	8	5424	7	5616	6 #
4009	27705	4828	5	7608	1 * #	6218	1	9% # 18%	5842	1 #	6968	4	5632	5 #
4010	HRI 174 (HC)	5900	2	4599		5250	6		4312	4	6181	6	3667	
4013	Local Check (LC)	5747	3	5671	8	5709	5		5260	2	7183	3	5156	10
4016	27280	3199	9	5640	9 #	4420	9		3689	5	6211	5	5445	9 #
4017	Akshyadhan (RP)	2031		5390	10	3711			3232	10	7266	2 #	5462	8 #
4018	28791	5249	4	6408	4 #	5829	4	# 11%	3203		4824	10	6058	2 #
4019	28789	3793	8	6458	3 #	5126	8		4720	3	4661		6055	3 #
4020	ADT 46 (RP)	6015	1	6300	6 #	6158	2	8% # 17%	3685	6	4731		6046	4 #
Exp. Mean		<b>4232</b>		<b>6069</b>		<b>5151</b>			<b>3978</b>		<b>5952</b>		<b>5461</b>	
CD		816.48		904.26		563.58			275.69		794.93		842.42	
CV%		<b>11.39</b>		<b>8.8</b>		<b>6.46</b>			<b>3.15</b>		<b>7.89</b>		<b>9.11</b>	
D/S		20-07-2020		16-07-2020					16-07-2020		10-07-2020		21-07-2020	
D/P		14-08-2020		17-08-2020					12-08-2020		30-07-2020		24-08-2020	
Local Check Name		MTU 1075		RGL 2538					JGL-3855		RNR 11718		JGL 11727	

**Table No.1.30 contd.: Grain Yield (Kg/ha) of entries in AVT2- IM, Kharif, 2020 Zone VII**

Entry No.	IET No.	ZONE VII													
		TE		TE (4)			TA (1)		KE (1)		KA				
		WGL	JGL	Mean			CBT		PTB		MND				
4002	27686	4894	4 * #	3861	9	5412	4 * 11% # 30%	8185	1	21%	4481	5	15%	5995	5
4005	NDR 359 (NC)	3611	7	3619	10	4764	10	4802	10		4843	1		5297	9
4007	Zonal Check (ZC)	3532	8	3423		4154		3797			4597	3		5451	8
4008	26418	3929	6	5981	2 * #	5238	5	7% # 26%	4538		4005	7		5204	
4009	27705	5489	2 * #	5040	5 * #	5782	2 * 18% # 39%	7666	3	13%	3898	9		7230	1 *
4010	HRI 174 (HC)	3426		3363		4159		6786	5		3898	9		6181	3
4013	Local Check (LC)	3029		4172	7	4885	9	8015	2		3833			5216	10
4016	27280	7262	1 * #	4874	6 * #	5948	1 * 22% # 43%	6060	9		4708	2 #	21%	2052	
4017	Akshyadhan (RP)	3479	9	3993	8	5050	7	# 21%	6323	8	3843			6530	2
4018	28791	5384	3 * #	6324	1 * #	5648	3 * 16% # 36%	6734	6		4287	6		6059	4
4019	28789	4061	5	5677	4 * #	5114	6	# 23%	7433	4	3972	8		5619	6
4020	ADT 46 (RP)	3452	10	5842	3 * #	5018	8	# 21%	6331	7	4523	4	16%	5564	7
Exp. Mean		<b>4296</b>		<b>4681</b>		<b>5098</b>		<b>6389</b>			<b>4241</b>			<b>5533</b>	
CD		672.02		673.94		406.02		1475.34			720.97			1120.46	
CV%		<b>9.24</b>		<b>8.5</b>		<b>4.7</b>		<b>13.64</b>			<b>10.04</b>			<b>11.96</b>	
D/S		14-07-2020		14-07-2020				29-07-2020						07-09-2020	
D/P		11-08-2020		21-08-2020				21-08-2020						08-10-2020	
Local Check Name		WGL-32100		JGL 11470				CO(R) 50						swetha	

**Table No.1.30 contd.: Grain Yield (Kg/ha) of entries in AVT2- IM, Kharif, 2020 Zone VII**

Entry No	IET No.	ZONE VII																	
		KA			KA (2)			PUD	Zone VII (10)			Zone VII (10)							
		@BRM	GNV	Mean			@KBP	Mean			Mean								
4002	27686	114	10	8558	2	7277	2	11%	6500	8	6064	2*	11% #	16%	6064	2*	11% #	16%	
4005	NDR 359 (NC)	331	3	7859	5	6578	6		9533	2	5061				5061				
4007	Zonal Check (ZC)	417	2	6978	10	6215	10		4400		4530				4530				
4008	26418	146	8	7913	4	6559	7		4867		5300	7			5300	7			
4009	27705	277	4	9228	1* #	8229	1*	25%	15%	8367	7	6359	1*	16% #	22%	6359	1*	16% #	22%
4010	HRI 174 (HC)	230	5	8115	3	7148	3		8600	5	5212	9			5212	9			
4013	Local Check (LC)	208	6	6667		5942			5533	10	5469	6			5469	6			
4016	27280	480	1* #	7551	7	4802			8600	5	5300	7			5300	7			
4017	Akshyadhan (RP)	174	7	6410		6470	8		5800	9	5073	10			5073	10			
4018	28791			7179	8	6619	5		10000	1	5851	3*	7% #	12%	5851	3*	7% #	12%	
4019	28789	116	9	7673	6	6646	4		9533	2	5540	5			5540	5			
4020	ADT 46 (RP)			7141	9	6353	9		9300	4	5595	4	#		5595	4	#		
	Exp. Mean	249		7606		6277			7586		5364				5364				
CD		60.28		919.71		1151.28			3467.64		351.19				351.19				
CV%		14.09		5.43		10.83			26.99		3.87				3.87				
D/S		20-07-2020		29-07-2020					25-09-2020										
D/P		06-08-2020		24-08-2020					23-10-2020										
Local Check Name		MO-4		BPT-5204					CO (R) 52										

**Table No.1.31: Days to 50% flowering of entries of AVT2- IM (Zone II), Kharif 2020**

Entry No	IET No.	Zone II	
		HR	KUL
4005	NDR 359 (NC)		96
4007	Zonal Check (ZC)		
4008	26418		
4010	HRI 174 (HC)		101
4013 (LC)	Local Check (LC)		99
4021	28017		99
4022	28018		100
4023	Pusa 44 (RP)		99
<b>Exp. Mean</b>			<b>99</b>

**Table No.1.31 contd.: Days to 50% flowering of entries of AVT2- IM (Zone III), Kharif 2020**

Entry No.	IET No.	ZONE III											
		PU			PU (3)	OD			OD (2)	BI	JH (1)	UP	Zone III (6)
		CTK	JYP	CHP	Mean	BKG	SBR	@PTN	Mean	@RCI	CHN	@VRN	Mean
4001	27263	96	110	119	108	99	92	103	96	109	101	92	103
4003	27384	94	114	115	107	86	85	90	86	107	89	83	97
4004	25530	96	102	119	106	89	95	96	92	109	101	92	100
4005	NDR 359 (NC)	96	119	121	112	88	92	91	90	106	91	80	101
4006	27380	91	100	114	102	87	85	92	86	111	91	86	95
4007	Zonal Check (ZC)	121	92	116	110	101	111	121	106	110	108	102	108
4008	26418	95	96	121	104	100	91	97	95	116	103	95	101
4010	HRI 174 (HC)	92	108	121	107	89	93	91	91	110	93	79	99
4011	27387	94	120	120	111	88	94	95	91	108	94	86	102
4012	27689	98	106	117	107	89	95	100	92	108	100	87	101
4013	Local Check (LC)	92	109	108	103	100	93	103	97	107	107	86	102
4014	28783	91	93	112	99		94	91	94	110	90	83	96
4015	Sarjoo 52 (RP)	99	112	116	109	94	100	92	97	104	97	90	103
4016	27280	108	105	120	111	91	93	100	92	114	100	91	103
4017	Akshyadhan (RP)	94	105	115	105	90	93	96	91	109	96	82	99
4021	28017		108		108					102			108
4022	28018		109		109					103			109
4023	Pusa 44 (RP)		108		108					101			108
<b>Exp. Mean</b>		<b>97</b>	<b>106</b>	<b>117</b>	<b>107</b>	<b>92</b>	<b>94</b>	<b>97</b>	<b>93</b>	<b>108</b>	<b>97</b>	<b>88</b>	<b>102</b>

**Table No.1.31 contd.: Days to 50% flowering of entries of AVT2- IM (Zone IV&VI), Kharif 2020**

Entry No.	IET No.	ZONE IV (1)		ZONE VI							
		AS (1)		MA		MA (2)		GU		GU (2)	Zone VI (4)
		TTB	KJT	SHR	Mean	NVS	NWG	Mean	Mean		
4005	NDR 359 (NC)	88	90	93	92	88	83	85	88		
4007	Zonal Check (ZC)	100	94	93	94	88	88	88	91		
4008	26418	94	96	94	95	93	96	94	95		
4010	HRI 174 (HC)	105	92	95	93	88	98	93	93		
4013	Local Check (LC)	91	95	106	101	85	101	93	97		
<b>Exp. Mean</b>		<b>96</b>	<b>93</b>	<b>96</b>	<b>95</b>	<b>88</b>	<b>93</b>	<b>91</b>	<b>93</b>		

**Table No.1.31 contd.: Days to 50% flowering of entries of AVT2- IM (Zone VII), Kharif 2020**

Entry No.	IET NO.	ZONE V								
		MP	CH			CH (3)	MA		MA (2)	Zone V (5)
		@WRS	RPB	JDP	BLP	Mean	SKL	SND	Mean	Mean
4005	NDR 359 (NC)	92	89	109	91	96	98	100	99	97
4007	Zonal Check (ZC)	93	94	109	94	99	99	99	99	99
4008	26418	102	104	107	100	104	102	103	103	103
4010	HRI 174 (HC)	95	92	105	95	97	99	101	100	98
4011	27387	98	89	112	94	98	97	100	99	98
4013	Local Check (LC)	84	95	105	91	97	95	99	97	97
<b>Exp. Mean</b>		<b>94</b>	<b>94</b>	<b>108</b>	<b>94</b>	<b>99</b>	<b>98</b>	<b>100</b>	<b>99</b>	<b>99</b>

**Table No.1.32: Plant Height (cm) of entries of AVT2- IM (Zone II), Kharif 2020**

Entry No	IET No.	Zone II	
		HR	
		KUL	
4005	NDR 359 (NC)	68.0	
4007	Zonal Check (ZC)		
4008	26418		
4010	HRI 174 (HC)	66.0	
4013 (LC)	Local Check (LC)	67.0	
4021	28017	56.0	
4022	28018	54.0	
4023	Pusa 44 (RP)	52.0	
<b>Exp. Mean</b>		<b>60.50</b>	

**Table No.1.32 contd.: Plant Height (cm) of entries of AVT2- IM (Zone III), Kharif 2020**

Entry No.	IET No.	ZONE III												
		PU			PU (3)	OD			OD (2)	BI	JH (1)	UP	Zone III (6)	Overall (6)
		CTK	JYP	CHP	Mean	BKG	SBR	@PTN	Mean	@RCI	CHN	@VRN	Mean	Mean
4001	27263	105.13	70.13	109.30	94.86	84.67	113.67	108.18	99.17	80.00	114.67	121.73	99.59	99.59
4003	27384	99.27	73.87	94.75	89.29	105.00	104.44	105.81	104.72	74.00	110.33	107.87	97.94	97.94
4004	25530	107.60	75.13	98.48	93.74	97.67	106.22	108.60	101.94	80.00	123.00	104.53	101.35	101.35
4005	NDR 359 (NC)	86.60	65.67	90.40	80.89	94.33	92.11	101.28	93.22	80.00	110.67	101.70	89.96	89.96
4006	27380	90.87	66.40	97.25	84.84	111.67	100.44	96.32	106.06	70.00	111.67	111.27	96.38	96.38
4007	Zonal Check (ZC)	107.07	66.87	86.35	86.76	96.33	99.33	93.22	97.83	71.00	117.33	102.00	95.55	95.55
4008	26418	98.27	65.73	90.15	84.72	89.67	94.67	97.33	92.17	63.00	106.00	102.47	90.75	90.75
4010	HRI 174 (HC)	92.33	73.93	88.90	85.06	86.33	95.67	104.32	91.00	72.00	114.00	114.93	91.86	91.86
4011	27387	95.00	75.00	95.83	88.61	95.33	93.78	101.68	94.56	69.00	111.67	109.80	94.43	94.43
4012	27689	96.67	64.73	89.90	83.77	104.33	97.44	97.33	100.89	67.00	111.00	110.87	94.01	94.01
4013	Local Check (LC)	89.33	76.00	99.60	88.31	108.00	77.11	85.63	92.56	90.00	110.33	105.90	93.40	93.40
4014	28783	87.53	66.40	96.80	83.58		92.11	104.69	92.11	74.00	109.67	103.80	90.50	90.50
4015	Sarjoo 52 (RP)	91.67	80.27	92.10	88.01	87.67	84.11	102.91	85.89	69.00	126.33	104.93	93.69	93.69
4016	27280	107.73	68.27	91.80	89.27	95.67	108.00	108.84	101.83	83.00	117.67	115.33	98.19	98.19
4017	Akshyadhan (RP)	104.87	80.80	103.50	96.39	81.00	108.11	108.56	94.56	88.00	116.67	120.80	99.16	99.16
4021	28017		81.43		81.43					82.00			81.43	81.43
4022	28018		76.47		76.47					78.00			76.47	76.47
4023	Pusa 44 (RP)		75.13		75.13					80.00			75.13	75.13
<b>Exp. Mean</b>		<b>15.00</b>	<b>18.00</b>	<b>15.00</b>	<b>18.00</b>	<b>14.00</b>	<b>15.00</b>	<b>15.00</b>	<b>15.00</b>	<b>18.00</b>	<b>15.00</b>	<b>15.00</b>	<b>18.00</b>	<b>18.00</b>

**Table No.1.32 contd.: Plant Height (cm) of entries of AVT2- IM (Zone IV&VI), Kharif 2020**

Entry No.	IET No.	ZONE IV (1)		ZONE VI						
		AS (1)		MA		MA (2)	GU		GU (2)	Zone VI (4)
		TTB	KJT	SHR	Mean	NVS	NWG	Mean	Mean	
4005	NDR 359 (NC)	101.90	111.00	90.40	100.70	111.70	82.15	96.93	98.81	
4007	Zonal Check (ZC)	97.13	138.00	107.20	122.60	131.40	102.25	116.83	119.71	
4008	26418	93.53	127.00	105.50	116.25	109.50	84.50	97.00	106.63	
4010	HRI 174 (HC)	105.53	119.00	103.00	111.00	124.80	91.80	108.30	109.65	
4013	Local Check (LC)	101.00	119.00	94.50	106.75	120.10	84.00	102.05	104.40	
<b>Exp. Mean</b>		<b>99.82</b>	<b>122.80</b>	<b>100.12</b>	<b>111.46</b>	<b>119.50</b>	<b>88.94</b>	<b>104.22</b>	<b>107.84</b>	

**Table No. 1.32 contd.: Plant Height (cm) of entries of AVT2- IM (Zone IV&VI), Kharif 2020**

Entry No.	IET NO.	ZONE V									
		MP	CH				CH (3)	MA		MA (2)	Zone V (5)
		@WRS	RPB	JDP	BLP	Mean	SKL	SND	Mean	Mean	
4005	NDR 359 (NC)	123.00	117.35	86.12	107.00	103.49	85.00	125.00	105.00	104.09	
4007	Zonal Check (ZC)	112.70	101.46	87.12	98.00	95.53	99.00	126.76	112.88	102.47	
4008	26418	107.80	101.25	84.16	106.00	97.14	98.00	129.80	113.90	103.84	
4010	HRI 174 (HC)	109.20	117.46	86.56	112.00	105.34	101.00	116.48	108.74	106.70	
4011	27387	117.50	118.05	81.28	109.00	102.78	102.00	113.88	107.94	104.84	
4013	Local Check (LC)	113.00	119.13	82.24	107.00	102.79	106.00	115.04	110.52	105.88	
<b>Exp. Mean</b>		<b>113.87</b>	<b>112.45</b>	<b>84.58</b>	<b>106.50</b>	<b>101.18</b>	<b>98.50</b>	<b>121.16</b>	<b>109.83</b>	<b>104.64</b>	

**Table No. 1.32 contd.: Plant Height (cm) of entries of AVT2- IM (Zone-VII), Kharif 2020**

Entry No.	IET No.	ZONE VII								
		AP		AP (2)	TE				TE (4)	
		MTU	RGL	Mean	@RDR	RNR	KNP	WGL	JGL	Mean
4002	27686	109.87	113.67	111.77	104.50	105.33	88.15	109.33	86.60	97.35
4005	NDR 359 (NC)	109.87	101.33	105.60	106.90	99.53	96.91	107.60	96.93	100.24
4007	Zonal Check (ZC)	101.80	107.87	104.83	94.00	104.27	73.70	94.40	86.73	89.78
4008	26418	113.80	118.80	116.30	89.10	104.47	87.19	101.40	99.53	98.15
4009	27705	119.80	137.20	128.50	102.00	118.25	96.81	110.93	98.73	106.18
4010	HRI 174 (HC)	116.53	110.40	113.47	101.80	121.80	83.07	103.13	93.27	100.32
4013	Local Check (LC)	116.07	98.87	107.47	109.00	105.67	123.80	89.10	99.80	104.59
4016	27280	133.13	115.87	124.50	111.10	141.87	113.95	123.40	114.20	123.35
4017	Akshyadhan (RP)	121.53	120.47	121.00	112.30	140.00	102.06	115.13	104.93	115.53
4018	28791	124.80	115.93	120.37	101.30	104.53	112.12	111.67	106.00	108.58
4019	28789	117.73	108.13	112.93	100.50	106.73	102.89	105.80	98.73	103.54
4020	ADT 46 (RP)	116.67	110.13	113.40	98.10	106.13	99.67	107.93	102.00	103.93
<b>Exp. Mean</b>		<b>116.80</b>	<b>113.22</b>	<b>115.01</b>	<b>102.55</b>	<b>113.22</b>	<b>98.36</b>	<b>106.65</b>	<b>98.96</b>	<b>104.30</b>

**Table No. 1.32 contd.: Plant Height (cm) of entries of AVT2- IM (Zone-VII), Kharif 2020**

Entry No.	IET No.	ZONE VII							
		TA (1)	KE (1)	KA		KA (2)	PUD	Zone VII (10)	
		CBT	PTB	MND	@BRM	GNV	Mean	@KBP	Mean
4002	27686	107.00	89.33	96.87	84.00	102.75	99.81	101.67	100.89
4005	NDR 359 (NC)	100.00	87.73	88.73	75.00	102.25	95.49	90.33	99.09
4007	Zonal Check (ZC)	99.00	94.20	90.87	68.00	100.00	95.43	72.00	95.28
4008	26418	91.00	101.00	91.87	78.00	103.50	97.68	88.00	101.26
4009	27705	107.44	86.65	95.00	81.00	103.50	99.25	102.53	107.43
4010	HRI 174 (HC)	99.00	90.13	94.60	72.50	101.50	98.05	97.67	101.34
4013	Local Check (LC)	103.00	74.89	98.47	75.50	99.00	98.73	89.00	100.87
4016	27280	107.00	96.85	105.00	92.00	108.25	106.63	127.33	115.95
4017	Akshyadhan (RP)	99.00	97.46	99.47	84.00	107.75	103.61	102.13	110.78
4018	28791	101.00	92.56	92.13	87.00	108.25	100.19	110.00	106.90
4019	28789	107.00	81.00	90.33	78.50	105.75	98.04	110.00	102.41
4020	ADT 46 (RP)	106.00	100.40	95.47	83.50	105.75	100.61	117.00	105.02
<b>Exp. Mean</b>		<b>102.20</b>	<b>91.02</b>	<b>94.90</b>	<b>79.92</b>	<b>104.02</b>	<b>99.46</b>	<b>100.64</b>	<b>103.93</b>

**Table No.1.33: Panicles/m<sup>2</sup> of entries in AVT2- IM (Zone II), Kharif 2020**

Entry No	IET No.	Zone II
		HR
		KUL
4005	NDR 359 (NC)	279.67
4007	Zonal Check (ZC)	
4008	26418	
4010	HRI 174 (HC)	265.67
4013 (LC)	Local Check (LC)	241.67
4021	28017	212.67
4022	28018	186.67
4023	Pusa 44 (RP)	220.33
<b>Exp. Mean</b>		<b>234.44</b>

**Table No.1.33 contd.: Panicles/m2 of entries in AVT2- IM (Zone III), Kharif 2020**

Entry No.	IET No.	ZONE III												
		PU			PU (3)	OD			OD (2)	BI	JH (1)	UP	Zone III (6)	Overall (6)
		CTK	JYP	CHP	Mean	BKG	SBR	@PTN	Mean	@RCI	CHN	@VRN	Mean	Mean
4001	27263	254	342	178	258	237	175	259	206	167	319	228	251	251
4003	27384	267	316	286	290	275	193	250	234	155	286	227	270	270
4004	25530	282	332	196	270	254	193	245	224	174	264	262	254	254
4005	NDR 359 (NC)	263	354	249	289	223	159	221	191	174	374	249	270	270
4006	27380	293	306	279	293	239	197	250	218	183	308	242	270	270
4007	Zonal Check (ZC)	256	317	212	262	225	155	262	190	153	231	280	233	233
4008	26418	272	364	247	294	271	216	297	244	173	220	274	265	265
4010	HRI 174 (HC)	308	338	214	287	244	234	263	239	151	231	267	262	262
4011	27387	233	311	226	257	246	220	286	233	177	385	194	270	270
4012	27689	284	365	198	282	269	232	305	250	181	275	271	270	270
4013	Local Check (LC)	250	330	209	263	284	235	308	260	170	253	290	260	260
4014	28783	325	355	207	296		303	344	303	234	396	255	317	317
4015	Sarjoo 52 (RP)	293	353	240	296	247	318	346	283	210	275	307	288	288
4016	27280	250	288	283	274	241	231	284	236	171	286	251	263	263
4017	Akshyadhan (RP)	254	343	232	276	238	152	274	195	145	209	257	238	238
4021	28017		357		357						160		357	357
4022	28018		350		350						197		350	350
4023	Pusa 44 (RP)		308		308						193		308	308
<b>Exp. Mean</b>		<b>272</b>	<b>335</b>	<b>231</b>	<b>289</b>	<b>249</b>	<b>214</b>	<b>280</b>	<b>234</b>	<b>176</b>	<b>287</b>	<b>257</b>	<b>278</b>	<b>278</b>

**Table No.1.33 contd.: Panicles/m2 of entries in AVT2- IM (Zone IV & VI), Kharif 2020**

Entry No.	IET No.	ZONE IV (1)				ZONE VI					
		AS (1)		MA		MA (2)		GU		GU (2)	Zone VI (4)
		TTB	KJT	SHR	Mean	NVS	NWG	Mean	Mean		
4005	NDR 359 (NC)	259	197	146	172	235	280	257	214		
4007	Zonal Check (ZC)	252	251	154	202	231	288	260	231		
4008	26418	264	273	148	211	204	280	242	226		
4010	HRI 174 (HC)	281	236	153	195	221	289	255	225		
4013	Local Check (LC)	299	265	150	208	267	290	278	243		
<b>Exp. Mean</b>		<b>271</b>	<b>244</b>	<b>150</b>	<b>197</b>	<b>231</b>	<b>285</b>	<b>258</b>	<b>228</b>		

**Table No.1.33 contd.: Panicles/m2 of entries in AVT2- IM (Zone V), Kharif 2020**

Entry No.	IET NO.	ZONE V							
		MP	CH		CH (2)	MA		MA (2)	Zone V (4)
		@WRS	RPB	JDP	Mean	SKL	SND	Mean	Mean
4005	NDR 359 (NC)	318	140	215	178	221	227	224	201
4007	Zonal Check (ZC)	299	149	170	159	230	240	235	197
4008	26418	273	150	203	176	331	234	283	230
4010	HRI 174 (HC)	326	150	201	176	278	275	276	226
4011	27387	315	136	232	184	307	264	285	235
4013	Local Check (LC)	328	132	196	164	277	208	243	203
<b>Exp. Mean</b>		<b>310</b>	<b>143</b>	<b>203</b>	<b>173</b>	<b>274</b>	<b>241</b>	<b>258</b>	<b>215</b>

**Table No.1.33 contd.: Panicles/m2 of entries in AVT2- IM (Zone VII), Kharif 2020**

Entry No.	IET No.	ZONE VII									
		AP		AP (2)	TE					TE (4)	
		MTU	RGL	Mean	@RDR	RNR	KNP	WGL	JGL	Mean	
4002	27686	312	300	306	260	323	180	422	317	311	
4005	NDR 359 (NC)	286	359	322	239	330	251	449	306	334	
4007	Zonal Check (ZC)	244	321	283	223	344	147	449	302	311	
4008	26418	275	385	330	190	359	264	409	333	341	
4009	27705	321	412	366	230	345	176	435	331	322	
4010	HRI 174 (HC)	286	323	305	265	392	141	424	257	303	
4013	Local Check (LC)	293	332	312	302	382	308	444	341	369	
4016	27280	288	358	323	217	407	231	393	302	333	
4017	Akshyadhan (RP)	286	323	305	192	354	158	457	311	320	
4018	28791	330	490	410	287	418	224	414	350	352	
4019	28789	334	356	345	292	385	238	422	304	337	
4020	ADT 46 (RP)	297	376	337	211	394	229	417	344	346	
<b>Exp. Mean</b>		<b>296</b>	<b>361</b>	<b>329</b>	<b>242</b>	<b>370</b>	<b>212</b>	<b>428</b>	<b>317</b>	<b>332</b>	

**Table No.1.33 contd.: Panicles/m2 of entries in AVT2- IM (Zone VII), Kharif 2020**

Entry No.	IET No.	ZONE VII							
		TA (1)	KE (1)	KA			KA (2)	PUD	Zone VII (10)
		CBT	PTB	MND	@BRM	GNV	Mean	@KBP	Mean
4002	27686	462	266	258	270	341	299	503	318
4005	NDR 359 (NC)	392	259	249	315	302	275	510	318
4007	Zonal Check (ZC)	510	236	302	310	344	323	508	320
4008	26418	478	367	273	235	431	352	510	358
4009	27705	332	292	251	350	359	305	461	325
4010	HRI 174 (HC)	548	192	269	285	392	330	550	322
4013	Local Check (LC)	417	201	282	310	325	303	519	332
4016	27280	463	292	224	265	328	276	508	329
4017	Akshyadhan (RP)	455	222	233	275	341	287	515	314
4018	28791	517	321	271	155	370	321	572	371
4019	28789	516	300	293	250	457	375	485	361
4020	ADT 46 (RP)	477	330	267	155	340	303	550	347
<b>Exp. Mean</b>		<b>464</b>	<b>273</b>	<b>264</b>	<b>264</b>	<b>361</b>	<b>313</b>	<b>516</b>	<b>335</b>

**Table No. 1.34: Grain quality characteristics of entries in AVT 2-IM, kharif 2020**

Entry No.	Designation / IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
4001	27263	79.1	64.2	42.9	6.24	2.36	2.64	LB	VOC	5.0	25.98	60
4002	27686	79.7	67.6	51.1	5.67	2.16	2.62	MS	VOC	4.0	26.13	30
4003	27384	79.5	66.8	44.7	6.20	2.25	2.75	LB	VOC	4.0	27.72	34
4004	25530	79.4	69.2	62.4	4.88	2.28	2.14	SB	VOC	7.0	26.19	22
4005	NDR 359 (NC)	77.8	67.7	59.8	6.31	2.36	2.67	LB	VOC	4.0	24.75	22
4006	27380	81.1	67.3	54.1	6.26	2.30	2.72	LB	VOC	5.3	22.46	36
4007	Zonal Check (ZC)	79.1	67.3	59.6	5.54	2.43	2.27	SB	VOC	7.0	27.51	22
4008	26418	78.4	65.8	35.8	6.32	2.13	2.96	LB	VOC	4.0	23.43	57
4009	27705	80.0	70.8	58.1	6.25	2.24	2.79	LB	A	7.0	23.55	22
4010	HRI-174 (HC)	67.7	52.1	56.0	6.15	2.19	2.80	LB	VOC	5.0	26.04	53
4011	27387	78.2	67.5	51.1	5.56	2.15	2.58	MS	VOC	4.0	26.89	36
4012	27689	77.4	65.6	55.3	5.13	1.86	2.75	MS	VOC	5.0	24.34	22
4013	Local Check	78.1	65.0	50.2	5.06	2.13	2.37	SB	VOC	4.0	26.95	37
4014	28783	79.4	69.8	63.2	5.23	2.06	2.53	MS	VOC	5.0	26.25	22
4015	Sarjoo-52 (RP)	78.7	68.9	64.5	5.42	2.34	2.31	SB	VOC	4.0	26.40	47
4016	27280	80.8	68.8	56.2	6.45	2.30	2.80	LB	VOC	4.0	26.57	44
4017	Akshyadhan	79.0	67.6	59.4	6.21	2.30	2.70	LB	VOC	4.0	24.87	22
4018	28791	81.7	71.6	55.7	6.37	2.09	3.04	LS	A	7.0	25.93	25
4019	28789	80.1	66.7	42.6	6.07	2.24	2.70	LB	A	7.0	26.51	22
4020	ADT-46	79.8	71.0	60.9	6.25	2.21	2.82	LB	A	7.0	25.78	22
4021	28017	78.5	69.9	67.3	6.14	2.21	2.77	LB	VOC	7.0	26.01	22
4022	28018	77.8	67.0	64.4	6.14	2.26	2.71	LB	VOC	7.0	25.75	24
4023	Pusa-44	79.8	69.8	67.1	5.60	2.16	2.59	MS	VOC	7.0	27.86	24

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.



**Table No. 1.35: Composition of entries in Advance Variety Trial 1 - Irrigated Medium (AVT 1-IM), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>2<sup>nd</sup> year of testing:</b>				
4101	28471	AD 13253	AD 01246 / CO 49	MS
4102	27900	MTU 1276 (MTU 2578-56-1)	MTU 1156 / MT U 1081	MS
4103	28444	ORR 1803-OR2573-4-1	Birupa / IR 76561-AC-8-8	LB
4104	28439	OR 2487-13	OR 2076-2 / Ashoka 228	LS
4105	28475	Pusa 2070-10-2	BPT 5204 / Swarna	MS
4106	28487	CR 4004-14228-2-1-3-2-1	BS-6444G / C460-3-2	LS
4107	<b>NDR 359 (NC)</b>			
4108	28159	<i>PHI-19103 (Hybrid)</i>	-	LB
4109	28174	<i>RNE-0148 (Hybrid)</i>	-	LB
4110	28156	<i>US-368 (Hybrid)</i>	-	SB
4111	28162	<i>PHI-19104 (Hybrid)</i>	-	LB
4112	28489	BRR 2141	TTB 680-2-35-2 Selection	MS
4113	28481	OR 2573-7	Birupa / IR 76561-AC-8-8	LS
4114	<b>PR121-Northern, CR Dhan 300- Eastern and North Eastern, Karma Mahsuri-Central, Akshyadhan-Western, Jaya- Southern--ZC</b>			
4115	28491	CR 4202 -298-2-2-1	Naveen / IRBB 66	SB
4116	28452	R *(DH 16-5)	Safri-17 / RP Bio 226	SB
4117	28447	IRRI 186 (TP Code-26783)	IR02A127 / IR 64	LS
4118	28451	CR 4030-15-2-2-1-1-1-1	Reeta / CR 2324-4-1	SB
4119	28171	<i>RNE-0122 (Hybrid)</i>	-	MS
4120	28160	<i>HRI-202 (Hybrid)</i>	-	MS
4121	<b>HRI 174 (HC)</b>			
4122	28483	CR 3759-1-1-2-1-1	Sambha Mahsuri / Vijetha	MS
4123	28490	CN 2123	Bhudeb / IR 85260-148	MS
4124	27749	MTU 1266 (MTU 2344-60-2-1-1)	MTU 3626 / MTU 1010	SB
4125	28163	<i>PHI-19105 (Hybrid)</i>	-	LB
4126	28158	<i>RRX-445 (Hybrid)</i>	-	MS
4127	28493	R 2299-367-1-254-1	Karma Masuri / Bamleshwari	MS
4128	28472	ORR 1806-OR 2577-41-1	IR 43 / Jogesh	SB
4129	27771	KMP 230	Jaya / CR 2711-76-1	SB
4130	28442	Pusa 1824-12-84-17-7-2	Pusa 44 / PAU 201	LS
4131	28161	<i>RH-169292 (Hybrid)</i>	-	LB
4132	27273	CR 3564-1-1-4-1-1-1	Vijetha / N22	MS
4133	27385 (R)	<i>US 362 (Hybrid)</i>	-	MS
4134	<b>Local Check</b>			

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Table No. 1.36: Grain Yield (Kg/ha) of entries in AVT 1 – IM, Kharif 2020

Entry No.	IET NO.	ZONE III													
		OD				OD (4)				BI		BI (2)			
		BBN	CTK	JYP	CHP	Mean				BKG	SBR	Mean			
4101	28471	4048				1978		4055		3445		3238	1568	2403	
4102	27900	5556	1 #	6254	2 *	1091		5143		4511		4095	3115	3605	
4103	28444	5159	5 #	5116		8111	1 * #	6113	10 #	6125	2 * 12% # 21%	4984	3759	4372	
4104	28439	4444	#	4838		5744		5236		5066		3905	1834	2870	
4105	28475	3889		4517		5737		5672		4954		5079	4147	4613	
4106	28487	4365		5027		4848		5187		4857		5238	4269	4754	
4107	NDR 359 (NC)	4206		3427		1193		4994		3455		4984	4414	4699	
4108	28159	4802	9 #	5536	6	6323	7	4291		5238		6413	5 * 6279	1 * 6346	1 * 30% # 12%
4109	28174	5040	7 #	4808		2869		5989	#	4677		6413	5 * 5256	5 5835	5 * 19%
4110	28156	4167		5192	10	5495		6723	6 #	5394	7	6381	7 * 5476	2 * 5929	3 * 21%
4111	28162	5198	4 #	4815		1453		4975		4110		5143	5139	7 5141	5%
4112	28489	4683	#	4069		2271		5211		4059		5397	4951	5174	6%
4113	28481	5437	2 #	5554	5	3248		6536	7 #	5194		3492	4436	3964	
4114	Zonal Check (ZC)	4841	8	5079		7424	2	4104		5362	8	4889		4889	
4115	28491	4286		3926		6354	5	7090	3 * #	5414	6	4698	4566	4632	
4116	28452	4365				6869	4 #	5423		5552	3	5079	3975	4527	
4117	28447	4444	#	4783		2626		4969		4206		3460	3317	3389	
4118	28451	3214		828		3004		3004		2349		5429	4288	4859	
4119	28171	4603	#	5906	3	1380		4950		4210		6603	4 * # 4941	5772	7 * 18%
4120	28160	4167		6298	1 *	6343	6	8333	1 * #	6285	1 * 15% # 24%	6286	8 * 5368	4 * 5827	6 * 19%
4121	HRI 174 (HC)	3849		5451	7	6020	9	4876		5049		5810	5473	3 5642	9 * 15%
4122	28483	4167		5715	4	5545		6751		5295	10	4222	3693	3958	
4123	28490	4563	#	5054		3180		5386		4546		5556	4734	5145	5%
4124	27749	3889		3704		5317		6188	9 #	4775		5302	4988	10 5145	5%
4125	28163	4683	#	4123		5111		7345	2 * #	5316	9	6254	9 * 5083	8 5669	8 * 16%
4126	28158	5159	5 #	5370	9	5814		4440		5196		7048	3 * # 5150	6 6099	2 * 25%
4127	28493	4286		4541		5832	10	5317		4994		5175	4425	4800	
4128	28472	4802	9 #	3957		6885	3 #	3675		4830		5302	2932	4117	
4129	27771	4167				1349		6418	8 #	3978		6000	10 * 4653	5327	9%
4130	28442	3214				4785		2419		3473		5206	3337	4272	
4131	28161	4206		5119		2749		7027	4 * #	4775		7556	1 * # 4272	5914	4 * 21%
4132	27273	4643	#	4481		6061	8	5597		5196		7238	2 * # 2916	5077	
4133	27385	4603	#	5389	8	5131		6903	5 * #	5507	4	6000	10 * 5071	9 5536	10 * 13%
4134	Local Check (LC)	5357	3	5057		5541		5939		5474	5	4788	2376	3582	
Exp. Mean		4485	4894	4456	5449	4790				4790		5372	4249	4820	
CD		543.06		859	526.71	893.24		376.88				627.72	863.51	549.87	
CV%		7.43		10.74	7.25	10.06		4.83				7.17	12.46	7	
D/S		23-07-2020	22-07-2020	05-08-2020	28-07-2020							07-08-2020	29-07-2020		
D/P		17-08-2020	01-09-2020	30-08-2020	03-09-2020							02-09-2020	18-08-2020		
Local Check Name		Hiranmayee	Tapaswini	Pratikshya	Pratikshya							Ajendra Mahsun	Ajendra Swet		

Table No. 1.36 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – IM, Kharif 2020

Entry No.	IET NO.	ZONE III												ZONE IV(1)		ZONE V	
		UP		Zone III (6)				AS (1)		CH		RPR	JDP				
		@VRN	Mean	Mean				TTB		Mean							
4101	28471	4074		3098				4251	3			4379	#	2236			
4102	27900	4069		4209				2827				4849	#	2885			
4103	28444	4101		5540	4	5%		3563				5123	#	4514	2		
4104	28439	4045		4334				2303				5233	#	3632			
4105	28475	4222		4840				3443				5458	#	3726			
4106	28487	4125		4822				3543				5853	#	2866			
4107	NDR 359 (NC)	4162		3870				4360	2	13%		5752	#	3937	10		
4108	28159	5370	4	5607	2 *	6% #		3768				6623	5 #	3643			
4109	28174	5481	3	5063				3145				6732	2 #	4095	7		
4110	28156	4529		5572	3	6% #		3468				6438	7 #	3582			
4111	28162	4690	10	4454				4080	7			6634	4 #	3424			
4112	28489	5660	2	4430				3393				5980	#	3424			
4113	28481	4795	7	4784				3499				6094	9 #	3798			
4114	Zonal Check (ZC)	4072		5267	8			2297				4739	#	2927			
4115	28491	4774	8	5153				3205				5392	#	3344			
4116	28452	4751	9	5142				3902	9			6732	2 #	3144			
4117	28447	4048		3933				2820				5441	#	2684			
4118	28451	4054		3353				4145	6				#	3587			
4119	28171	5869	1	4731				3505				5490	#	3900			
4120	28160	5037	6	6133	1 *	16% # 17%		3823				6863	1 * #	4073	8		
4121	HRI 174 (HC)	4374		5247	9			3865	10				#	4244	4		
4122	28483	4045		4849				3570					#	3235			
4123	28490	4663		4746				2524					#	4108	6		
4124	27749	4070		4898				3625				5528	#	4444	3		
4125	28163	5290	5	5433	7			4635	1	6% # 20%			#	4175	5		
4126	28158	4519		5497	6			3800					#	3982	9		
4127	28493	4485		4929				3367				6078	10 #	3261			
4128	28472	4128		4592				2890				5001	#	2853			
4129	27771	4485		4517				4155	5			6242	8 #	3528			
4130	28442	4093		3792				2285					#	2780			
4131	28161	4549		5155				4197	4			6601	6 #	3777			
4132	27273	4040		5156	10			4003	8				#	3910			
4133	27385	4690	10	5516	5			3357					#	3456			
4134	Local Check (LC)	4112		4843				2758				5131	#	4813	1		
Exp. Mean		4514		4809				3482				5775	#	3588			
CD		345.63		309.52				615.7				1057.18	#	862.91			
CV%		4.7		3.95				10.85				11.15	#	14.75			
D/S			22-07-2020									12-08-2020	27-07-2020	22-07-2020			
D/P			09-08-2020									01-09-2020	06-08-2020	14-08-2020			
Local Check Name		HUR-105										Shraboni (TTB-404)	IGKV R 1244	IGKVR 1244			

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Table No. 1.36 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – IM, Kharif 2020

Entry No.	IET NO.	ZONE V															
		CH (2)			MA1			MA1 (2)			ZONE V (4)						
		Mean			SKL	SND		Mean			Mean						
4101	28471	3308			4585		3573		4079			3693					
4102	27900	3867			4324		4566		4445			4156					
4103	28444	4819	14%		4571		4825	5 #	4698	#	16%	4758	10	# 16%			
4104	28439	4433			5117	#	4124		4621	#	14%	4527					
4105	28475	4592			5071	#	4662	9	4867	10	# 20%	4729	#	15%			
4106	28487	4360			5805	4 #	3301		4553	12%		4456					
4107	NDR 359 (NC)	4845			5503	9	4247		4875	9		4860	8	18%			
4108	28159	5133	4	#	21%	5638	7 #	4894	3 #	5266	4	#	30%	5200	3	#	26%
4109	28174	5414	2	9% #	28%	6077	3 #	4681	8	5379	2	#	33%	5396	1	8% #	31%
4110	28156	5010	6	#	18%	5397	#	4476		4937	7	#	22%	4973	7	#	21%
4111	28162	5029	5	#	18%	5757	5 #	4460		5109	5	#	26%	5069	4	#	23%
4112	28489	4702	11%			5424	10 #	4274		4849	#	20%	4776	9	#	16%	
4113	28481	4946	9	#	17%	6661	1 #	5016	2 #	5839	1	10% #	44%	5392	2	8% #	31%
4114	Zonal Check (ZC)	3833			6291	2	4367		5329	3		4581					
4115	28491	4368			4937	#	4408		4673	#	15%	4520					
4116	28452	4938	10	#	16%	4091		4422		4257		4597	#	12%			
4117	28447	4063			5722	6 #	4130		4926	8	#	21%	4494				
4118	28451	3587			3024		4043		3534			3551					
4119	28171	4695	11%			4271		4618	10	4445		4570	#	11%			
4120	28160	5468	1	10% #	29%	4436		4839	4 #	4638	#	14%	5053	5	#	23%	
4121	HRI 174 (HC)	4244			3824		4285		4055			4118					
4122	28483	3235			5571	8 #	3824		4698	#	16%	4210					
4123	28490	4108			4811	#	4307		4559	12%		4409					
4124	27749	4986	7	#	17%	3781		4487		4134		4560	#	11%			
4125	28163	4175			4404		4768	7	4586	13%		4449					
4126	28158	3982			3717		4555		4136			4085					
4127	28493	4670	10%			3367		4795	6 #	4081		4375					
4128	28472	3927			3717		4193		3955			3941					
4129	27771	4885	15%			3932		4468		4200		4543	#	10%			
4130	28442	2780			4494		3584		4039			3619					
4131	28161	5189	3	#	22%	3677		4040		3859		4524					
4132	27273	3910			4438		4171		4305			4173					
4133	27385	3456			3657		3903		3780			3672					
4134	Local Check (LC)	4972	8		17%	4731		5243	1 #	4987	6	23%	4980	6		21%	
Exp. Mean		4440			4730		4369		4550			4500					
CD		692.62			933.12		506.28		537.13			424.18					
CV%		9.64			12.1		7.11		7.24			5.78					
D/S					22-07-2020		21-07-2020										
D/P					11-08-2020		17-08-2020										
Local Check Name					PKV Kisan		Karjat-5										

Table No. 1.36 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – IM, Kharif 2020

Entry No.	IET NO.	ZONE VI															
		MA2			MA2 (2)			MA (4)	GU								
		KJT	SHR		Mean			Mean	NVS			NWG					
4101	28471	4250			4667		4459		4269		5273		5146				
4102	27900	4694			5532	6	5113	8	#	20%	4779	#14.76%	4369	8076	2 * #		
4103	28444	4167			4778		4473		4585		#10.1%	5226		6775	7		
4104	28439	4278			3960		4119		4370			4959		6755	8		
4105	28475	4000			3730		3865		4366			4434		8178	1 * #		
4106	28487	4056			4151		4104		4328			5297		7213	4		
4107	NDR 359 (NC)	3972			4881		4427		4651			5391	8	6015			
4108	28159	4417			5603	5	5010	17%			5138	3	# 23%	5346	7732	3 * #	
4109	28174	5000	8	#	3810		4405		4892		#17%	4767		7025	5		
4110	28156	4361			4484		4423		4680		#12%	5415	7	6383			
4111	28162	6056	1 * #		5230	8	5643	2	8% #	32%	5376	2	5.35% #	29%	3875	6903	6
4112	28489	3889			6317	3 #	5103	10	#	19%	4976	8	# 19%	4959		5714	
4113	28481	5056	7	#	4833		4945	16%	5392	1	5.66% #	29.50%	5144		6522	9	
4114	Zonal Check (ZC)	4556			4722		4639		4984	7		5242		5045			
4115	28491	3833			3833		3833		4253			5303		6467	10		
4116	28452	5111	6	#	4143		4627		4442	7%		4575		5753			
4117	28447	4967	10	#	4857		4912	15%	4919	9	# 18%	5554	5	4983			
4118	28451	4861			4603		4732	11%	4133					6191			
4119	28171	5472	3	#	4746		5109	9	#	20%	4777	14%	#	4299		6050	
4120	28160	5167	5	#	5175	10	5171	6	#	21%	4904	10	#	3765		5760	
4121	HRI 174 (HC)	4056			4492		4274		4164			5185		5700			
4122	28483	3500					3500		4298			4076		5273			
4123	28490	4222			4746		4484		4522			4955		2902			
4124	27749	5000	8	#	4198		4599		4367			3851		3600			
4125	28163	4444			6421	2 #	5433	3	#	27%	5009	6	# 20%	5206		3513	
4126	28158	5389	4	#	5183	9	5286	4	#	24%	4711	13%		4095		5658	
4127	28493	4111			4532		4322		4201					4813			
4128	28472	4667			7619	1 * #	6143	1 *	18% #	44%	5049	5	# 21%	5353	10	4343	
4129	27771	4056			3437		3747		3973			5761	2	4514			
4130	28442	3167			4024		3596		3817			6629	1 * #	4276			
4131	28161	4750			4714		4732	11%	4295			5566	3	2503			
4132	27273	5500	2	#	3214		4357		4331			5364	9	2308			
4133	27385	4389			5897	4 #	5143	7	#	20%	4462		5556	4	5365		
4134	Local Check (LC)	4944			5492	7	5218	5	22%	5103	4		5463	6	4303		
Exp. Mean		4540			4789		4645		4603			5008		5522			
CD		845.62			1120.26		769.49		490.4			705.63		1350.8			
CV%		11.43			14.34		10.16		6.52			8.63		12.02			
D/S					21-07-2020		21-07-2020					24-07-2020		20-07-2020			
D/P					17-08-2020		26-08-2020					28-08-2020		20-08-2020			
Local Check Name					Ratnagiri 8		GNR-5					GAR-13		MTU 1075			

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Table No.1.36 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – IM, Kharif 2020

Entry No.	IET NO.	ZONE VI						ZONE VII									
		GU (2)			ZONE VI (4)			AP		AP (2)							
		Mean			Mean			MTU	RGL	Mean							
4101	28471	5210			4834			3736		5937		4837					
4102	27900	6223	4	9%	14%	5668	2*	12% #	17%	6513	3 #	6234	6	374	#	17%	
4103	28444	6001	6	5%	10%	5237	7			3496		6567	10	5032			
4104	28439	5857	10			4988				6418	4 #	6560		6489	5	6% #	19%
4105	28475	6306	2	11%	16%	5086				6034	8 #	5099		5567			
4106	28487	6255	3	10%	15%	5179	10			3712		6135		4924			
4107	NDR 359 (NC)	5703				5065				6322	6	5865		6094	8		
4108	28159	6539	1	15%	20%	5775	1*	14% #	19%	4215		6937	3* #	5576			
4109	28174	5896	8			5151				3400		6595	9	4998			
4110	28156	5899	7			5161				5987	9 #	7369	1* #	6678	3*	10% #	23%
4111	28162	5389				5516	3	9% #	14%	6609	1 #	6869	6* #	6739	1*	11% #	24%
4112	28489	5337				5220	8			3831		5849		4840			
4113	28481	5833				5389	5	6%	11%	3448		7286	2* #	5367			
4114	Zonal Check (ZC)	5144				4891				2538		4817		3678			
4115	28491	5885	9			4859				2778		5440		4109			
4116	28452	5164				4896				2874		5964		4419			
4117	28447	5269				5090				6178	7 #	6440		6309	7	#	16%
4118	28451	6191	5	9%	14%	5218	9			3496		6357		4927			
4119	28171	5175				5142				6418	4 #	6766	8* #	6592	4	8% #	21%
4120	28160	4763				4967				6561	2 #	6829	7* #	6695	2*	10% #	23%
4121	HRI 174 (HC)	5443				4858				5029		5873		5451			
4122	28483	4675				4283				4837		5734		5286			
4123	28490	3929				4206				3257		6036		4647			
4124	27749	3726				4162				3065		6250		4658			
4125	28163	4360				4896				2993		6901	4* #	4947			
4126	28158	4877				5081				5747	10 #	6202		5975	9	#	
4127	28493	4813				4485				2347		4806		3577			
4128	28472	4848				5496	4	9% #	13%	2059		5667		3863			
4129	27771	5138				4442				3017		6262		4640			
4130	28442	5453				4524				2059		6345		4202			
4131	28161	4035				4383				2969		6897	5* #	4933			
4132	27273	3836				4097				3736		6393		5065			
4133	27385	5461				5302	6			2969		6369		4669			
4134	Local Check (LC)	4883				5051				5651		5567		5609	10		
Exp. Mean		5179				4892				4244		6212		5228			
CD		1591.02				534.44				654.18		742.81		502.45			
CV%		18.84				6.7				9.46		7.33		5.9			
D/S												16-07-2020					
D/P												19-08-2020		12-08-2020			
Local Check Name												RGL 2538		JGL-3855			

Table No. 1.36 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – IM, Kharif 2020

Entry No.	IET NO.	ZONE VII														
		TE						TE (3)				TN				
		@RDR	RNR	WGL	JGL	Mean		Mean		ADT	@CBT					
4101	28471	4387	#	5856	4549	6342	5 #	5582	7%			7222	2* #	7690	9	
4102	27900	5096	5* #	6863	4911	4534		5436				6667	3* #	7970	5	
4103	28444	4818	7* #	7821	5* 4187	5760	6 #	5923	6* 14%			5417	7 #	5770		
4104	28439	5016	6* #	6840	3945	8267	1* #	6351	2* 22% #	18%		5139	9 #	5475		
4105	28475	3206		6401	5556	8 3665		5207				3935		4861		
4106	28487	3997		7184	9 5958	6 # 5206	9 #	6116	4* 18% #	13%		3889		5066		
4107	NDR 359 (NC)	3583		6565	4549	4489		5201				3935		6181		
4108	28159	3800		5274	5918	7 # 3902		5031				3657		7994	4	
4109	28174	4443	10 #	7827	4* 3784	4168		5260				4583	#	7190		
4110	28156	4590	9* #	6542	3221	3527		4430				3056		6427		
4111	28162	5198	4* #	6902	10 5153	3938		5331				5741	5 #	7860	6	
4112	28489	6020	2* #	5607	4026	7152	2* #	5595	8%			4120		5861		
4113	28481	6123	1* #	8450	2* # 4549	4925	#	5975	5* 15% #	11%		4907	#	6148		
4114	Zonal Check (ZC)	3299		4189	3704	3729		3874				3657		4729		
4115	28491	3502		6332	6522	3 # 4611		5822	7* 12%			3472		5634		
4116	28452	3430		7413	8* 6884	1 # 7088	3* #	7128	1* 37% #	32%		3426		3414		
4117	28447	3616		5046	5274	10 4725		5015				4907	#	5611		
4118	28451	3991		3664	3986	4789		4146				4028		6741		
4119	28171	3105		8169	3* 5274	10 4981	#	6141	3* 18% #	14%		7315	1* #	7214		
4120	28160	3515		8635	1* # 4549	3934		5706	10 10%					6558		
4121	HRI 174 (HC)	3096		7563	7 4992	3653		5403				3380		7301		
4122	28483	3713		6113	4911	4725		5250				3519		6041		
4123	28490	4782	8* #	6611	3768	3621		4667				3843		7778	8	
4124	27749	3516		6095	4469	4470		5011						4189		
4125	28163	2831		5639	6562	2 # 5109	10 #	5770	9* 11%			5093	10 #	9166	1	
4126	28158	2621		5903	3986	3912		4600				3750		8307	2	
4127	28493	2450		3534	6159	4 # 6405	4* #	5366				3796		5453		
4128	28472	3234		3182	4791	4278		4084				4028		8164	3	
4129	27771	3584		6180	3945	5441	8 #	5189				3750		4480		
4130	28442	3699		5634	4227	3469		4443				3889		3453		
4131	28161	2781		6324	4469	3902		4898				5556	6 #	6596		
4132	27273	2394		6480	5274	10 5575	7 #	5776	8* 11%			3889		7518	10	
4133	27385	5260	3* #	7587	6* 3261	3346		4731				5833	4 #	7516		
4134	Local Check (LC)			3894	6079	5 5109	10	5027				5324	8 #	7799	7	
Exp. Mean		3900		6245	4806	4787		5369				4523		6403		
CD		133.91		809.66	914.45	976.88		549.79				942.49		2115.73		
CV%		1.68		7.95	11.67	10.03		6.28				12.77		20.27		
D/S			15-07-2020			18-07-2020		18-07-2020					21-08-2020		29-07-2020	
D/P			14-08-2020			21-08-2020		21-08-2020					21-09-2020		01-09-2020	
Local Check Name			Krishna			WGL-14		JGL 11470					ADT 54		CO(R) 50	

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Table No. 1.36 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – IM, Kharif 2020

Entry No.	IET NO.	ZONE VII									
		TN (1)			KE (1)	KA				KA (2)	
		Mean			PTB	MND		GNV		Mean	
4101	28471	7222	2 *	36% #	114%	5588	5856		7885	6871	
4102	27900	6667	3 *	25% #	97%	6333	6184		8647	4 #	7416
4103	28444	5417	7	#	60%	6102	6478		8689	3 * #	7584
4104	28439	5139	9	#	52%	5815	7094		8176	10	7635
4105	28475	3935	16%			4296	5691		7885		6788
4106	28487	3889	15%			6153	5517		6901		6209
4107	NDR 359 (NC)	3935	16%			5995	6130		7779		6955
4108	28159	3657				6176	7407	9	8321	8	7864
4109	28174	4583	#	36%		5065	9111	1 * #	7920		8516
4110	28156	3056				5620	6858		7750		7304
4111	28162	5741	5	8% #	70%	4426	7782	6	8237	9	8010
4112	28489	4120	22%			6190	6654		7949		7302
4113	28481	4907	#	45%		5843	7539	7	8997	1 * #	8268
4114	Zonal Check (ZC)	3657				6259	6238		6212		6225
4115	28491	3472				4824	5824		7564		6694
4116	28452	3426				6500	5924	2	7641		6783
4117	28447	4907	#	45%		5713	6752		6875		6814
4118	28451	4028	19%			4500	5419		6474		5947
4119	28171	7315	1 *	37% #	116%	6366	8800	2 * #	8500	7	8650
4120	28160					5856	8144	4	7865		8005
4121	HRI 174 (HC)	3380				6255	7247		7747		7497
4122	28483	3519				6611	5577	1	7314		6446
4123	28490	3843	14%			5491	6267		8561	6	7414
4124	27749					5815	6046		7670		6858
4125	28163	5093	10	#	51%	6407	8146	3	8718	2 * #	8432
4126	28158	3750	11%			4856	7990	5	6962		7476
4127	28493	3796	12%			5657	6152		6189		6171
4128	28472	4028	19%			6139	6613		6442		6528
4129	27771	3750	11%			5819	5957		6753		6355
4130	28442	3889	15%			4926	5978		6506		6242
4131	28161	5556	6	#	64%	5412	7465	8	8606	5	8036
4132	27273	3889	15%			4931	5868		7247		6558
4133	27385	5833	4	10% #	73%	6167	5683	10	8032		6858
4134	Local Check (LC)	5324	8		58%	5074	7454	9	6859		7157
Exp. Mean		4523				5682	6701		7643		7016
CD		942.49				1046.91	1004.26		868.68		1079.87
CV%		12.77				11.3	9.19		6.97		9.44
D/S						07-09-2020	22-07-2020		29-07-2020		
D/P						08-10-2020	11-08-2020		28-08-2020		
Local Check Name						swetha	BR-2655		BPT-5204		

Table No. 1.36 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – IM, Kharif 2020

Entry No.	IET NO.	ZONE VII										Overall (25)	
		PUD		PUD (1)		Zone VII (10)				Mean			
		KRK	@KBP	Mean		Mean							
4101	28471	8422	6016	8422	6139						4734		
4102	27900	6567	6734	6567	6345	9	#				5233		
4103	28444	7522	5836	7522	6204						5563	7 * #	
4104	28439	10484	#	6734	10484	6% #	25%				5404		
4105	28475	7776		4938	7776						5123		
4106	28487	11133	#	7632	11133	12% #	33%				5312		
4107	NDR 359 (NC)	9778		8171	9778						5147		
4108	28159	11200	10 #	5836	11200	10	13% #	34%			5773	4 * 9% #	
4109	28174	12500	6 * #	6734	12500	6 * #	26% #	49%			5626	6 * 6% #	
4110	28156	11078	#	8171	11078	12% #	32%				5538	8 * #	
4111	28162	8550		8552	8550						5494	9 #	
4112	28489	12178	7 * #	6554	12178	7 * #	23% #	45%			5340		
4113	28481	11678	9 * #	7632	11678	9 * #	18% #	39%			5718	5 * 8% #	
4114	Zonal Check (ZC)	8522		6532	8522						4850		
4115	28491	6411		6195	6411						5017		
4116	28452	5700		5297	5700						5292		
4117	28447	7800		5836	7800						4979		
4118	28451	13133	3 * #	7744	13133	3 * #	33% #	57%			4685		
4119	28171	11722	8 * #	9248	11722	8 * #	18% #	40%			5802	2 * 9% #	
4120	28160	13656	1 * #		13656	1 * #	38% #	63%			6114	1 * 15% # 15%	
4121	HRI 174 (HC)	8389		7991	8389						5302		
4122	28483	6544		6914	6544						4958		
4123	28490	5700		8709	5700						4758		
4124	27749	7867		5297	7867						4985		
4125	28163	13133	3 * #	10146	13133	3 * #	33% #	57%			5786	3 * 9% #	
4126	28158	11056	#	7098	11056	12% #	32%				5405	10	
4127	28493	11100	#	5657	11100	12% #	32%				5002		
4128	28472	12856	5 * #	7991	12856	5 * #	30% #	53%			4970		
4129	27771	13178	2 * #	7632	13178	2 * #	33% #	57%			5124		
4130	28442	9722		4220	9722	16%					4476		
4131	28161	11122	#	5881	11122	12% #	33%				5339		
4132	27273	6511			6511						4990		
4133	27385	10489	#	8350	10489	6% #	25%				5351		
4134	Local Check (LC)	9911		5297	9911	18%					5314		
Exp. Mean		9818		6924	9818						5215		
CD		1381.3		2682.17	1381.3						182.11		
CV%		8.63		23.73	8.63						2.14		
D/S		20-08-2020		25-09-2020									
D/P		20-09-2020		27-10-2020									
Local Check Name				ADT 39									

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Table No. 1.37: Days to 50% Flowering of entries in AVT 1- IM Kharif 2020

Entry No.	IET NO.	ZONE III									
		OD				OD (4)	BI		BI (2)	UP	Zone III (6)
		BBN	CTK	JYP	CHP	Mean	BKG	SBR	Mean	@VRN	Mean
4101	28471	98	103	112	127	110	101	85	93	98	104
4102	27900	100	108	108	126	110	96	68	82	96	101
4103	28444	91	96	109	112	102	87	83	85	91	96
4104	28439	96	116	106	126	111	96	100	98	96	107
4105	28475	95	98	110	124	107	95	84	90	90	101
4106	28487	91	87	105	121	101	87	84	86	87	96
4107	NDR 359 (NC)	89	95	108	115	102	84	81	82	88	95
4108	28159	96	90	104	115	101	82	87	85	81	96
4109	28174	89	92	102	112	99	84	85	85	79	94
4110	28156	91	89	106	113	100	87	110	98	86	99
4111	28162	90	92	106	125	103	87	87	87	84	98
4112	28489	95	108	107	121	108	96	98	97	96	104
4113	28481	94	102	109	112	104	97	88	92	92	100
4114	Zonal Check (ZC)	110	117	113	117	114	106		106	101	113
4115	28491	96	101	111	113	105	87	94	91	88	100
4116	28452	91		105	110	102	84	85	85	91	95
4117	28447	93	97	104	112	102	84	85	84	83	96
4118	28451	91		109	115	105	88	78	83	85	96
4119	28171	91	98	108	115	103	87	84	85	84	97
4120	28160	91	102	108	122	106	82	81	82	88	98
4121	HRI 174 (HC)	91	99	109	115	103	82	83	83	82	96
4122	28483	94	101	107	120	105	87	91	89	89	100
4123	28490	93	106	106	115	105	87	88	88	99	99
4124	27749	89	92	113	114	102	85	91	88	84	97
4125	28163	89	92	107	126	104	82	80	81	82	96
4126	28158	89	91	105	114	100	82	86	84	82	95
4127	28493	91	101	107	114	103	81	84	83	86	96
4128	28472	94	92	109	119	103	82	89	86	93	97
4129	27771	91		110	118	106	85	96	90	90	100
4130	28442	91		116	116	108	87	99	93	84	102
4131	28161	89	91	109	125	104	82	99	90	82	99
4132	27273	95	94	112	121	106	87	85	86	92	99
4133	27385	94	89	110	113	102	83	87	85	86	96
4134	Local Check (LC)	93	92	102	111	99	85	97	91	90	97
	<b>Exp. Mean</b>	<b>93</b>	<b>98</b>	<b>108</b>	<b>117</b>	<b>104</b>	<b>87</b>	<b>88</b>	<b>88</b>	<b>88</b>	<b>99</b>

Table No. 1.37 contd.: Days to 50% Flowering of entries in AVT 1- IM Kharif 2020

Entry No.	IET NO.	ZONE IV			ZONE V					
		AS (1)	Z4 (1)	CH	CH (2)	MA1		MA1 (2)	Zone V (4)	
		TTB	Mean	RPR	JDP	Mean	SKL	SNL	Mean	Mean
4101	28471	101	101	104	109	106	106	119	113	109
4102	27900	103	103	121	111	116	106	116	111	113
4103	28444	100	100	98	110	104	99	112	106	105
4104	28439	102	102	103	110	107	104	112	108	107
4105	28475	97	97	97	114	106	99	105	102	104
4106	28487	95	95	96	108	102	95	111	103	102
4107	NDR 359 (NC)	94	94	92	109	100	93	99	96	98
4108	28159	87	87	90	108	99	96	99	98	98
4109	28174	88	88	88	114	101	91	99	95	98
4110	28156	91	91	89	107	98	104	102	103	100
4111	28162	88	88	94	115	105	95	100	98	101
4112	28489	97	97	100	111	106	99	112	106	106
4113	28481	99	99	97	105	101	100	112	106	103
4114	Zonal Check (ZC)	102	102	95	110	103	98	99	98	101
4115	28491	95	95	99	114	106	97	101	99	103
4116	28452	85	85	94	111	103	96	100	98	100
4117	28447	92	92	99	107	103	90	100	95	99
4118	28451	100	100		117	117	95	102	98	105
4119	28171	94	94	90	110	100	99	101	100	100
4120	28160	102	102	95	114	105	98	102	100	102
4121	HRI 174 (HC)	93	93		121	121	98	102	100	107
4122	28483	93	93		110	110	95	106	100	104
4123	28490	104	104		107	107	97	112	105	105
4124	27749	88	88	95	111	103	93	102	98	100
4125	28163	94	94		115	115	93	100	97	103
4126	28158	88	88		117	117	92	99	95	102
4127	28493	90	90	97	111	104	96	103	100	102
4128	28472	92	92	100	127	113	95	109	102	108
4129	27771	98	98	94	110	102	100	103	102	102
4130	28442	90	90		108	108	92	100	96	100
4131	28161	96	96	91	108	99	91	99	95	97
4132	27273	93	93		102	102	97	74	86	91
4133	27385	89	89		108	108	95	99	97	101
4134	Local Check (LC)	96	96	90	105	98	98	109	104	101
	<b>Exp. Mean</b>	<b>95</b>	<b>95</b>	<b>96</b>	<b>111</b>	<b>106</b>	<b>97</b>	<b>104</b>	<b>100</b>	<b>102</b>

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Table No. 1.37 contd.: Days to 50% Flowering of entries in AVT 1- IM Kharif 2020

Entry No.	IET NO.	ZONE VI								ZONE VII		
		MA2		MA2 (2)	MA (4)	GU		GU (2)	Zone VI (4)	AP		AP (2)
		KJT	SHR	Mean	Mean	NVS	NWG	Mean	Mean	MTU	RGL	Mean
4101	28471	95	105	100	106	96	96	96	98	101	111	106
4102	27900	98	108	103	107	77	101	89	96	108	109	109
4103	28444	96	94	95	100	95	98	97	96	100	102	101
4104	28439	90	99	95	101	100	100	100	97	106	104	105
4105	28475	90	93	91	97	92	97	95	93	100	102	101
4106	28487	95	95	95	99	95	90	93	94	105	104	105
4107	NDR 359 (NC)	95	94	95	95	96	87	92	93	97	98	98
4108	28159	91	94	92	95	95	89	92	92	93	96	95
4109	28174	91	96	94	95	96	94	95	94	91	96	94
4110	28156	91	92	92	97	95	86	90	91	93	100	97
4111	28162	90	97	94	96	98	93	96	95	97	98	98
4112	28489	99	98	99	102	95	97	96	97	106	73	90
4113	28481	92	96	94	100	98	100	99	97	98	102	100
4114	Zonal Check (ZC)	96	93	94	96	96	86	91	93	90	96	93
4115	28491	91	92	91	95	95	89	92	92	94	100	97
4116	28452	90	92	91	95	95	92	94	92	95	98	96
4117	28447	90	97	93	94	99	98	98	96	98	93	96
4118	28451	90	92	91	95	95	95	95	92	96	102	99
4119	28171	97	97	97	99	98	90	94	96	98	98	98
4120	28160	97	92	95	97	99	95	97	96	102	102	102
4121	HRI 174 (HC)	92	92	92	96	91	87	89	91	97	96	97
4122	28483	91		91	97	99	91	95	94	97	102	100
4123	28490	99	94	96	100	104	92	98	97	108	98	103
4124	27749	92	94	93	95	93	99	96	95	95	104	100
4125	28163	93	95	94	95	96	88	92	93	94	98	96
4126	28158	92	96	94	95	98	91	94	94	94	98	96
4127	28493	88	92	90	95		90	90	90	98	96	97
4128	28472	95	93	94	98	96	88	92	93	103	104	104
4129	27771	92	94	93	97	95	88	92	92	101	100	101
4130	28442	91	97	94	95	97	89	93	93	93	93	93
4131	28161	90	94	92	93	99	87	93	92	99	95	97
4132	27273	91	94	92	89	99	89	94	93	101	104	103
4133	27385	93	96	95	96	98	92	95	95	97	95	96
4134	Local Check (LC)	96	107	101	102	94	92	93	97	106	100	103
	Exp. Mean	93	96	94	97	96	92	94	94	98	99	99

Table No. 1.37 contd.: Days to 50% Flowering of entries in AVT 1- IM Kharif 2020

Entry No.	IET NO.	ZONE VII									
		TE				TE (3)	TA		TA (1)	KE (1)	
		@RDR	RNR	WGL	JGL	Mean	ADT	@CBT	Mean	PTB	
4101	28471	93	109	106	132	116	113	107	113	97	
4102	27900	94	112	112	114	113	114	106	114	98	
4103	28444	90	105	105	113	108	101	100	101	97	
4104	28439	93	109	108	130	116	109	107	109	68	
4105	28475	90	103	101	111	105	108	102	108	97	
4106	28487	90	104	105	114	108	104	98	104	98	
4107	NDR 359 (NC)	89	103	100	108	104	103	102	103	97	
4108	28159	89	103	100	106	103	104	102	104	97	
4109	28174	89	105	99	106	103	103	102	103	98	
4110	28156	89	104	100	107	104	103	99	103	98	
4111	28162	91	104	101	114	106	110	107	110	98	
4112	28489	92	107	112	116	112	106	102	106	98	
4113	28481	90	107	104	115	108	103	98	103	98	
4114	Zonal Check (ZC)	89	102	94	105	100	103	101	103	97	
4115	28491	91	106	102	113	107	106	105	106	97	
4116	28452	87	104	103	117	108	104	93	104	96	
4117	28447	92	104	98	106	103	108	106	108	98	
4118	28451	91	104	103	111	106	102	102	102	98	
4119	28171	90	105	104	113	107	108	105	108	97	
4120	28160	89	107	106	119	111		106		97	
4121	HRI 174 (HC)	89	104	104	111	106	102	101	102	98	
4122	28483	92	104	103	112	106	108	100	108	98	
4123	28490	94	111	120	116	115	100	101	100	97	
4124	27749	89	104	104	110	106		100		98	
4125	28163	86	102	99	106	102	102	100	102	97	
4126	28158	90	103	103	115	107	103	100	103	97	
4127	28493	89	102	105	108	105	102	97	102	97	
4128	28472	91	103	104	111	106	103	100	103	98	
4129	27771	92	102	98	115	105	108	104	108	98	
4130	28442	91	103	96	105	101	106	101	106	97	
4131	28161	88	104	103	115	107	101	104	101	96	
4132	27273	89	104	103	114	107	107	99	107	98	
4133	27385	96	104	100	114	106	109	101	109	99	
4134	Local Check (LC)		109	104	114	109	110	103	110	99	
	Exp. Mean	90	105	103	112	107	105	102	105	97	

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Table No. 1.37 contd.: Days to 50% Flowering of entries in AVT 1- IM Kharif 2020

Entry No.	IET NO.	ZONE VII							Overall (25) Mean
		KA		KA (2)	PU		PU (2)	Zone VII (10)	
		MND	GNV	Mean	KRK	@KBP	Mean	Mean	
4101	28471	76	104	90	74	95	74	102	104
4102	27900	72	109	90	80	94	80	103	103
4103	28444	71	101	86	88	93	88	98	98
4104	28439	72	102	87	79	95	79	99	102
4105	28475	62	103	82	84	94	84	97	98
4106	28487	61	103	82	86	94	86	98	97
4107	NDR 359 (NC)	63	99	81	88	93	88	96	95
4108	28159	62	98	80	88	91	88	95	95
4109	28174	63	94	79	79	94	79	93	95
4110	28156	62	101	81	89	93	89	96	96
4111	28162	65	103	84	87	98	87	98	97
4112	28489	62	100	81	85	93	85	96	100
4113	28481	59	101	80	83	93	83	97	99
4114	Zonal Check (ZC)	72	101	86	86	94	86	95	99
4115	28491	64	101	82	87	98	87	97	98
4116	28452	62	99	81	89	91	89	97	96
4117	28447	66	100	83	83	99	83	95	96
4118	28451	67	102	85	84	107	84	97	97
4119	28171	68	102	85	87	99	87	98	97
4120	28160	67	103	85	85		85	99	99
4121	HRI 174 (HC)	64	102	83	84	101	84	96	97
4122	28483	59	103	81	86	95	86	97	98
4123	28490	65	101	83	82	94	82	100	100
4124	27749	61	101	81	88	93	88	96	96
4125	28163	59	101	80	85	94	85	94	96
4126	28158	65	101	83	89	94	89	97	96
4127	28493	58	101	79	84	93	84	95	96
4128	28472	62	102	82	87	96	87	98	98
4129	27771	64	102	83	85	89	85	97	98
4130	28442	64	100	82	85	95	85	94	96
4131	28161	65	100	83	82	95	82	96	97
4132	27273	60	99	80	81		81	97	96
4133	27385	70	102	86	84	94	84	97	97
4134	Local Check (LC)	62	102	82	86	94	86	99	98
Exp. Mean		65	101		85	95	85	97	98
SEM		1.00	1.10	1.01	1.43	0.83	0.84	1.04	0.43

Table No 1.38: Plant Height (cm) of entries in AVT 1 - IM Kharif 2020

Entry No.	IET NO.	ZONE III										ZONE IV	
		OD				OD (4)	BI		BI (2)	UP	Zone III (6)	AS (1)	Zone IV (1)
		BBN	CTK	JYP	CHP	Mean	BKG	SBR	Mean	@VRN	Mean	TTB	Mean
4101	28471	104.00	96.33	83.67	79.00	90.75	83.67	81.00	82.33	95.80	87.94	80.93	80.93
4102	27900	101.00	98.80	79.53	91.19	92.63	92.67	83.33	88.00	99.33	91.09	93.47	93.47
4103	28444	113.00	103.20	86.27	90.69	98.29	98.00	100.67	99.33	120.03	98.64	99.33	99.33
4104	28439	107.00	112.40	83.60	95.25	99.56	91.33	95.67	93.50	107.07	97.54	92.13	92.13
4105	28475	102.00	94.20	71.07	88.81	89.02	84.33	80.00	82.17	102.00	86.74	82.53	82.53
4106	28487	120.00	109.53	87.53	87.94	101.25	110.33	109.67	110.00	125.67	104.17	105.80	105.80
4107	NDR 359 (NC)	90.00	98.40	69.73	90.00	87.03	85.00	92.00	88.50	105.07	87.52	84.53	84.53
4108	28159	97.00	95.73	85.80	90.28	92.20	87.67	92.33	90.00	101.80	91.47	104.53	104.53
4109	28174	101.00	101.07	86.13	92.44	95.16	97.00	93.33	95.17	103.53	95.16	93.60	93.60
4110	28156	111.00	98.53	88.00	98.88	99.10	94.00	99.67	96.83	122.93	98.35	89.73	89.73
4111	28162	104.00	102.20	97.00	83.50	96.68	93.33	94.00	93.67	108.07	95.67	98.53	98.53
4112	28489	98.00	94.40	76.93	95.13	91.11	82.00	80.67	81.33	100.60	87.85	92.00	92.00
4113	28481	110.00	109.40	86.03	92.88	99.58	101.67	105.67	103.67	116.83	100.94	92.80	92.80
4114	Zonal Check (ZC)	102.00	101.93	83.80	85.81	93.39	95.33		95.33	97.37	93.78	93.67	93.67
4115	28491	117.00	105.53	83.40	91.78	99.43	104.67	101.67	103.17	115.87	100.67	95.40	95.40
4116	28452	102.00		63.87	97.40	87.76	103.67	91.67	97.67	110.20	91.72	105.60	105.60
4117	28447	91.00	102.80	85.20	93.94	93.23	94.67	100.00	97.33	109.53	94.60	89.60	89.60
4118	28451	104.00		97.57	99.13	100.23	106.33	120.67	113.50	132.20	105.54	109.93	109.93
4119	28171	105.00	97.73	78.93	96.28	94.49	93.33	85.00	89.17	111.73	92.71	85.27	85.27
4120	28160	107.00	96.53	91.47	94.10	97.28	103.67	91.67	97.67	106.20	97.41	88.13	88.13
4121	HRI 174 (HC)	90.00	97.40	91.00	100.60	94.75	100.00	97.00	98.50	111.13	96.00	97.00	97.00
4122	28483	119.00	112.00	84.73	94.94	102.67	94.67	109.67	102.17	117.30	102.50	107.80	107.80
4123	28490	118.00	117.07	82.07	96.13	103.31	108.33	101.67	105.00	109.40	103.88	97.00	97.00
4124	27749	78.00	85.60	72.33	99.33	83.82	84.33	83.67	84.00	97.80	83.88	90.80	90.80
4125	28163	102.00	89.33	88.20	99.13	94.66	110.00	94.00	102.00	109.00	97.11	102.20	102.20
4126	28158	97.00	98.33	84.67	92.00	93.00	96.33	94.67	95.50	106.73	93.83	89.73	89.73
4127	28493	113.00	110.20	96.60	98.75	104.64	98.00	100.67	99.33	123.07	102.87	107.20	107.20
4128	28472	106.00	99.67	89.73	99.83	98.81	96.67	99.33	98.00	108.23	98.54	99.87	99.87
4129	27771	107.00		83.53	94.75	95.09	102.33	95.00	98.67	109.23	96.52	95.67	95.67
4130	28442	86.00		80.27	99.57	88.61	77.00	80.33	78.67	94.43	84.63	79.80	79.80
4131	28161	101.00	96.13	79.47	94.06	92.67	101.00	95.00	98.00	107.57	94.44	93.00	93.00
4132	27273	100.00	109.40	85.07	96.22	97.67	101.00	98.00	99.50	113.27	98.28	99.13	99.13
4133	27385	110.00	105.93	101.27	93.00	102.55	109.67	93.33	101.50	119.07	102.20	102.60	102.60
4134	Local Check (LC)	110.00	96.13	86.33	101.30	98.44	93.00	70.33	81.67	104.73	92.85	102.07	102.07
Exp. Mean		103.62	101.20	84.44	93.94	95.55	96.32	94.28	95.32	109.49	95.50	95.34	95.34





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**Table No. 1.38 contd.: Plant Height (cm) of entries in AVT 1 - IM Kharif 2020**

Entry No.	IET NO.	ZONE VII											Overall (25)
		TA		TA (1)	KE (1)	KA		KA (2)	PU		PU (1)	Zone VII (10)	
		ADT	@CBT	Mean	PTB	MND	GNV	Mean	KRK	@KBP	Mean	Mean	
4101	28471	110.20	119.60	110.20	92.49	111.13	109.00	110.07	125.50	116.00	125.50	105.59	97.98
4102	27900	112.30	82.13	112.30	90.89	93.67	102.50	98.08	107.00	99.00	107.00	101.40	97.89
4103	28444	102.70	103.13	102.70	90.37	95.40	112.00	103.70	125.00	102.00	125.00	107.70	104.88
4104	28439	114.43	113.73	114.43	89.53	98.00	115.50	106.75	135.50	125.00	135.50	113.78	108.10
4105	28475	87.50	94.07	87.50	90.28	94.73	93.50	94.12	107.50	84.00	107.50	93.77	91.97
4106	28487	112.20	99.07	112.20	90.71	115.47	119.50	117.48	134.50	71.00	134.50	115.15	109.97
4107	NDR 359 (NC)	86.43	81.00	86.43	85.51	94.07	91.00	92.53	129.00	90.00	129.00	98.58	95.53
4108	28159	86.30	97.73	86.30	84.69	103.27	92.50	97.88	107.50	88.00	107.50	98.63	97.23
4109	28174	76.20	94.53	76.20	87.89	96.80	92.50	94.65	96.00	89.00	96.00	95.27	97.25
4110	28156	96.27	93.67	96.27	92.44	99.80	112.00	105.90	121.50	102.00	121.50	104.28	103.85
4111	28162	112.67	106.67	112.67	93.45	102.93	101.00	101.97	126.00	106.00	126.00	105.82	103.04
4112	28489	95.63	90.20	95.63	92.85	89.93	90.00	89.97	109.00	106.00	109.00	96.28	94.62
4113	28481	94.20	103.87	94.20	92.73	100.13	113.50	106.82	114.50	98.00	114.50	107.58	105.86
4114	Zonal Check (ZC)	96.57	103.33	96.57	96.33	100.13	100.00	100.07	106.00	95.00	106.00	96.75	98.38
4115	28491	94.03	111.40	94.03	93.58	106.87	110.00	108.43	124.50	111.00	124.50	112.26	108.47
4116	28452	73.97	95.07	73.97	88.73	93.80	101.50	97.65	108.00	102.00	108.00	101.79	100.91
4117	28447	96.00	93.10	96.00	95.18	96.33	100.00	98.17	97.50	96.00	97.50	100.52	98.22
4118	28451	115.87	119.63	115.87	97.03	98.13	117.00	107.57	137.50	120.00	137.50	119.08	115.03
4119	28171	94.57	90.80	94.57	96.58	99.60	92.50	96.05	115.00	97.00	115.00	100.74	99.84
4120	28160		95.87		96.83	100.00	111.00	105.50	114.50		114.50	102.65	100.61
4121	HRI 174 (HC)	87.77	100.40	87.77	88.00	96.40	114.50	105.45	127.50	102.00	127.50	102.42	100.62
4122	28483	112.77	105.27	112.77	86.98	100.60	121.50	111.05	140.00	110.00	140.00	115.72	112.97
4123	28490	75.64	108.87	75.64	88.78	104.53	123.00	113.77	123.50	11.00	123.50	108.92	108.16
4124	27749		96.67		83.76	100.60	99.50	100.05	96.00	78.00	96.00	94.71	91.83
4125	28163	98.83	97.27	98.83	84.91	102.13	108.50	105.32	127.00	112.00	127.00	108.08	105.27
4126	28158	85.13	76.13	85.13	87.92	101.33	93.50	97.42	116.00	96.00	116.00	100.62	100.79
4127	28493	93.73	113.40	93.73	85.69	114.07	118.50	116.28	119.50	111.00	119.50	112.69	110.95
4128	28472	100.32	106.00	100.32	84.80	103.07	93.50	98.28	123.50	110.00	123.50	104.79	103.68
4129	27771	128.93	93.60	128.93	87.32	91.73	100.00	95.87	117.50	92.00	117.50	106.29	102.78
4130	28442	85.50	70.73	85.50	85.32	100.27	75.50	87.88	117.50	89.00	117.50	92.00	90.51
4131	28161	94.47	107.67	94.47	89.47	99.47	98.00	98.73	128.50	105.00	128.50	101.86	102.35
4132	27273	103.57	92.33	103.57	86.40	96.13	104.00	100.07	115.00		115.00	106.06	104.45
4133	27385	101.83	103.93	101.83	83.68	111.00	105.50	108.25	117.50	108.00	117.50	102.54	105.04
4134	Local Check (LC)	106.03	108.07	106.03	90.77	89.00	93.00	91.00	121.50	94.00	121.50	100.62	99.63
	Exp. Mean	97.89	99.09	97.89	89.76	100.02	103.68		118.59	97.34	118.59	103.97	102.02

**Table No. 1.39: Panicles/M<sup>2</sup> of entries in AVT 1 - IM Kharif 2020**

Entry No.	IET NO.	ZONE III										ZONE IV	
		OD				OD (4)	BI		BI (2)	UP	Zone III (6)	AS (1)	Zone IV (1)
		BBN	CTK	JYP	CHP	Mean	BKG	SBR	Mean	@VRN	Mean	TTB	Mean
4101	28471	199	323	280	173	244	226	253	239	200	242	288	288
4102	27900	253	270	283	163	242	250	245	247	249	244	220	220
4103	28444	280	219	306	172	244	239	243	241	207	243	225	225
4104	28439	204	308	356	242	277	261	225	243	225	266	208	208
4105	28475	230	264	332	170	249	220	217	218	206	239	203	203
4106	28487	181	292	243	143	215	260	215	238	192	222	143	143
4107	NDR 359 (NC)	215	195	276	191	219	224	173	198	227	212	223	223
4108	28159	259	278	387	172	274	261	310	285	233	278	170	170
4109	28174	267	294	306	183	262	248	272	260	212	262	170	170
4110	28156	271	255	391	170	272	271	243	257	198	267	215	215
4111	28162	283	288	300	166	259	239	257	248	179	255	165	165
4112	28489	295	261	266	227	262	251	277	264	202	263	190	190
4113	28481	264	245	246	184	235	237	318	278	223	249	190	190
4114	Zonal Check (ZC)	268	243	306	145	240	257		257	277	244	178	178
4115	28491	251	305	216	191	241	269	230	250	218	244	233	233
4116	28452	232		332	157	240	265	234	249	189	244	183	183
4117	28447	219	268	260	184	233	263	255	259	248	241	223	223
4118	28451	131		290	140	187	254	207	230	190	204	193	193
4119	28171	133	302	355	148	234	269	213	241	208	237	248	248
4120	28160	175	298	333	231	259	265	248	256	215	258	225	225
4121	HRI 174 (HC)	163	300	306	172	235	276	254	265	263	245	175	175
4122	28483	249	292	276	185	250	256	268	262	225	254	160	160
4123	28490	294	303	326	162	271	275	263	269	214	270	180	180
4124	27749	240	304	276	157	244	249	246	247	195	245	235	235
4125	28163	283	254	306	218	265	281	288	284	199	272	200	200
4126	28158	258	274	319	195	261	267	264	265	255	262	230	230
4127	28493	246	271	306	155	244	232	257	244	205	244	163	163
4128	28472	241	256	347	208	263	264	241	252	199	259	200	200
4129	27771	208		270	207	228	273	176	225	206	227	218	218
4130	28442	244		271	144	219	226	267	246	226	230	255	255
4131	28161	274	253	310	207	261	263	268	266	214	262	255	255
4132	27273	240	297	310	162	252	248	240	244	224	249	265	265
4133	27385	201	232	383	197	253	298	251	274	201	260	153	153
4134	Local Check (LC)	272	283	286	174	254	249	278	263	216	257	163	163
	Exp. Mean	236	274	305	179	247	255	248	252	216	249	204	204

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Table No.1.39 contd.: Panicles/M<sup>2</sup> of entries in AVT 1 - IM Kharif 2020

Entry No.	IET NO.	ZONE V							ZONE VI			
		CH		CH (2)	MA1		MA1 (2)	Zone V (4)	MA2		MA2 (2)	MA (4)
		RPR	JDP	Mean	SKL	SND	Mean	Mean	KJT	SHR	Mean	Mean
4101	28471	205	146	176	269	237	253	214	182	144	163	208
4102	27900	193	174	183	305	199	252	218	215	157	186	219
4103	28444	188	139	164	300	222	261	212	178	146	162	211
4104	28439	165	135	150	316	226	271	210	221	166	194	232
4105	28475	205	134	169	253	227	240	204	188	172	180	210
4106	28487	202	151	177	245	118	181	179	191	141	166	174
4107	NDR 359 (NC)	197	145	171	220	171	195	183	221	136	178	187
4108	28159	208	147	177	231	277	254	216	261	141	201	227
4109	28174	216	148	182	203	234	218	200	251	139	195	206
4110	28156	194	182	188	224	203	213	201	238	155	196	205
4111	28162	202	135	169	231	198	214	191	215	137	176	195
4112	28489	218	190	204	286	255	271	237	210	140	175	223
4113	28481	199	204	201	249	240	245	223	241	158	199	222
4114	Zonal Check (ZC)	194	150	172	333	237	285	228	172	167	169	227
4115	28491	192	133	163	247	188	218	190	203	151	177	197
4116	28452	167	171	169	239	180	209	189	205	141	173	191
4117	28447	182	161	172	260	245	252	212	228	161	194	223
4118	28451		172	172	148	185	166	168	254	153	204	185
4119	28171	182	166	174	156	172	164	169	223	135	179	171
4120	28160	187	119	153	240	240	240	196	231	148	189	215
4121	HRI 174 (HC)		142	142	237	226	231	201	241	143	192	211
4122	28483		177	177	228	202	215	202	228		228	219
4123	28490		151	151	218	240	229	203	224	167	196	212
4124	27749	211	133	172	230	215	223	197	175	149	162	192
4125	28163		160	160	201	280	240	213	218	147	182	211
4126	28158		157	157	177	192	184	175	221	142	182	183
4127	28493	197	224	210	208	200	204	207	244	153	199	201
4128	28472	209	166	188	227	222	225	206	238	177	207	216
4129	27771	237	115	176	253	223	238	207	201	134	167	203
4130	28442		179	179	237	241	239	219	119	163	141	190
4131	28161	198	180	189	250	190	220	204	251	155	203	211
4132	27273		132	132	198	227	212	185	215	142	178	195
4133	27385		184	184	307	184	245	225	221	136	179	212
4134	Local Check (LC)	197	180	188	245	241	243	216	241	186	213	228
	Exp. Mean	198	158	173	240	216	228	203	217	151	185	206

Table No. 1.39 contd.: Panicles/M<sup>2</sup> of entries in AVT 1 - IM Kharif 2020

Entry No.	IET NO.	ZONE VI				ZONE VII							
		GU		GU (2)	Zone VI (4)	AP		AP (2)	TE				TE (3)
		NVS	NWG	Mean	Mean	MTU	RGL	Mean	@RDR	RNR	WGL	JGL	Mean
4101	28471	247	268	258	210	284	340	312	291	427	439	312	393
4102	27900	171	288	230	208	337	360	348	269	397	432	361	397
4103	28444	231	279	255	208	327	363	345	248	400	447	326	391
4104	28439	228	278	253	223	343	344	343	291	367	450	308	375
4105	28475	247	290	268	224	320	304	312	287	380	422	308	370
4106	28487	229	276	253	209	353	327	340	197	327	429	321	359
4107	NDR 359 (NC)	248	280	264	221	317	360	338	259	397	432	286	372
4108	28159	213	286	249	225	323	386	355	292	357	434	299	363
4109	28174	217	283	250	222	287	347	317	176	383	436	365	395
4110	28156	241	279	260	228	323	334	328	164	337	441	308	362
4111	28162	400	290	345	260	323	344	333	149	403	439	334	392
4112	28489	245	278	261	218	320	360	340	214	403	429	422	418
4113	28481	175	274	225	212	304	356	330	204	403	442	308	385
4114	Zonal Check (ZC)	227	266	247	208	267	320	294	224	337	442	383	387
4115	28491	172	276	224	201	294	300	297	226	367	460	339	389
4116	28452	194	274	234	203	284	310	297	219	373	444	383	400
4117	28447	249	265	257	225	350	317	333	214	363	439	343	382
4118	28451		274	274	227	310	301	305	221	360	434	308	367
4119	28171	230	279	255	217	300	278	289	226	380	434	361	392
4120	28160	268	272	270	230	307	367	337	218	327	441	348	372
4121	HRI 174 (HC)	247	269	258	225	373	340	356	190	387	431	348	388
4122	28483	249	273	261	250	317	343	330	238	397	429	326	384
4123	28490	239	255	247	221	320	337	328	256	350	459	282	363
4124	27749	235	264	250	206	323	343	333	232	383	429	304	372
4125	28163	245	263	254	218	320	354	337	221	367	434	317	372
4126	28158	212	270	241	211	274	317	295	269	363	444	330	379
4127	28493		266	266	221	320	373	347	168	347	426	409	394
4128	28472	189	259	224	216	284	360	322	259	417	434	308	386
4129	27771	209	264	236	202	317	340	328	208	383	421	330	378
4130	28442	188	264	226	183	287	304	295	213	417	422	312	384
4131	28161	205	255	230	216	277	360	318	201	400	427	365	398
4132	27273	221	252	237	207	386	300	343	203	350	454	400	401
4133	27385	194	271	233	206	320	287	304	305	437	436	312	395
4134	Local Check (LC)	214	266	240	227	287	344	315		367	447	326	380
	Exp. Mean	227	272	251	217	314	336	325	229	378	437	335	383

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Table No.1.39 contd.: Panicles/M<sup>2</sup> of entries in AVT 1 - IM Kharif 2020

Entry No.	IET NO.	ZONE VII											Overall (25) Mean			
		TA		TA (1)		KE (1)		KA		KA (2)		PU		PU (1)	Zone VII (10)	
		ADT	@CBT	Mean	PTB	MND	GNV	Mean	KRK	@KBP	Mean	Mean		Mean		
4101	28471	537	300	537	329	287	341	314	467	482	467	376	288			
4102	27900	494	320	494	344	307	410	358	446	486	446	389	291			
4103	28444	491	470	491	360	290	450	370	483	512	483	394	292			
4104	28439	522	330	522	382	297	398	347	465	532	465	387	296			
4105	28475	379	295	379	451	293	319	306	473	569	473	365	280			
4106	28487	385	433	385	338	283	368	326	408	486	408	354	263			
4107	NDR 359 (NC)	454	313	454	369	287	397	342	427	446	427	372	273			
4108	28159	480	478	480	390	273	330	302	524	459	524	380	296			
4109	28174	400	363	400	383	317	319	318	486	469	486	372	286			
4110	28156	502	290	502	310	287	365	326	525	492	525	373	290			
4111	28162	478	323	478	353	303	380	342	407	455	407	376	291			
4112	28489	471	323	471	273	310	345	327	535	540	535	387	298			
4113	28481	378	355	378	414	310	363	336	482	499	482	376	287			
4114	Zonal Check (ZC)	413	340	413	419	280	470	375	427	554	427	376	287			
4115	28491	383	418	383	422	287	352	319	434	449	434	364	276			
4116	28452	319	323	319	281	267	330	298	485	482	485	348	269			
4117	28447	420	328	420	354	293	348	321	495	437	495	372	286			
4118	28451	398	348	398	426	297	316	306	528	458	528	368	276			
4119	28171	474	293	474	327	267	395	331	486	466	486	370	276			
4120	28160		305		427	313	319	316	417		417	363	281			
4121	HRI 174 (HC)	315	318	315	424	290	384	337	447	442	447	374	287			
4122	28483	395	343	395	287	307	341	324	367	492	367	351	285			
4123	28490	398	300	398	346	297	390	343	427	462	427	360	287			
4124	27749		415		406	327	448	387	413	479	413	375	279			
4125	28163	395	358	395	215	297	505	401	537	475	537	374	295			
4126	28158	398	305	398	327	283	360	322	438	472	438	353	279			
4127	28493	396	330	396	330	277	396	336	523	492	523	380	288			
4128	28472	463	323	463	322	273	360	317	545	467	545	376	288			
4129	27771	385	315	385	254	287	366	326	452	455	452	353	272			
4130	28442	409	308	409	301	307	448	377	423	309	423	363	279			
4131	28161	375	300	375	375	273	441	357	438	563	438	373	290			
4132	27273	454	328	454	288	333	338	336	443		443	375	287			
4133	27385	433	310	433	286	283	360	322	474	439	474	363	285			
4134	Local Check (LC)	417	373	417	371	273	450	362	441	435	441	372	288			
	<b>Exp. Mean</b>	<b>425</b>	<b>340</b>	<b>425</b>	<b>349</b>	<b>293</b>	<b>379</b>	<b>336</b>	<b>464</b>	<b>477</b>	<b>464</b>	<b>371</b>	<b>284</b>			

**Table No. 1.40: Grain quality characteristics of entries in AVT 1-IM, kharif 2020**

Entry No.	IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
4101	28471	77.7	66.8	43.8	5.41	1.97	2.74	MS	VOC	5.0	24.49	22
4102	27900	80.9	72.5	64.2	5.63	2.88	2.7	MS	VOC	5.0	24.84	22
4103	28444	79.5	68.6	45.9	6.49	2.27	2.85	LB	VOC	4.0	27.80	42
4104	28439	80.4	70.5	57.8	6.86	2.16	3.17	LS	VOC	5.0	27.16	40
4105	28475	80.0	69.5	41.7	5.38	2.04	2.63	MS	VOC	5.0	23.52	24
4106	28487	77.4	63.6	36.3	6.56	2.01	3.26	LS	VOC	5.0	24.72	54
4107	NDR 359 (NC)	79.3	70.1	56.3	6.18	2.30	2.68	LB	VOC	5.0	24.40	36
4108	28159	80.5	70.5	42.0	6.20	2.18	2.84	LB	VOC	5.0	25.75	38
4109	28174	81.3	68.8	40.1	6.60	2.24	2.94	LB	VOC	7.0	27.19	47
4110	28156	79.3	64.2	27.5	5.43	2.27	2.39	SB	VOC	7.0	26.19	47
4111	28162	80.0	68.2	40.9	6.76	2.48	2.72	LB	VOC	5.0	24.49	60
4112	28489	81.1	69.9	55.1	5.39	2.13	2.53	MS	A	5.0	27.48	47
4113	28481	79.3	70.2	47.8	7.10	2.28	3.11	LS	VOC	4.0	26.81	42
4114	Zonal check (ZC)	79.8	66.7	59.3	5.54	2.32	2.38	SB	VOC	7.0	27.07	22
4115	28491	76.4	65.2	43.1	5.42	2.20	2.46	SB	VOC	5.0	27.16	30
4116	28452	80.2	70.5	36.4	5.33	2.44	2.48	SB	VOC	7.0	25.40	22
4117	28447	79.3	67.7	45.0	6.55	2.04	3.21	LS	VOC	4.0	24.87	51
4118	28451	79.9	67.8	40.8	5.51	2.38	2.31	SB	VOC	5.0	28.13	43
4119	28171	79.9	69.3	55.2	5.79	2.11	2.74	MS	VOC	5.6	26.57	43
4120	28160	82.1	71.9	63.5	5.55	2.17	2.55	MS	VOC	5.3	24.46	61
4121	HRI 174 (HC)	81.4	71.0	59.6	6.24	2.22	2.81	LB	VOC	4.0	25.66	51
4122	28483	79.1	70.0	56.7	5.15	2.03	2.53	MS	VOC	5.5	26.57	42
4123	28490	77.7	68.1	55.4	5.58	2.04	2.73	MS	A	7.0	25.10	44
4124	27749	79.8	72.1	53.7	5.72	2.48	2.3	SB	VOC	7.0	25.69	22
4125	28163	81.5	67.8	40.2	6.22	2.21	2.81	LB	VOC	4.0	23.11	73
4126	28158	80.4	64.1	33.9	5.73	2.12	2.7	MS	VOC	7.0	26.01	34
4127	28493	73.5	62.5	32.1	5.43	2.12	2.56	MS	VOC	5.7	24.81	22
4128	28472	78.2	66.4	38.5	5.69	2.35	2.42	SB	VOC	7.0	26.72	25
4129	27771	77.9	66.1	35.5	5.17	2.37	2.18	SB	OC	4.0	23.17	22
4130	28442	78.3	66.7	55.3	6.47	2.12	3.05	LS	VOC	7.0	25.25	41
4131	28161	79.9	69.9	50.3	6.50	2.22	2.92	LB	VOC	4.0	22.49	56
4132	27273	79.9	71.3	59.5	5.29	1.98	2.67	MS	VOC	5.0	22.70	23
4133	27385	80.4	68.2	41.7	5.70	2.01	2.83	MS	VOC	5.0	23.93	41
4134	Local Check	79.9	68.7	59.0	5.20	1.80	2.88	MS	A	7.0	26.42	48

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB:Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

**Table No. 1.41: Composition of entries in Initial Variety Trial - Irrigated Medium (IVT-IM), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>1<sup>st</sup> year of testing:</b>				
4201	28498	RCPR 67-RP 5484	Swarna / IRGC 63248 // RP Bio 226	MS
4202	28503	PAU 8442-2K14-3583-422-1 (RYT 3784)	Pusa 44 / IL 274 (O. glaberrima)	LS
4203	28523	CR 3564-1-1-4-2-2-1	Vijetha / N22	MS
4204	28530	R 1624-82-1-60-1	Surekha / Madhuri	LB
4205	27908	MTU 1275 (MTU 2385-123-1-2-3)	MTU 1075 / MTU 1081 / MTU 1121	LS
4206	28419	KJT 9-2-12-2-8	KJT 6 / Abhya	LS
4207	28383	OR 2573-11	Birupa / IR 76561-AC-8-8	LS
4208	28552	CR 3564-1-1-3-2-1-1	Vijetha / N22	MS
4209	29254	AD 17764	ADT 46 / AD 09465	MS
4210	29255	NVSR-598	(CSR-36 / IRGC 77840) / MTU 1010	LB
4211	29256	BPT 3050	BPT 5204 / BPT 3291	MS
4212	29257	RNR 28399	BPT-5204 / IR-79216-141-1-3-3-3	LB
4213	29258	R 741-1-55-2-1-R-1-5	RP 2115-40-9 / BG 4001	
4214	28529	RP 6195-MC/RIL-SM2	MTU 1010 / Chittimuthayalu	LS
4215	29259	JGL 33138	JGL 20171 / Vajram	MS
4216	28546	CR 2851-S-1-6-2B-4-2	Gayatri / SR 26B	MS
4217	29260	WGL-1377	WGL14 / NLR 34449	MS
4218	29261	CB 16101	BPT 5204 / CR 1009	SB
4219	29262	PAU 7180-7-26-0-0-0 (RYT 3866)	PR 121 / IR 96321 // PR 121 /// PR 121 / IR 71033-121-15-B // PR 121	LS
4220	29263	MTU 1347 (MTU 2414-5-1-1-1-1)	MTU 2077 / IR 72	MS
4221	29264	KJT-2010-3	KJT2 / RP BIO -226	LS
4222	<b>NDR 359 (NC)</b>			
4223	29265	RP 6112-MS-M-47-2-6-9-4-5-33	BPT 5204 Mutant	MB
4224	29266	HKR 15-35	PR 114 / HKR 47	LS
4225	29267	CR 4121-36-24-1	CR 3856-44-22-2-1-11*3 / IRBB 60 / Swarna Sub1	LB
4226	29268	OROI-8- IR 88228-33-3-5-2	IR 80410-B-197-4 / IR 64-Sub 1 // NCIC RC 158	MS
4227	29269	RP 6476-29-12-5-3	RNR 24058 / A69-1	MS
4228	29270	Pusa 5278-3-7-1-93-1-1-2	ADT 43 / BPT 5204	MS
4229	29271	TTBDR 207-3-2		
4230	29272	MSN 109	IET 20919 / MSN 99	LB
4231	29273	Gold-44		
4232	29274	BRM-Brahma	Variant Selection from MO 4	MB
4233	29275	ORJ 1352 (TP 30601)	IR 88633-12-55-B-1-B / Mazhan (Red)	LB
4234	29276	WGL-1380	BPT 5204 / NR 950	MS
4235	29277	RGL 7020	RGL 2332 / Godavari isukalu	MS
4236	29278	NWGR-8001	GR 3 / NWGR-97011 (5-1-1-1)	LS
4237	29279	CR 4004-14228-2-1-3-2-1-4	BS-6444G / C460-3-2	MB
4238	29280	RP 6481-RAF20-GSR IR-1 DQ136-Y3-Y2		LS
4239	29281	CB 16118	CR 1009 / GMS 48	SB

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Entry No.	IET No.	Designation	Cross Combination	GT
4240	28514	RTN 0901-1-1-3-1	RTN 4 / IR 72 / Indrayani	LB
4241	28540	CR 2916-10-2-1-1	Tapaswini / IET 16952	MS
4242	29282	RP 6329-251-10-3-2	MTU 1081 / Sinnasivappu	MS
4243	29283	R 1641-914-1-400-1-20	MTU1001 / Swarna	
4244	29284	MTU 1348 (MTU 2689-45-1-1)	MTU 1010 / MTU 7029	MS
4245	29285	KAU PTB 0614-10-14-17	Pranava / Vellari	MB
4246	29286	CR 4113-1-2-1-1-1	CR 3947-1-3-2-1-1 / IR64	LS
4247	29287	RP 5405-13-1-3-1-1-1-1	RP 5405: Swarna / IRGC 4105 // Swarna	SB
4248	29288	BRR 0136 (IR 125026-73-1-1)	Akshayadhan / PAU-201	LS
4249	29289	CR 4315 -3-1-1-2-1	CR 3553-151 / CR 3755-131	MS
4250	29290	HURS-19-3	CR 2407 / IR 64	SB
4251	<b>PR121-Northern, CR Dhan 300- Eastern and North Eastern, Karma Mahsuri-Central, Akshyadhan-Western, Jaya- Southern--ZC</b>			
4252	29291	RP 5564 PTB 1-4-1	RP Bio 226 / IRGC 71598 // MTU 1010	SB
4253	29292	Pusa 5000-1-1-1	TCP 54 / ADT 43	MB
4254	29293	CR 2906-253-56-3	IR 20 / Dandi	MS
4255	29294	RP 6328-218-B-29-1	APMS 6B / FL478	MS
4256	29295	UPR 4283-7-1-1-1	Narendra 359 / Pant Dhan 6	LS
4257	29296	CRAC 3998-124-1	Doubled haploid of 27P63	MS
4258	29297	RP Bio 5479-248 JF 12 RIL	Jalmagna / Swarna	SB
4259	29298	OR 2500-1-1	Heera / Subhadra	MB
4260	29299	CR 4202-300-1-2-1	Naveen / IRBB 66	MS
4261	29300	RP 6460-C397	Swarna / O. nivara - 166 S // Swarna / O. nivara -148 S	LB
4262	29301	AD 16124	CO (R) 50/AD 08132	MS
4263	29302	TRC 2020-9	Tripura Sharat / Hakuchuk 2	LS
4264	<b>Local Check</b>			

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**Table No.1.42: Grain Yield (Kg/ha) of entries in IVT- IM, Kharif 2020**

Entry No.	IET No.	ZONE III													
		OD						OD (3)			BI			Zone III (3)	
		CTK		JYP		CHP		Mean			@BKG		@SBR	Mean	
4201	28498	3697		1028		1914		2213		1635		972		2213	
4202	28503	4057		1002		4217		3092		1954		1896		3092	
4203	28523	4826		4576		5993	7	5132	10	2552		3021		5132	10
4204	28530	2786		2210		3243		2746		3309		2292		2746	
4205	27908	5111	5	3946		4599		4552		2472		1149		4552	
4206	28419	5046	8	1914		3632		3531		2472		1528		3531	
4207	28383	4917	10	7199	8	5803	8	5973	2 * 11%	2791		3311	7	5973	2 * 11%
4208	28552	4090		4198		5217		4502		2592		1667		4502	
4209	29254	4599		5779		4625		5001		4258	4	3153	10	5001	
4210	29255	3099		4012		2664		3258		2552		1158		3258	
4211	29256	4440		3827		5079		4449		2472		3124		4449	
4212	29257	4804		1414		3730		3316		3947	6	2088		3316	
4213	29258	4267		1481		3474		3074		2951		4000	2	3074	
4214	28529	3617		1147		2691		2485		2632		1265		2485	
4215	29259	5100	6	2154		4428		3894		3190		3296	9	3894	
4216	28546	4689		2985		5329		4334		2632		2388		4334	
4217	29260	4675		1252		4862		3596		2951		2090		3596	
4218	29261	4663		1580		5375		3873		2671		1997		3873	
4219	29262	3338		2245		4112		3232		2990		2071		3232	
4220	29263	4556		2637		4474		3889		3309		3018		3889	
4221	29264	4314		7174	10	2349		4612		1715		1189		4612	
4222	NDR 359 (NC)	4057		3377		3579		3671		4916	1	2522		3671	
4223	29265	3779		7537	4	4382		5233	8	4266	3	2829		5233	8
4224	29266	4689		3616		5322		4542		3668	7	3403	5	4542	
4225	29267	3796		7106		4342		5081		3349	10	2918		5081	
4226	29268	4250		7051		6072	4	5791	3 * 8%	3469	9	2979		5791	3 * 8%
4227	29269	3038		3937		4276		3750		2492		2447		3750	
4228	29270	3586		3910		1776		3091		1794		950		3091	
4229	29271	4754		4577		1875		3735		1874		1806		3735	
4230	29272	3954		7106		3638		4899		4486	2	1932		4899	
4231	29273	2577		1747		4401		2908		2751		2208		2908	
4232	29274	3101		7514	5	4026		4880		3190		2310		4880	
4233	29275			7179	9	2803		4991		1914		1675		4991	
4234	29276	4904		3412		4447		4254		2432		3558	4	4254	
4235	29277	3328		2512		5467	10	3769		3349	10	792		3769	
4236	29278	2889		2506		3757		3051		2711		2011		3051	
4237	29279	3617		3156		3487		3420		2911		2161		3420	
4238	29280	3788		2769		3342		3300		2791		2467		3300	
4239	29281	4667		4753		4441		4620		3589	8	1904		4620	
4240	28514	5329	4	5571		5638	9	5513	5	3250		2175		5513	5
4241	28540	4060		2139		3039		3079		2612		3314	6	3079	
4242	29282	3875		4897		3625		4132		2512		2188		4132	
4243	29283	4181		5185		5204		4857		3070		3042		4857	
4244	29284	5924	1 *	6458		6428	1 *	6270	1 * 17%	3030		4049	1	6270	1 * 17%
4245	29285	5417	3	5926		3086		4810		1635		1131		4810	
4246	29286	4761		6880		5118		5586	4	3110		2988		5586	4
4247	29287	3810		4707		4276		4264		1934		2056		4264	
4248	29288	3592		2864		4211		3556		4187	5	2628		3556	
4249	29289	5521	2	6651		3382		5185	9	3110		2514		5185	9
4250	29290	3879		7438	6	3105		4807		3190		3304	8	4807	
4251	Zonal Check (ZC)	4928	9	8326	2	2829		5361	6	1754				5361	6
4252	29291	3938		6682		1855		4158		1834		972		4158	
4253	29292	3714		4877		2421		3671						3671	
4254	29293	3879		1512		6007	6	3799		2711		2701		3799	
4255	29294	3597		6474		2204		4092		3070		1561		4092	
4256	29295	3215		6387		2375		3992		2811		1843		3992	
4257	29296	3012		7716	3	3217		4648		1754		1146		4648	
4258	29297	3515		8665	1	2145		4775		2911		3086		4775	
4259	29298	4858		5324		2882		4355		2632		1322		4355	
4260	29299	3394		2724		6388	2 *	4169		2632		3756	3	4169	
4261	29300	3129		7269	7	3671		4690		2671		2497		4690	
4262	29301	5075	7	2346		6171	3 *	4531		1754		1664		4531	
4263	29302	3799		1443		6059	5	3767		2990		2146		3767	
4264	Local Check (LC)	4417		6119		5355		5297	7	1794		2007		5297	7
Exp. Mean		4131		4408		4061		4205		2809		2284		4205	
CD		598.7		836.49		798.79		421.19		367.62		624.71		421.19	
CV%		7.25		9.5		9.84		5.01		6.55		13.68		5.01	
D/S		29-07-2020		05-08-2020		28-07-2020				07-08-2020		07-08-2020			
D/P		01-09-2020		29-08-2020		01-09-2020				02-09-2020		26-08-2020			
Local Check Name		Tapaswini		Pratikshya		Pratikshya				Sabour Shree		Rajendra Sweta			



## Annual Progress Report 2020 Volume I - Varietal Improvement

Table No.1.42 contd.: Grain Yield (Kg/ha) of entries in IVT- IM, Kharif 2020

Entry No.	IET No.	ZONE IV				ZONE V										
		AS		TR		MP (1)		CH			CH (1)		MA1			
		@TTB	@LMB	WRS		RPR	@JDP	Mean		SKL						
4201	28498	1960		3150		5332		3823		2204		3823		5155		
4202	28503	3270	8	4620	8			3057		2660	4	3057		5107		
4203	28523	2715		2310		2141		3451		1615		3451		4437		
4204	28530			2856				2858		1871		2858		3327		
4205	27908			1806		4588		4448	2	1595		4448	2	10%	2142	
4206	28419			1470		532		3641		2095		3641		4237		
4207	28383	2980		3780		4215		4240	3	2292	7	4240	3	5037		
4208	28552			2100				4189	4	1727		4189	4	4372		
4209	29254	1550		1050				3657		1691		3657		2277		
4210	29255			1932				2109		1907		2109		2647		
4211	29256			1596						1755				6306	6	
4212	29257	2770		2184		6981	1	15%		2043				3787		
4213	29258	3065		3192		785				1879				3937		
4214	28529			1596		731				2059				4397		
4215	29259	1605		1764		585		2961		2688	3	2961		5307		
4216	28546	3435	5	2604		6582	4	9%	3155	1991		3155		3037		
4217	29260			4620	8			2823		2788	2	2823		3668		
4218	29261	2505		2100				3400		1595		3400		5577		
4219	29262			1512		6483	6	7%	2947	1899		2947		4077		
4220	29263			1512				4563	1	1931		4563	1	13%	6178	7
4221	29264			1890						2192				6006	10	
4222	NDR 359 (NC)			4158		5160		3795		1919		3795		5495		
4223	29265			5544	5			3493		2272	8	3493		4847		
4224	29266	1970		6143	2	4987		3713		1971		3713		4317		
4225	29267	4735	1	1680		2580		3315		1879		3315		4027		
4226	29268			5823	4			3345		2232	10	3345		4627		
4227	29269	3113		1596		1835		3990	6	2183		3990	6	5227		
4228	29270	3490	4	3150		1702		3933	9	1550		3933	9	4877		
4229	29271	1565		5250	7			3633		2540	5	3633		3687		
4230	29272	2800		1596		6463	7	7%	3933	9	1919	3933	9	2677		
4231	29273			2394				3228		1819		3228		4847		
4232	29274			1764		4814				2949	1			4299		
4233	29275			2520						1887						
4234	29276	2820		1890						1911				6127	8.5	
4235	29277	2793		2100		5146		2055		2143		2055		7287	1	
4236	29278	3363	6	2604		6981	1	15%	2729	1967		2729		5677		
4237	29279			3024						1815				4057		
4238	29280			3696		1237		2578		1723		2578		4327		
4239	29281	1765		840				3185		2083		3185		6917	2	
4240	28514	2575		1890				3964	8	2220		3964	8	6493	5	
4241	28540	3165	10	1260				3707		1803		3707		6599	4	
4242	29282			3696				3455		1546		3455		2157		
4243	29283			2688		5811	10			2216		3220		4787		
4244	29284			2520		6742	3	11%	3136	2216		3136		6634	3	
4245	29285			2100				3196		1571		3196		5785		
4246	29286			4360	10	532		3783		2131		3783		5553		
4247	29287			1134		2380		3810		2063		3810		4897		
4248	29288			2688				3482		1655		3482		4087		
4249	29289			1050				2985		2352	6	2985		4297		
4250	29290			2310				3457		1955		3457		5147		
4251	Zonal Check (ZC)	3935	2	1470		6064	9	2958		1995		2958		6127	8.5	
4252	29291			1134		2221				2171				3067		
4253	29292	3270	8			2114				1542				4037		
4254	29293	2590		3015		2753		3238		1675		3238		4376		
4255	29294			2436		3816		2754		1719		2754		2837		
4256	29295			6529	1			3217		1731		3217		3517		
4257	29296			714		6410	8	6%	1779	1735		1779		3677		
4258	29297	2500		5418	6	1223		3043		1767		3043		2907		
4259	29298	3308	7	2646		864		3607		2107		3607		4862		
4260	29299	1260		2100		1250				2244	9			3247		
4261	29300	3710	3	1890				3553		1935		3553		3677		
4262	29301			1890				3981	7	1631		3981	7	5566		
4263	29302	1855		1218		6523	5	8%	3706	1823		3706		5199		
4264	Local Check (LC)	765		5959	3	4654		4043	5	1883		4043	5	5127		
	Exp. Mean	2684		2659		3701		3391		1983		3391		4587		
CD		741.37		1442.47		917.69		813.39		756.24		813.39		1284.53		
CV%		13.53		27.14		12.22		11.95		19.08		11.95		14.01		
D/S		17-08-2020				05-08-2020		28-07-2020		29-07-2020				29-07-2020		
D/P		04-09-2020				25-08-2020		14-08-2020		21-08-2020				13-08-2020		
Local Check Name		Shraboni				JR 206		IGKV R 1244		IGKVR 1244				PDKV Kisan		

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**Table No.1.42 contd.: Grain Yield (Kg/ha) of entries in IVT- IM, Kharif 2020**

Entry No.	IET No.	ZONE V						ZONE VI										
		MA1		MA1 (2)		Zone V (4)		MA2		MA2 (2)		MA (4)						
		SND	Mean	Mean	Mean	KJT	SHR	Mean	Mean									
4201	28498	5114		5135		4856		4375		4333		4354		4744				
4202	28503	4162		4635		4109		4542		2714		3628		4131				
4203	28523	5653	7	5045		3921		4583		4524		4554		4799				
4204	28530	4048		3688		3411		3542		5298		4420		4054				
4205	27908	4844		3493		4006		4833		5000		4917		4205				
4206	28419	4922		4580		3333		4333		3107		3720		4150				
4207	28383	4929		4983		4605		6250	1	4619		5435	7	5209				
4208	28552	4524		4448		4362		5583	7	4500		5042		4745				
4209	29254	4361		3319		3432		4042		6226	3	5134		4227				
4210	29255	4759		3703		3172		3708		2917		3313		3508				
4211	29256	5369		5838	6	8%	5838	2 *	18%	5333		5774	6	5554	4	5696	4	
4212	29257	5476		4632		5415	6	9%	5875	4		3845		4860		4746		
4213	29258	5078		4508		3267		5042		3143		4093		4300				
4214	28529	4751		4574		3293		4500		5988	4	5244		4909				
4215	29259	5227		5267		3520		4917		2369		3643		4455				
4216	28546	4283		3660		4264		3583		4500		4042		3851				
4217	29260	4268		3968		3586		3750		4702		4226		4097				
4218	29261	4474		5026		4484		5042		5726	8	5384	9.5	5205				
4219	29262	4446		4262		4488		4167		3738		3953		4107				
4220	29263	5561	10	5870	4	8%	5434	4	10%	5792	6	5655	9	5724	3	5797	2	4.63%
4221	29264			6006	2	11%	6006	1 *	21%	4583		6988	1	5786	2	5859	1	5.76%
4222	NDR 359 (NC)	4439		4967		4722		4625		3250		3938		4452				
4223	29265	5362		5105		4567		5583	7	4357		4970		5037				
4224	29266	5788	3 *	5053		4701		5292		5107		5200		5126				
4225	29267	4972		4500		3724		5208		5512		5360		4930				
4226	29268	4489		4558		4154		5992	3	4631		5312		4935				
4227	29269	5149		5188		4050		4250		5381		4816		5002				
4228	29270	4972		4925		3871		4167		4571		4369		4647				
4229	29271	4489		4088		3936		4250		3298		3774		3931				
4230	29272	5149		3913		4556		4375		4440		4408		4160				
4231	29273	5064		4956		4380		2250		2595		2423		3689				
4232	29274	5760	4 *	5030		4958		4250		4667		4459		4744				
4233	29275							5833	5	3821		4827		4827				
4234	29276	4716		5422		5422	5	9%	4417		4476		4447		4934			
4235	29277	4418		5853	5	8%	4727		4000		2512		3256		4554			
4236	29278	5639	8	5658	8		5257	8	6%	4500		4214		4357		5008		
4237	29279	4446		4252		4252		4583		4036		4310		4281				
4238	29280	5085		4706		3307		3750		5036		4393		4550				
4239	29281	4950		5934	3	10%	5017	9	4500		5167		4834		5384	9		
4240	28514	4439		5466		4965	10	5292		5333		5313		5389	8			
4241	28540	4517		5558		4941		5333		3583		4458		5008				
4242	29282	4822		3490		3478		4208		5429		4819		4154				
4243	29283	4169		4478		4497		5083		2881		3982		4230				
4244	29284	5696	6 *	6165	1	14%	5552	3 *	12%	6083	2	4726		5405	8	5785	3	
4245	29285	5433		5609	10		4805		5375	10	5393		5384	9.5	5497	6		
4246	29286	5739	5 *	5646	9		3902		4208		4262		4235		4941			
4247	29287	4524		4711		3903		4042		4690		4366		4538				
4248	29288	4595		4341		4055		5083		5917	5	5500	5	4921				
4249	29289	5874	2 *	5086		4385		4583		5560	10	5072		5079				
4250	29290	5568	9	5358		4724		5167		5774	6	5471	6	5414	7			
4251	Zonal Check (ZC)	4695		5411		4961		4750		4905		4828		5119				
4252	29291	4297		3682		3195		3875		3060		3468		3575				
4253	29292	3516		3777		3222		4042		3714		3878		3827				
4254	29293	4297		4337		3666		4417		4964		4691		4514				
4255	29294	4801		3819		3552		3917		3417		3667		3743				
4256	29295	5043		4280		3926		4958		3560		4259		4270				
4257	29296	5199		4438		4266		3467		3726		3597		4017				
4258	29297	5078		3993		3063		4083		3107		3595		3794				
4259	29298	4126		4494		3365		5042		4726		4884		4689				
4260	29299	5298		4273		3265		4208		2774		3491		3882				
4261	29300	5355		4516		4195		4500		5440		4970		4743				
4262	29301	4915		5241		4821		4208		2738		3473		4357				
4263	29302	6172	1 *	5686	7	5%	5400	7	9%	4875		5036		4956		5321	10	
4264	Local Check (LC)	4787		4957		4653		5458	9	6786	2	6122	1	5540	5			
	<b>Exp. Mean</b>	<b>4905</b>		<b>4755</b>		<b>4272</b>		<b>4632</b>		<b>4441</b>		<b>4537</b>		<b>4641</b>				
CD		906.35		769.56		530.6		962.82		1257.99		735.22		474.94				
CV%		9.24		8.1		6.21		10.4		14.17		8.11		5.1				
D/S		<b>28-07-2020</b>						<b>30-07-2020</b>		<b>30-07-2020</b>								
D/P		<b>25-08-2020</b>						<b>31-08-2020</b>		<b>17-08-2020</b>								
Local Check Name		<b>PKV HMT</b>						<b>Karjat -5</b>		<b>Ratnagiri 8</b>								

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**Table No.1.42 contd.: Grain Yield (Kg/ha) of entries in IVT- IM, Kharif 2020**

Entry No.	IET No.	ZONE VI						ZONE VII								
		GU		GU (2)		Zone VI (4)		AP		AP (2)						
		NVS	NWG	Mean		Mean		MTU	RGL	Mean						
4201	28498	5121	3265	4193		4274			7893	2 *	7893	1 *	41%			
4202	28503	5662	2734	4198		3913			5971		5971		7%			
4203	28523	5183	3327	4255		4404			6692		6692	10 *	20%			
4204	28530	6518	3155	4837	10	4628		2667	5262		3965					
4205	27908	5229	3797	4513		4715		5379	7439	5	6409		15%			
4206	28419	6400	3738	5069	6	4395		3939	5983		4961					
4207	28383	5785	3791	4788		5111	7		7791	3 *	7791	2 *	39%			
4208	28552	4455	2521	3488		4265		2220	5728		3974					
4209	29254	4464	3999	4232		4683		5485	10	5134		5310				
4210	29255	3954	2483	3219		3266		5000		3934		4467				
4211	29256	4869	4267	4568	7	5061	8	2652		7197	9.5	4925				
4212	29257	5131	3759	4445		4653		6212	4	5734		5973		7%		
4213	29258	5230	5077	2	5154	4	4623	3864		5556		4710				
4214	28529	3131	4092	9	3612		4428	2773		6239		4506				
4215	29259	4524	4045	4285		3964		7197	1 *	6341		6769	9 *	21%		
4216	28546	4427	2951	3689		3865		6667	2	8697	1 *	7682	3 *	37%		
4217	29260	4701	2943	3822		4024		5826	8	7331	7	6579		18%		
4218	29261	4671	2666	3669		4526		6515	3	7075		6795	8 *	21%		
4219	29262	4509	3005	3757		3855		4545		5383		4964				
4220	29263	5756	3942	4849	9	5286	4	5985	6	7382	6	6684	*	19%		
4221	29264		1188	1188		4253										
4222	NDR 359 (NC)	5891	8	4348	6	5120	5	4529		4758		6226		5492		
4223	29265	5759		3192		4476		4723		3841		5230		4536		
4224	29266	7019	1	3854		5437	2	6%	5318	3	3030		5798	4414		
4225	29267	4885		2086		3486		4423								
4226	29268	6022	6	4743	3	5383	3	5%	5347	2		6954	6954	5 *	24%	
4227	29269	5859	9	3467		4663		4739			5734		5734			
4228	29270	3375		2397		2886		3628		5015		6424		5720		
4229	29271	3766		2702		3234		3504		2848		6232		4540		
4230	29272	5225		3597		4411		4409		2121		6603		4362		
4231	29273	5729		2553		4141		3282		4394		4381		4388		
4232	29274	5734		2956		4345		4402		2803		4994		3899		
4233	29275	5108		2439		3774		4300		3508				3508		
4234	29276	4979		4087	10	4533		4490		4242		5971		5107		
4235	29277	4720		3455		4088		3672		4015		7209	8	5612		
4236	29278	5552		3604		4578		4468		2439		6092		4266		
4237	29279	6021	7	3270		4646		4478		4508		5549		5029		
4238	29280	6568	2	3554		5061	7	4727		3939		5996		4968		
4239	29281	4586		4372	5	4479		4656		5833	7	6667		6250	12%	
4240	28514	5472		5594	1 *	5533	1	8%	5423	1	2576		7165		4871	
4241	28540	4799		3627		4213		4336		2803		5109		3956		
4242	29282	3761		3491		3626		4222		2848		5358		4103		
4243	29283	5418		3634		4526		4254		3220		5460		4340		
4244	29284	5060		4741	4	4901	8	5153	6	4924		6724		5824		
4245	29285	3214		3907		3561		4472		3636		6967		5302		
4246	29286	4997		2556		3777		4006				6245		6245	12%	
4247	29287	4354		3745		4050		4208				6877		6877	7 *	23%
4248	29288	4616		3314		3965		4733				6220		6220		11%
4249	29289	3516		3866		3691		4381				6098		6098		9%
4250	29290	4680		3549		4115		4793				7197	9.5	7197	4 *	29%
4251	Zonal Check (ZC)	4114		3853		3984		4406				4400		4400		
4252	29291	5547		2284		3916		3692		3561		5479		4520		
4253	29292	2845		2925		2885		3382		2197		6596		4397		
4254	29293	2648		4231	8	3440		4065		2864		5262		4063		
4255	29294	3901		2541		3221		3444		3727		3799		3763		
4256	29295	4015		3524		3770		4014		2523		6360		4442		
4257	29296	2614		2810		2712		3154		4106		5760		4933		
4258	29297	3527		2437		2982		3289		2591		4930		3761		
4259	29298	4272		2165		3219		4051		4318		6596		5457		
4260	29299	4488		3638		4063		3777		5409		7082		6246		12%
4261	29300	6078	5	3384		4731		4851	9	3152		5983		4568		
4262	29301	5037		3511		4274		3874		6023	5	7733	4 *	6878	6 *	23%
4263	29302	5463		3956		4710		4833	10	4167		6954		5561		
4264	Local Check (LC)	4913		3758		4336		5229	5	5803	9	5390		5597		
	<b>Exp. Mean</b>	<b>4855</b>		<b>3414</b>		<b>4106</b>		<b>4333</b>		<b>4093</b>		<b>6173</b>		<b>5345</b>		
CD		1187.6		1035.41		805.13		554.63		1203.35		1395.41		1080.84		
CV%		12.24		15.18		9.81		6.41		14.63		11.3		10.11		
D/S		01-08-2020		31-07-2020					06-08-2020		20-07-2020					
D/P		29-08-2020		11-09-2020					29-08-2020		20-08-2020					
Local Check Name		GNR-5		GAR-13					MTU 1075		RGL 2538					

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Table No.1.42 contd.: Grain Yield (Kg/ha) of entries in IVT- IM, Kharif 2020

Entry No.	IET No.	ZONE VII													
		TE			TE (1)			TA (1)			KE (1)			KA	
		@RNR	WGL	Mean	CBT	PTB	MND								
4201	28498	1236		5897		5897		8558	3	9%	5690		3516		
4202	28503	1775		6068		6068		3813			6459	9%	5136		
4203	28523	3383		6838		6838		4152			6381	8%	5506		
4204	28530	2143		3248		3248		5733			6285	6%	4400		
4205	27908	1619		8889	9	8889	9	21%	8571	2	9%	4568		5022	
4206	28419	2339		7051		7051		8344	5	7%	6636	5 *	12%	5518	
4207	28383	2645		8889	9	8889	9	21%	6729		6133			6054	9
4208	28552	2477		8632		8632	17%	4425			5638			4943	
4209	29254	2606		5983		5983		3575			6270	6%	4317		
4210	29255	817		3162		3162		4513			5824			3207	
4211	29256	2511		8376		8376	14%	7213			4840			5698	
4212	29257	3431	10	8034		8034	9%	4767			6311	7%	4582		
4213	29258	1281		9744	2 *	9744	2 *	33%	3350		6240	6%	5391		
4214	28529	1653		5171		5171		4542			5783			5021	
4215	29259	2454		9487	4 *	9487	4 *	29%	5925		4406			4416	
4216	28546	3347		4957		4957		6333			4325			5676	
4217	29260	2347		8632		8632	17%	8260	7	6%	4296			5328	
4218	29261	1445		4530		4530		5596			6794	2 *	15%	5458	
4219	29262	727		6752		6752		4417			6333	7%	3971		
4220	29263	3535	8	5128		5128		6950			6211	5%	6436	6	
4221	29264	1520									5178			5644	
4222	NDR 359 (NC)	2210		7350		7350		4508			5912			6015	10
4223	29265	3774	3	3718		3718		7171			6444	9%	6831	3	
4224	29266	3188		4444		4444		5771			6585	7	11%	4492	
4225	29267	3438	9	4701		4701		7738			6233	5%	7045	1	
4226	29268	4057	2	9231	7	9231	7	26%	5748		6190			7033	2
4227	29269	1695		4274		4274		3871			6524	10	10%	5139	
4228	29270	2642		7094		7094		3871			6299	7%	3718		
4229	29271	2131		5983		5983		3596			5063			4451	
4230	29272	2290		6581		6581		9517	1 *	22%	6896	1 *	17%	6629	5
4231	29273	2202		3761		3761		4600			6229	5%	2780		
4232	29274	3584	7	5214		5214		4010			5449			4653	
4233	29275	3124		5470		5470		4340			6529	9	10%	5395	
4234	29276	2734		6496		6496		7313			6603	6 *	12%	4223	
4235	29277	2877		9487	4 *	9487	4 *	29%	7029		5163			5518	
4236	29278	2180		5641		5641		6183			6313	7%	4943		
4237	29279	2878		4487		4487		4279			5479			4893	
4238	29280	3115		5000		5000		5300			5933			5436	
4239	29281	2592		6453		6453		8550	4	9%	6688	3 *	13%	5903	
4240	28514	5342	1	7094		7094		8321	6	6%	5455			5407	
4241	28540	2013		6667		6667		7773			6646	4 *	12%	5612	
4242	29282	3720	6	5726		5726		6079			4583			6313	8
4243	29283	2597		8205		8205	12%	4600			6403	8%	4855		
4244	29284	3176		9487	4 *	9487	4 *	29%	7158		6468	9%	6635	4	
4245	29285	1673		5897		5897		7915	9		6326	7%	5360		
4246	29286	2196		7393		7393		5254			6223	5%	4842		
4247	29287	3384		8889	9	8889	9	21%	6704		6576	8	11%	4729	
4248	29288	3378		8803		8803	20%	6738			5871			5764	
4249	29289	2074		9402	6 *	9402	6 *	28%	5900		5431			5066	
4250	29290	2484		8034		8034	9%	5300			6160			6417	7
4251	Zonal Check (ZC)	2108		3675		3675		4442			5322			4283	
4252	29291			6068		6068		7317			6111			2942	
4253	29292			5726		5726		6900			5590			3744	
4254	29293	3401		7179		7179		6454			5181			5900	
4255	29294	1796		4530		4530		5279			6361	8%	4454		
4256	29295	2726		6068		6068		4188			5215			4865	
4257	29296	1119		4915		4915		4225			5215			4075	
4258	29297	3281		4872		4872		3050			5347			4520	
4259	29298	2166		7778		7778	6%	8150	8		3826			5953	
4260	29299	3733	4	5897		5897		6063			5694			4997	
4261	29300	2052		4444		4444		7029			5438			4609	
4262	29301	3196		9829	1 *	9829	1 *	34%	4565		4854			5960	
4263	29302	3731	5	7265		7265		7010			4458			5290	
4264	Local Check (LC)	2290		7051		7051		7829	10		5258			5953	
	Exp. Mean	2575		6536		6536		5927			5799			5139	
CD		888.28		1955.28		1955.28		1505.44			674.86			1076.18	
CV%		17.25		14.97		14.97		12.71			5.82			10.48	
D/S		21-07-2020		25-07-2020				10-08-2020			24-08-2020			28-07-2020	
D/P		01-09-2020		27-08-2020				14-09-2020			01-10-2020			18-08-2020	
Local Check Name		Krishna		WGL-14				CO(R) 50			Swetha			BR-2655	

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Table No.1.42 contd.: Grain Yield (Kg/ha) of entries in IVT- IM, Kharif 2020

Entry No.	IET No.	ZONE VII										Overall (18)	
		KA		KA (2)		PUD				Zone VII (7)		Mean	
		GNV		Mean		@KBP		@KRK		Mean			
4201	28498	5833		4675		6484		13017	6	6231		4738	
4202	28503	6253		5695		6484		10417		5617		4435	
4203	28523	5622		5664		6250		7050		5865		4934	
4204	28530	4978		4689		5547		7150		4653		4092	
4205	27908	6679		5851		7188		6483		6650	6	5282	
4206	28419	5840		5679		9896	1	5083		6187		4712	
4207	28383	6772		6413	10	4766		6483		7061	2 *	5833	3 * 6%
4208	28552	5474		5209		6328		11550	10	5294		4748	
4209	29254	4103		4210		5417		6350		4981		4641	
4210	29255	4205		3706		5417		13583	3	4264		3659	
4211	29256	6292		5995		7188		5683		6038		5471	9
4212	29257	6231		5407		8125	8	4550		5982		5098	
4213	29258	7471	5	6431	8	3125		9817		5945		4655	
4214	28529	4689		4855		9063	4	12483	7	4888		4074	
4215	29259	6154		5285		3672		13083	5	6275		4752	
4216	28546	4423		5050		5313		13817	1	5868		4811	
4217	29260	6856		6092		7422		6417		6647	7	4951	6%
4218	29261	7372	6	6415	9	7891	10	6450		6191		5089	
4219	29262	5599		4785		3203		5817		5286		4448	
4220	29263	7638	2	7037	2	4427		6200		6533	9	5579	5
4221	29264			5644				4400		5411		4825	
4222	NDR 359 (NC)	7526	4	6771	4	8802	6	6417		6042		5017	
4223	29265	6333		6582	7	4115		5650		5653		5168	
4224	29266	6859	10	5676		6250		5550		5283		5038	
4225	29267	5631		6338		5313		6417		6270		4949	
4226	29268	8013	1	7523	1	7422		9083		7195	1 *	5899	2 * 7%
4227	29269	6875	8	6007		5833		10550		5403		4637	
4228	29270	5885		4802		6719		11733	8	5472		4310	
4229	29271	3244		3848		9531	2	4283		4488		4026	
4230	29272	5641		6135		8802	6	11217		6284		5253	
4231	29273	4378		3579		3672		5017		4360		3854	
4232	29274	6135		5394		3438		6483		4751		4728	
4233	29275	4272		4834				5950		4919		4725	
4234	29276	5356		4790		5781		6317		5743		5111	
4235	29277	6888	7	6203		4844		5083		6473		5012	
4236	29278	3811		4377		6016		6850		5060		4637	
4237	29279	4808		4851		6719		10400		4858		4417	
4238	29280	4744		5090		3385		11617	9	5193		4355	
4239	29281	5904		5904		9531	2	6483		6571	8	5502	7
4240	28514	6282		5845		5521		8950		6043		5613	4
4241	28540	4808		5210		6016		5683		5631		4754	
4242	29282	4808		5561		5313		7717		5102		4437	
4243	29283	6846		5851		4844		7250		5656		4953	
4244	29284	6731		6683	5	3438		6783		6875	3 *	6098	1 * 10%
4245	29285	3782		4571		4844		5717		5698		5095	
4246	29286	5622		5232		3906		6583		5930		4939	
4247	29287	5256		4993		7656		9083		6505	10	4957	
4248	29288	5372		5568		4219		5950		6461		5033	
4249	29289	4263		4665		9063	4	5617		6027		5150	
4250	29290	6875	8	6646	6	5078		5650		6664	4	5484	8
4251	Zonal Check (ZC)	4679		4481		3906		6750		4467		4726	
4252	29291	3128		3035		4844		6883		4944		4202	
4253	29292	5256		4500		7552		6417		5144		4130	
4254	29293	5321		5611		6719		8250		5452		4471	
4255	29294	4359		4407		4167		11250		4644		4043	
4256	29295	5128		4997		4609		10283		4907		4362	
4257	29296	3974		4025		4219		11150		4610		4217	
4258	29297	2946		3733		3125		9017		4037		3777	
4259	29298	5522		5738		7656		6483		6020		4715	
4260	29299	4936		4967		4844		13817	1	5725		4558	
4261	29300	5093		4851		5313		13133	4	5107		4812	
4262	29301	7599	3	6780	3	8125	8	9800		6652	5	5301	10
4263	29302	4651		4971		4609		10450		5685		5113	
4264	Local Check (LC)	6795		6374		5078		9150		6297		5228	6
	<b>Exp. Mean</b>	<b>5569</b>		<b>5354</b>		<b>5872</b>		<b>8106</b>		<b>5659</b>		<b>4811</b>	
CD		1017.08		767.43		2375.5		55.03		458.06		253.91	
CV%		9.14		7.17		20.23		0.34		4.05		2.64	
D/S		37-07-2020				25-09-2020		31-08-2020					
D/P		29-08-2020				25-10-2020		06-10-2020					
Local Check Name		BPT-5204				CO ( R ) 52		ADT 39					

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**Table No 1.43: Days to 50% flowering of entries in IVT- IM, Kharif 2020**

Entry No.	IET No.	ZONE III							ZONE IV		ZONE V						
		OD			OD (3)	BI		Zone III (3)	AS	TR	MP (1)	CH		CH (1)	MA1		MA1 (2)
		CTK	JYP	CHP	Mean	@BKG	@SBR	Mean	@TTB	@LMB	WRS	RPR	@JDP	Mean	SKL	SND	Mean
4201	28498	99	124	118	114	103	113	114		79	98	99	97	99	101	98	100
4202	28503	97	116	117	110	98	103	110		86	94	98	88	98	95	97	96
4203	28523	101	116	99	105	94	88	105		69	87	97	104	97	97	101	99
4204	28530	96	121	104	107	88	95	107	85	65	76	87	105	87	95	91	93
4205	27908	104	114	115	111	109	103	111		84	101	107	106	107	98	106	102
4206	28419	100	121	118	113	111	97	113	108	81	93	110	97	110	101	100	101
4207	28383	101	108	116	108	97	102	108		80	98	94	100	94	97	103	100
4208	28552	97	114	117	109	97	101	109		73	83	98	104	98	92	105	98
4209	29254	97	111	120	109	94	81	109	95	75	84	91	101	91	93	91	92
4210	29255	96	111	135	114	97	87	114	95	70	78	96	104	96	91	90	90
4211	29256	99	97	124	106	114	101	106		76	92		103		97	107	102
4212	29257	93	107	121	107	97	101	107	99	86	89		79		95	100	97
4213	29258	93	110	114	106	96	88	106	95	70	85		103		92	95	93
4214	28529	101	109	116	108	91	98	108		82	91		94		92	104	98
4215	29259	95	114	116	108	95	91	108	101	75	97	99	96	99	93	101	97
4216	28546	100	109	114	107	96	91	107		70	86	93	82	93	97	93	95
4217	29260	100	118	118	112	97	102	112		80	92	103	90	103	102	101	102
4218	29261	101	97	115	104	108	102	104		78	90	97	99	97	99	104	102
4219	29262	92	103	115	103	96	108	103		73	85	93	108	93	93	101	97
4220	29263	101	126	115	114	109	101	114		85	100	102	100	102	98	99	98
4221	29264	93	108	112	104	91	103	104	96	85	118		93		94		94
4222	NDR 359 (NC)	95	98	121	104	86	87	104	91	70	78	90	105	90	91	90	90
4223	29265	91	98	120	103	80	85	103		70	79	87	79	87	92	87	89
4224	29266	94	97	120	104	107	80	104	84	71	79	87	97	87	88	85	86
4225	29267	89	114	119	107	94	91	107	91	75	80	96	91	96	90	93	91
4226	29268	95	97	114	102	95	91	102	95	77	87	93	100	93	93	91	92
4227	29269	103	108	120	110	96	91	110	94	77	92	96	97	96	92	108	100
4228	29270	105	103	126	111	117	109	111		89	99	97	106	97	98	98	98
4229	29271	119	110	126	118	113	94	118		93	113	96	102	96	106	113	110
4230	29272	102	93	115	103	94	102	103		78	99	106	102	106	99	109	104
4231	29273	89	106	108	101	87	76	101	81	58	76	90	92	90	85	80	82
4232	29274	100	113	113	109	107	105	109	91	79	91		102		97	93	95
4233	29275		115	109	112	92	84	112	89	72	104		98				
4234	29276	103	96	122	107	105	92	107		79	91		107		102	110	106
4235	29277	117	97	115	110	97	115	110		82	97	107	95	107	104	101	102
4236	29278	107	97	116	107	107	90	107	91	65	93	98	104	98	102	101	101
4237	29279	93	109	117	106	91	76	106	84	70	72		106		105	84	94
4238	29280	90	96	114	100	95	77	100	94	63	72	85	101	85	108	85	96
4239	29281	108	117	125	117	82	102	117		78	94	104	104	104	104	107	105
4240	28514	92	111	125	109	91	100	109		75	83	97	110	97	99	91	95
4241	28540	105	121	121	115	96	100	115		88	92	100	102	100	100	100	100
4242	29282	94	105	122	107	92	89	107		70	84	89	104	89	98	95	96
4243	29283	99	106	112	105	93	107	105		69	88	90	88	90	104	100	102
4244	29284	99	115	122	112	105	101	112		79	93	99	96	99	102	96	99
4245	29285	111	117	121	116	114	103	116		88	97	110	106	110	99	111	105
4246	29286	94	104	118	105	92	91	105		75	114	95	87	95	99	97	98
4247	29287	124	107	118	116	95	103	116		86	105	108	98	108	100	108	104
4248	29288	96	106	113	105	92	85	105	85	71	57	93	102	93	104	95	99
4249	29289	100	104	115	106	96	93	106		81	87	98	95	98	109	106	108
4250	29290	98	108	114	107	107	99	107	97	78	88	94	95	94	106	97	101
4251	Zonal Check (ZC)	115	108	129	117	114		117	113	90	85	97	89	97	100	94	97
4252	29291	109	105	138	117	113	110	117		91	104	118	101	118	105	111	108
4253	29292	124	122	137	128			128			113	125	101	125	101	136	118
4254	29293	95	108	132	112	95	94	112		78	92	105	107	105	98	96	97
4255	29294	96	101	117	104	88	76	104	85	61	78	86	107	86	99	87	93
4256	29295	92	99	117	102	82	80	102	81	69	77	87	113	87	95	85	90
4257	29296	100	114	126	113	97	105	113	113	79	96	100	107	100	97	97	97
4258	29297	96	107	100	101	87	77	101	81	58	79	90	99	90	100	96	98
4259	29298	99	102	130	110	94	100	110		84	85	102	95	102	99	105	102
4260	29299	101	113	120	111	90	88	111	98	85	91		98		105	87	96
4261	29300	98	111	122	110	86	88	110	95	73	78	92	109	92	106	104	105
4262	29301	121	93	120	111	107	109	111	106	87	104	109	108	109	106	105	105
4263	29302	94	118	121	111	86	102	111	94	76	95	95	116	95	102	100	96
4264	Local Check (LC)	92	104	115	104	111	93	104	94	80	91	96	91	96	94	98	101
Exp. Mean		100	108	118	109	97	95	109	94	77	90	97	99	97	98	98	98
SEM		1.3	1.1	0.9	0.6	1.7	7.8	0.7	3.2	8.7	1.4	1.2	0.5	1.4	1.5	3.1	1.6

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**Table No. 1.43 contd.: Days to 50% flowering of entries in IVT- IM, Kharif 2020**

Entry No.	IET No.	ZONE V			ZONE VI						ZONE VII							
		Zone V (4)			MA2	MA2 (2)	MA (4)	GU		GU (2)	Zone VI (4)			AP		TE		TE (1)
		Mean	KJT	SHR	Mean	Mean	NVS	NWG	Mean	Mean	Mean	MTU	RGL	Mean	@RNR	WGL	Mean	
4201	28498	99	105	96	100	100	85	115	100	100		98	98	126	102	102		
4202	28503	96	103	90	96	96	84	104	94	95		100	100	106	100	100		
4203	28523	95	94	101	98	98	86	106	96	97		100	100	107	99	99		
4204	28530	87	88	95	91	92	79	95	87	89	81	89	85	105	86	86		
4205	27908	103	116	99	107	105	95	109	102	104	100	106	103	129	108	108		
4206	28419	101	111	90	100	100	94	111	102	101	100	102	101	132	105	105		
4207	28383	98	95	100	97	98	91	104	97	97		99	99	115	102	102		
4208	28552	94	94	93	93	96	89	106	97	95	90	96	93	119	106	106		
4209	29254	89	94	90	92	92	86	104	95	93	88	97	93	121	99	99		
4210	29255	88	99	95	97	93	85	103	94	95	85	92	88	111	92	92		
4211	29256	98	110	101	105	103	90	109	99	102	91	102	96	121	102	102		
4212	29257	94	93	93	93	95	89	105	97	95	89	98	93	121	95	95		
4213	29258	90	93	91	92	92	86	100	93	92	93	98	96	115	99	99		
4214	28529	95	94	91	92	95	84	112	98	95	95	100	98	125	99	99		
4215	29259	97	94	87	90	94	88	112	100	95	96	101	99	119	103	103		
4216	28546	92	95	101	98	96	85	97	91	94	91	99	95	110	97	97		
4217	29260	99	111	96	103	102	95	110	102	103	92	102	97	123	102	102		
4218	29261	97	113	100	106	104	91	110	100	103	92	100	96	123	96	96		
4219	29262	93	94	87	90	94	83	106	94	92	87	97	92	119	88	88		
4220	29263	100	106	95	100	99	95	114	104	102	96	104	100	123	78	78		
4221	29264	106	113	86	100	98		98	98	99				98				
4222	NDR 359 (NC)	87	96	93	94	92	85	108	96	95	96	97	97	132	97	97		
4223	29265	86	90	91	91	90	80	100	90	90	95	89	92	108	84	84		
4224	29266	84	94	101	97	92	81	95	88	92	92	86	89	119	92	92		
4225	29267	90	96	99	97	94	83	108	95	96				123	97	97		
4226	29268	91	100	94	97	94	90	99	94	95		98	98	123	99	99		
4227	29269	97	94	101	97	98	84	107	95	96		100	100	113	99	99		
4228	29270	98	93	100	96	97	95	111	103	99	103	102	103	114	98	98		
4229	29271	107	115	101	108	109	105	113	109	108	103	117	110	136	118	118		
4230	29272	103	109	100	105	104	95	110	102	103	102	102	102	104	107	107		
4231	29273	83	87	91	89	85	79	99	89	89	84	84	84	104	85	85		
4232	29274	94	102	101	101	98	90	104	97	99	96	102	99	123	102	102		
4233	29275	104	91	93	92	92	79	101	90	91	88		88	123	91	91		
4234	29276	101	101	96	99	102	95	110	102	100	94	102	98	123	98	98		
4235	29277	102	111	101	106	104	97	104	100	103	99	117	108	123	105	105		
4236	29278	98	100	96	98	99	79	105	92	95	87	86	87	119	90	90		
4237	29279	87	89	95	92	93	78	92	85	88	86	86	86	103	86	86		
4238	29280	87	87	90	88	92	79	95	87	88	78	86	82	103	84	84		
4239	29281	102	101	100	100	103	95	113	104	102	94	102	98	127	103	103		
4240	28514	92	93	99	96	95	89	99	94	95	86	99	93	121	93	93		
4241	28540	98	104	92	98	99	95	108	101	99	94	101	98	132	101	101		
4242	29282	91	98	97	97	97	85	105	95	96	83	91	87	109	93	93		
4243	29283	95	94	92	93	97	89	105	97	95	94	97	95	137	94	94		
4244	29284	97	94	95	94	97	90	108	99	96	92	101	96	132	99	99		
4245	29285	104	117	94	105	105	100	113	106	106	102	112	107	132	114	114		
4246	29286	101	96	100	98	98	90	105	97	97		96	96	121	98	98		
4247	29287	105	107	101	104	104	105	113	109	106		106	106	136	113	113		
4248	29288	87	97	94	96	97	89	103	96	96		91	91	115	97	97		
4249	29289	100	113	101	107	107	96	107	101	104		100	100	132	101	101		
4250	29290	96	101	96	98	100	95	105	100	99		97	97	115	96	96		
4251	Zonal Check (ZC)	94	94	95	94	96	89	108	98	96		93	93	115	88	88		
4252	29291	109	121	101	111	109	100	104	102	106	102	91	97	137	113	113		
4253	29292	119	121	93	107	113	106	103	104	105	99	117	108	136	115	115		
4254	29293	98	106	93	99	98	100	104	102	100	97	102	100	132	105	105		
4255	29294	87	84	87	86	89	81	99	90	88	84	86	85	102	86	86		
4256	29295	86	92	94	93	91	90	105	97	95	86	86	86	98	84	84		
4257	29296	97	92	97	94	95	89	107	98	96	101	98	100	121	96	96		
4258	29297	91	92	88	90	94	84	95	89	89	84	93	89	100	90	90		
4259	29298	98	109	101	105	103	91	112	101	103	89	101	95	124	97	97		
4260	29299	94	106	93	99	97	84	109	97	98	94	97	96	124	96	96		
4261	29300	95	100	92	96	100	89	107	98	97	81	97	89	119	93	93		
4262	29301	106	116	100	108	106	93	112	102	105	103	112	108	131	115	115		
4263	29302	95	88	96	92	94	83	100	91	91	87	95	91	119	93	93		
4264	Local Check (LC)	97	97	105	101	101	85	102	93	97	103	100	101	113	105	105		
Exp. Mean		96	100	95	97	98	89	105	97	97	92	98	96	119	98	98		
SEM		1.9	1.1	1.4	0.4	1.3	1.4	0.5	0.5	0.3	1.3	1.3	3.0	4.7	0.9	2.0		

## Annual Progress Report 2020 Volume I - Varietal Improvement

**Table No. 1.43 contd.: Days to 50% flowering of entries in IVT- IM, Kharif 2020**

Entry No.	IET No.	ZONE VII								Overall (18) Mean
		TA (1)	KE (1)	KA		KA (2)	PUD		Zone VII (7)	
		CBT	PTB	MND	GNV	Mean	@KBP	@KRK	Mean	
4201	28498	111	92	117	118	118	95	96	106	104
4202	28503	97	96	104	104	104	104	89	100	100
4203	28523	97	101	97	104	100	86	90	99	99
4204	28530	94	93	107	103	105	94	73	93	93
4205	27908	106	103	104	107	105	104	95	105	105
4206	28419	112	96	115	108	111	107	97	105	105
4207	28383	103	94	108	104	106	88	84	101	101
4208	28552	99	97	96	93	95	100	84	97	98
4209	29254	100	93	94	93	93	93	93	95	96
4210	29255	99	98	96	104	100	98	95	95	97
4211	29256	102	95	102	106	104	86	97	100	101
4212	29257	106	101	107	107	107	103	96	100	99
4213	29258	93	94	94	97	95	94	91	95	95
4214	28529	103	101	104	100	102	104	98	100	99
4215	29259	105	92	98	106	102	98	96	100	100
4216	28546	99	94	94	97	95	89	89	96	96
4217	29260	109	91	106	108	107	99	99	101	103
4218	29261	111	93	108	107	108	101	101	101	101
4219	29262	103	100	102	96	99	88	93	96	96
4220	29263	104	95	102	107	105	99	100	98	102
4221	29264		94	107		107		95	100	102
4222	NDR 359 (NC)	98	94	99	94	97	98	95	96	95
4223	29265	98	91	97	97	97	87	97	93	92
4224	29266	91	95	88	96	92	84	93	91	92
4225	29267	102	91	97	102	100	87	94	98	97
4226	29268	91	94	97	107	102	87	84	97	96
4227	29269	93	100	96	102	99	86	93	98	99
4228	29270	103	92	104	104	104	87	97	101	102
4229	29271	115	96	81	116	99	107	104	106	109
4230	29272	106	92	98	115	107	92	98	103	103
4231	29273	99	93	88	105	96	79	75	91	90
4232	29274	101	100	102	102	102	86	95	100	100
4233	29275	100	96	96	98	97		97	95	97
4234	29276	105	96	108	103	106	99	98	101	102
4235	29277	98	101	102	103	102	91	98	103	104
4236	29278	105	93	102	99	100	106	90	94	97
4237	29279	88	91	84	93	88	86	88	87	91
4238	29280	90	90	96	94	95	85	86	88	90
4239	29281	108	95	106	104	105	104	98	102	104
4240	28514	103	93	107	104	105	99	89	98	98
4241	28540	107	101	97	107	102	110	98	101	102
4242	29282	97	102	96	100	98	96	98	94	96
4243	29283	94	93	94	97	95	87	89	94	96
4244	29284	103	92	96	105	100	91	100	98	100
4245	29285	114	92	109	119	114	114	99	109	108
4246	29286	103	95	98	104	101	102	98	99	100
4247	29287	108	95	108	116	112	99	101	107	108
4248	29288	95	95	102	105	103	92	96	97	96
4249	29289	102	95	104	115	109	104	95	103	103
4250	29290	95	98	98	108	103	94	86	99	100
4251	Zonal Check (ZC)	102	90	106	99	102	84	78	96	99
4252	29291	115	96	121	122	121	119	103	108	109
4253	29292	116	94	123	124	124	117	101	113	115
4254	29293	97	94	98	107	103	98	95	100	101
4255	29294	87	95	93	93	93	87	79	89	91
4256	29295	89	101	96	90	93	85	80	90	92
4257	29296	103	93	101	106	104	93	96	100	101
4258	29297	87	96	121	120	121	83	79	99	95
4259	29298	104	92	105	107	106	102	98	99	101
4260	29299	102	94	99	103	101	100	98	98	100
4261	29300	102	96	104	106	105	89	98	97	98
4262	29301	107	94	103	110	106	98	110	106	107
4263	29302	101	95	98	103	100	89	94	96	97
4264	Local Check (LC)	106	110	102	104	103	92	98	104	101
<b>Exp. Mean</b>		<b>101</b>	<b>95</b>	<b>101</b>	<b>104</b>	<b>103</b>	<b>95</b>	<b>93</b>	<b>99</b>	<b>99</b>



## Annual Progress Report 2020 Volume I - Varietal Improvement

**Table No.1.44: Plant Height (cm) of entries in IVT- IM, Kharif 2020**

Entry No.	IET No.	ZONE III							ZONE IV		ZONE V			
		OD			Bi		Zone III (3)	AS	TR	MP (1)	CH			
		CTK	JYP	CHP	Mean	@BKG	@SBR	Mean	@TTB	@LMB	WRS	RPR	@JDP	CH (1)
4201	28498	100.20	84.90	81.00	88.70	91.00	75.50	88.70		92.00	105.80	102.86	79.60	102.86
4202	28503	72.70	61.90	100.65	78.42	75.50	59.50	78.42		66.00	83.60	82.08	72.40	82.08
4203	28523	99.90	69.60	90.45	86.65	94.50	85.83	86.65		94.50	100.20	104.00	68.60	104.00
4204	28530	80.10	64.50	95.20	79.93	79.50	71.00	79.93	76.50	73.50	113.00	88.75	72.20	88.75
4205	27908	101.60	85.60	99.70	95.63	90.50	75.17	95.63		84.50	109.40	95.69	83.80	95.69
4206	28419	100.60	96.80	99.00	98.80	99.50	79.00	98.80	83.50	95.00	123.80	105.85	75.40	105.85
4207	28383	106.40	79.50	91.30	92.40	104.50	86.17	92.40		93.00	114.80	105.66	76.40	105.66
4208	28552	106.80	75.90	105.30	96.00	114.00	78.17	96.00		89.00	123.00	104.35	93.80	104.35
4209	29254	100.90	74.90	107.30	94.37	101.00	82.17	94.37	71.00	91.50	114.00	116.07	68.00	116.07
4210	29255	125.50	63.80	100.40	96.57	139.50	116.17	96.57	80.25	116.50	160.00	125.32	75.40	125.32
4211	29256	93.70	73.40	91.15	86.08	95.00	78.33	86.08		83.00	113.40		64.00	
4212	29257	93.10	81.90	95.60	90.20	84.00	73.67	90.20	80.20	83.50	105.40		106.60	
4213	29258	92.20	77.90	91.40	87.17	86.50	80.67	87.17	84.50	96.00	109.60		84.20	
4214	28529	103.10	77.30	84.55	88.32	97.50	83.17	88.32		87.00	108.00		66.60	
4215	29259	101.20	87.50	99.20	95.97	86.00	87.00	95.97	87.80	90.50	115.00	88.07	87.60	88.07
4216	28546	88.50	68.70	100.00	85.73	81.50	78.83	85.73		89.50	110.00	86.50	61.80	86.50
4217	29260	109.20	78.30	104.10	97.20	95.00	85.17	97.20		95.00	117.40	98.87	68.20	98.87
4218	29261	86.60	64.00	100.50	83.70	79.50	67.00	83.70		86.00	91.60	87.88	71.00	87.88
4219	29262	85.50	65.10	105.60	85.40	74.00	65.33	85.40		75.25	96.20	85.95	74.40	85.95
4220	29263	91.60	70.70	96.55	86.28	79.00	77.83	86.28		75.00	100.00	86.44	80.20	86.44
4221	29264	92.30	70.20	101.20	87.90	88.00	78.50	87.90	79.52	77.50	112.80		75.00	
4222	NDR 359 (NC)	87.30	70.80	110.85	89.65	84.00	76.50	89.65	84.00	84.50	109.60	106.62	55.20	106.62
4223	29265	92.00	82.50	96.30	90.27	97.50	78.00	90.27		97.50	109.40	97.07	100.80	97.07
4224	29266	89.90	71.80	102.30	88.00	91.50	85.67	88.00	78.80	85.50	110.60	105.31	80.60	105.31
4225	29267	118.80	55.10	98.00	90.63	107.50	94.67	90.63	97.50	101.00	136.40	81.99	71.20	81.99
4226	29268	94.70	78.90	93.20	88.93	94.00	88.33	88.93	92.50	89.50	112.00	83.72	76.60	83.72
4227	29269	92.60	87.80	98.00	92.80	88.50	75.00	92.80	76.80	79.00	105.20	80.95	84.60	80.95
4228	29270	78.80	59.90	100.30	79.67	68.50	60.33	79.67		74.50	93.00	84.07	72.20	84.07
4229	29271	102.40	77.30	105.95	95.22	73.50	71.17	95.22		77.00	111.40	85.44	85.80	85.44
4230	29272	104.20	96.00	100.10	100.10	107.50	88.50	100.10		110.00	133.60	117.19	94.60	117.19
4231	29273	81.10	65.00	94.85	80.32	95.00	90.00	80.32	88.80	90.00	102.60	96.48	83.00	96.48
4232	29274	87.30	64.70	104.80	85.60	61.00	72.50	85.60	68.50	69.00	101.20		82.60	
4233	29275		73.30	93.30	83.30	96.00	76.67	83.30	89.80	94.00	102.60		86.00	
4234	29276	96.70	67.00	98.25	87.32	70.50	74.50	87.32		66.50	111.00		71.40	
4235	29277	102.20	78.80	101.60	94.20	89.50	71.00	94.20		77.50	120.00	93.01	76.80	93.01
4236	29278	89.10	84.70	94.40	89.40	93.00	89.83	89.40	92.30	90.00	122.80	107.49	69.20	107.49
4237	29279	109.10	84.50	98.20	97.27	100.00	96.50	97.27	77.50	110.00	144.20		66.40	
4238	29280	81.70	75.60	96.90	84.73	93.50	86.83	84.73	81.60	87.50	105.60	95.00	73.40	95.00
4239	29281	102.50	76.90	94.70	91.37	92.00	76.50	91.37		99.50	122.40	96.61	80.00	96.61
4240	28514	97.70	74.60	111.35	94.55	90.50	83.33	94.55		89.50	120.00	97.58	82.60	97.58
4241	28540	103.00	84.80	96.70	94.83	90.50	81.67	94.83		80.50	126.80	94.90	75.20	94.90
4242	29282	98.00	77.90	97.90	91.27	89.00	90.67	91.27		109.50	128.40	105.45	71.60	105.45
4243	29283	90.50	73.60	106.60	90.23	102.50	81.50	90.23		81.50	92.00	95.42	72.20	95.42
4244	29284	109.00	66.30	96.35	90.55	85.00	90.00	90.55		92.50	117.00	107.10	76.20	107.10
4245	29285	101.00	87.65	95.10	94.58	95.50	77.33	94.58		85.50	112.40	84.95	71.00	84.95
4246	29286	108.60	80.20	94.00	94.27	102.50	90.67	94.27		98.00	108.60	112.75	70.40	112.75
4247	29287	96.80	83.60	100.10	93.50	90.50	74.50	93.50		81.00	110.60	87.33	77.20	87.33
4248	29288	101.40	88.70	90.35	93.48	107.00	97.00	93.48	97.00	97.50	137.20	110.17	75.90	110.17
4249	29289	100.90	67.50	87.00	85.13	92.50	86.00	85.13		83.50	117.40	97.83	89.20	97.83
4250	29290	94.60	63.80	103.20	87.20	90.00	81.33	87.20	83.80	76.50	107.00	95.71	78.20	95.71
4251	Zonal Check (ZC)	104.80	60.30	89.80	84.97	84.00		84.97	86.45	74.50	104.80	79.91	71.60	79.91
4252	29291	102.80	66.40	99.35	89.52	88.00	72.50	89.52		78.50	105.40	80.76	75.60	80.76
4253	29292	96.40	73.60	112.20	94.07			94.07			100.20	72.73	75.40	72.73
4254	29293	99.30	87.70	99.65	95.55	103.50	90.17	95.55		92.50	118.00	95.40	58.80	95.40
4255	29294	81.00	72.40	94.45	82.62	86.00	86.00	82.62	73.80	79.50	104.20	87.82	61.80	87.82
4256	29295	88.50	95.50	101.85	95.28	86.50	81.00	95.28	94.70	79.50	122.60	106.99	78.10	106.99
4257	29296	80.80	64.00	110.20	85.00	76.50	55.50	85.00	72.30	70.00	109.80	87.43	60.80	87.43
4258	29297	140.50	88.00	87.78	105.43	136.00	129.33	105.43	116.20	107.00	156.40	175.08	87.80	175.08
4259	29298	106.70	73.60	94.55	91.62	114.50	94.00	91.62		92.00	133.40	111.30	70.00	111.30
4260	29299	99.80	81.10	100.78	93.89	101.50	86.83	93.89	95.75	100.00	101.80		69.20	
4261	29300	99.20	75.00	89.75	87.98	100.00	76.50	87.98	81.50	92.50	127.40	114.87	69.00	114.87
4262	29301	99.70	88.50	86.93	91.71	88.50	76.33	91.71	76.00	78.00	122.40	96.54	68.80	96.54
4263	29302	87.10	71.50	94.60	84.40	99.00	81.33	84.40	74.75	71.25	125.40	96.81	58.20	96.81
4264	Local Check (LC)	86.20	70.70	98.50	85.13	84.00	57.67	85.13	88.40	115.50	92.60	108.43	69.60	108.43
Exp. Mean		97.09	75.62	97.83	90.11	92.41	81.26	90.11	84.26	87.66	113.79	98.12	75.47	98.12



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Table No.1.44 contd.: Plant Height (cm) of entries in IVT- IM, Kharif 2020

Entry No.	IET No.	ZONE VII											Overall (18) Mean	
		TE		TE (1)	TA (1)	KE (1)		KA		KA (2)	PUD			Zone VII (7) Mean
		@RNR	WGL	Mean	CBT	PTB	MND	GNV	Mean	@KBP	@KRK			
4201	28498	90.50	87.00	87.00	106.00	105.98	102.60	90.50	96.55	110.00	139.00	101.85	101.18	
4202	28503	67.90	75.30	75.30	76.30	84.45	89.30	74.00	81.65	74.00	107.50	81.23	81.05	
4203	28523	90.10	110.40	110.40	107.30	105.90	93.50	98.50	96.00	101.00	118.50	106.77	101.16	
4204	28530	81.40	75.80	75.80	85.10	100.20	91.40	89.00	90.20	76.00	108.00	93.94	90.09	
4205	27908	80.10	96.20	96.20	89.80	92.55	90.50	96.50	93.50	98.50	119.00	96.91	95.63	
4206	28419	96.90	102.00	102.00	102.20	101.50	89.30	106.00	97.65	119.50	121.50	103.76	101.74	
4207	28383	101.00	106.10	106.10	105.90	104.30	105.90	116.50	111.20	106.00	130.50	110.45	106.17	
4208	28552	91.70	119.20	119.20	110.20	113.30	97.10	118.00	107.55	70.30	112.50	117.89	109.82	
4209	29254	93.80	109.00	109.00	108.60	103.70	95.10	108.00	101.55	113.10	127.50	108.47	107.16	
4210	29255	108.20	131.60	131.60	129.20	114.75	101.00	144.00	122.50	118.00	150.00	129.65	121.54	
4211	29256	84.30	91.20	91.20	90.50	102.75	86.60	100.00	93.30	104.00	125.50	99.64	98.64	
4212	29257	72.20	99.90	99.90	79.60	102.13	83.40	83.50	83.45	95.30	103.50	96.09	96.25	
4213	29258	83.10	102.50	102.50	79.00	115.50	86.10	107.00	96.55	39.50	124.00	101.86	100.47	
4214	28529	92.40	105.70	105.70	105.00	105.50	105.30	107.50	106.40	107.50	127.50	109.51	103.23	
4215	29259	95.30	111.50	111.50	104.70	82.65	94.30	114.50	104.40	48.00	116.50	105.39	102.26	
4216	28546	88.40	104.90	104.90	91.20	118.00	89.00	100.50	94.75	95.30	117.00	107.24	99.93	
4217	29260	84.50	105.30	105.30	91.20	90.15	96.50	103.00	99.75	99.00	126.00	102.96	101.91	
4218	29261	70.00	116.10	116.10	75.10	90.50	83.40	93.50	88.45	90.50	103.00	96.87	89.89	
4219	29262	70.60	86.20	86.20	73.10	103.55	87.60	81.00	84.30	72.00	99.00	87.79	85.36	
4220	29263	85.20	98.60	98.60	91.50	101.15	85.80	100.50	93.15	85.00	127.00	97.84	94.70	
4221	29264	98.10				100.28	102.70		102.70		117.00	101.49	99.16	
4222	NDR 359 (NC)	82.30	97.95	97.95	89.60	102.00	88.70	94.50	91.60	96.00	121.50	95.32	96.70	
4223	29265	83.80	86.20	86.20	99.40	114.50	99.60	115.00	107.30	109.50	126.50	103.36	103.17	
4224	29266	79.20	115.50	115.50	69.80	96.10	89.60	104.50	97.05	79.00	112.00	95.01	96.67	
4225	29267	100.00	117.10	117.10	111.00	98.60	93.00	120.00	106.50	121.00	141.50	107.94	110.57	
4226	29268	92.50	101.20	101.20	99.80	117.90	99.70	114.50	107.10	95.50	127.50	108.85	104.24	
4227	29269	85.80	91.40	91.40	97.90	84.30	97.70	99.50	98.60	95.50	119.00	94.63	94.22	
4228	29270	73.90	86.20	86.20	87.10	89.40	84.40	85.00	84.70	97.50	92.50	86.61	85.69	
4229	29271	87.70	106.70	106.70	93.80	96.50	84.40	94.50	89.45	117.00	146.00	101.00	96.78	
4230	29272	97.90	116.20	116.20	108.50	97.00	96.00	110.50	103.25	95.50	125.00	110.19	111.77	
4231	29273	91.20	109.20	109.20	90.50	118.90	84.50	106.00	95.25	86.50	96.00	103.87	99.51	
4232	29274	67.80	78.10	78.10	77.50	125.90	79.00	81.50	80.25	79.50	99.50	88.19	87.76	
4233	29275	85.40	105.60	105.60	86.50	101.40	83.90	91.50	87.70		112.50	94.67	95.08	
4234	29276	83.90	102.80	102.80	90.30	84.90	86.10	101.00	93.55	102.00	127.50	96.46	95.69	
4235	29277	83.60	100.90	100.90	93.10	96.25	93.20	109.00	101.10	107.20	120.00	103.48	101.24	
4236	29278	97.70	96.00	96.00	105.40	105.50	98.20	104.50	101.35	120.00	122.00	106.03	105.89	
4237	29279	105.00	108.00	108.00	92.70	110.05	107.80	123.00	115.40	113.50	121.50	113.98	112.63	
4238	29280	92.10	87.00	87.00	90.40	113.80	90.70	87.00	88.85	47.50	112.50	95.60	93.54	
4239	29281	96.20	106.90	106.90	91.70	95.05	101.10	103.50	102.30	107.00	130.00	105.08	102.16	
4240	28514	101.20	107.20	107.20	100.00	103.80	98.10	104.50	101.30	86.00	123.00	106.29	104.11	
4241	28540	81.00	111.20	111.20	91.80	123.50	90.10	89.50	89.80	113.50	136.00	105.00	103.65	
4242	29282	100.10	112.50	112.50	105.90	105.70	97.40	112.50	104.95	100.50	110.50	109.96	107.23	
4243	29283	74.30	110.40	110.40	78.30	107.00	78.40	95.00	86.70	76.50	137.00	96.99	95.58	
4244	29284	90.10	111.10	111.10	99.70	115.50	92.50	105.50	99.00	103.50	134.00	107.74	105.25	
4245	29285	82.00	101.60	101.60	96.70	104.60	88.00	93.50	90.75	114.50	139.00	103.49	100.46	
4246	29286	96.30	114.90	114.90	112.40	97.95	95.30	113.00	104.15	120.00	127.50	107.93	104.96	
4247	29287	89.20	105.20	105.20	92.60	95.65	94.30	89.50	91.90	106.00	138.00	98.21	97.49	
4248	29288	99.80	111.70	111.70	107.00	106.60	96.40	119.50	107.95	120.50	135.50	110.20	109.27	
4249	29289	95.90	111.80	111.80	104.30	100.90	103.30	97.00	100.15	109.50	119.50	106.88	102.35	
4250	29290	88.70	102.50	102.50	116.70	124.10	91.60	100.00	95.80	103.00	113.00	106.32	99.47	
4251	Zonal Check (ZC)	77.10	93.60	93.60	90.00	101.75	77.30	92.00	84.65	78.00	97.00	92.61	94.80	
4252	29291	75.00	100.40	100.40	98.90	96.00	91.10	102.00	96.55	113.00	131.00	102.47	96.60	
4253	29292	69.00	82.60	82.60	97.70	93.60	91.70	84.00	87.85	97.00	121.00	90.37	90.80	
4254	29293	99.60	113.40	113.40	109.40	107.43	103.40	111.50	107.45	124.50	140.00	113.76	106.10	
4255	29294	82.30	101.20	101.20	76.40	114.85	90.60	93.00	91.80	76.00	97.50	96.44	91.79	
4256	29295	87.90	102.90	102.90	83.10	112.75	91.10	91.50	91.30	95.50	127.50	98.26	99.40	
4257	29296	79.50	87.00	87.00	89.90	100.95	69.30	88.00	78.65	96.00	97.50	88.78	91.05	
4258	29297	116.80	145.00	145.00	121.60	123.80	98.00	127.00	112.50	97.50	135.00	131.36	132.37	
4259	29298	100.60	122.90	122.90	118.20	105.50	95.80	119.50	107.65	127.50	125.50	118.64	112.76	
4260	29299	92.30	109.40	109.40	99.40	95.60	103.80	104.50	104.15	105.50	120.00	107.40	104.61	
4261	29300	87.60	111.40	111.40	99.00	117.90	91.90	100.50	96.20	109.50	134.00	107.34	104.93	
4262	29301	93.00	101.50	101.50	99.90	102.20	93.30	100.50	96.90	105.50	137.50	101.06	102.11	
4263	29302	89.00	97.50	97.50	97.50	93.60	78.60	86.00	82.30	96.00	122.50	95.60	96.70	
4264	Local Check (LC)	79.10	115.50	115.50	107.40	131.90	105.70	93.50	99.60	84.00	107.50	107.41	99.19	
Exp. Mean		88.11	103.68	103.68	96.35	104.22	92.52	101.43	96.98	97.60	121.55	102.79	100.53	

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**Table No. 1.45: Panicles/m<sup>2</sup> of entries in IVT- IM, Kharif 2020**

Entry No.	IET No.	ZONE III							ZONE IV		ZONE V			
		OD			OD (3)	BI		Zone III (3)	AS	TR	MP (1)	CH		CH (1)
		CTK	JYP	CHP	Mean	@BKG	@SBR	Mean	@TTB	@LMB	WRS	RPR	@JDP	Mean
4201	28498	262	323	256	280	226	230	280		188	345	227	184	227
4202	28503	268	330	253	283	249	275	283		289	398	178	187	178
4203	28523	294	373	255	307	274	311	307		235	269	161	234	161
4204	28530	233	303	240	259	234	258	259	175	185	279	158	208	158
4205	27908	211	333	286	276	282	243	276		200	331	199	169	199
4206	28419	259	453	297	336	285	213	336	263	180	330	161	195	161
4207	28383	188	444	265	299	263	292	299		256	316	163	224	163
4208	28552	240	359	215	271	280	180	271		290	262	209	161	209
4209	29254	263	369	217	283	266	263	283	188	150	261	166	217	166
4210	29255	158	343	255	252	287	166	252	199	383	220	123	163	123
4211	29256	240	290	222	251	249	205	251		225	225		201	
4212	29257	257	333	278	289	255	290	289	320	290	421		160	
4213	29258	206	345	252	268	238	279	268	322	338	276		200	
4214	28529	189	383	157	243	244	155	243		188	266		106	
4215	29259	271	363	193	275	271	210	275	320	225	275	171	156	171
4216	28546	270	370	224	288	243	243	288		415	427	172	229	172
4217	29260	254	390	237	293	259	260	293		363	297	189	234	189
4218	29261	280	357	255	297	237	304	297		290	448	167	190	167
4219	29262	231	337	233	267	232	217	267		278	248	218	184	218
4220	29263	227	342	277	282	242	269	282		185	343	167	226	167
4221	29264	249	329	216	265	223	133	265	208	295	271		142	
4222	NDR 359 (NC)	199	335	176	237	222	326	237	242	290	335	189	190	189
4223	29265	258	356	230	281	254	340	281		205	395	185	206	185
4224	29266	277	366	282	308	255	313	308	267	313	357	169	191	169
4225	29267	255	415	185	285	269	118	285	221	246	239	200	166	200
4226	29268	189	365	249	268	240	252	268	276	298	246	193	172	193
4227	29269	239	304	234	259	226	278	259	190	183	376	138	216	138
4228	29270	248	376	268	297	221	237	297		185	403	183	196	183
4229	29271	255	350	262	289	239	194	289		253	337	189	205	189
4230	29272	237	352	195	261	226	343	261		393	383	184	206	184
4231	29273	177	319	316	271	283	213	271	300	313	307	187	191	187
4232	29274	229	356	341	308	230	416	308	346	298	457		216	
4233	29275		323	294	308	283	258	308	254	199	316		191	
4234	29276	241	406	226	291	212	243	291		213	249		210	
4235	29277	257	420	252	309	262	223	309		385	272	194	161	194
4236	29278	193	323	199	238	234	234	238	268	273	292	172	211	172
4237	29279	151	346	155	217	261	206	217	173	319	316		152	
4238	29280	197	345	219	254	237	293	254	245	323	296	169	200	169
4239	29281	217	294	191	234	219	311	234		245	223	169	152	169
4240	28514	260	336	187	261	228	218	261		245	340	176	237	176
4241	28540	193	373	198	254	231	258	254		170	357	193	223	193
4242	29282	176	329	327	277	215	269	277		305	311	185	205	185
4243	29283	287	310	278	291	219	353	291		285	435	179	205	179
4244	29284	239	356	185	260	234	232	260		223	260	177	197	177
4245	29285	244	327	239	270	270	182	270		280	264	188	130	188
4246	29286	181	370	252	268	282	205	268		378	256	139	140	139
4247	29287	286	370	237	298	286	262	298		268	396	133	169	133
4248	29288	193	329	152	224	264	289	224	260	190	286	167	180	167
4249	29289	282	346	272	300	232	258	300		210	269	180	224	180
4250	29290	259	326	220	268	260	263	268	279	265	294	179	169	179
4251	Zonal Check (ZC)	306	337	160	268	239		268	185	158	400	183	192	183
4252	29291	206	356	162	241	265	329	241		130	386	178	195	178
4253	29292	255	356	271	294			294			382	168	132	168
4254	29293	237	330	278	281	255	239	281		359	285	168	216	168
4255	29294	257	343	141	247	238	191	247	194	303	315	180	209	180
4256	29295	176	363	240	259	256	206	259	268	291	256	174	176	174
4257	29296	285	376	247	303	211	208	303	213	243	323	171	162	171
4258	29297	243	380	158	260	238	178	260	300	315	244	160	191	160
4259	29298	243	360	263	289	266	300	289		188	288	160	162	160
4260	29299	244	380	249	291	231	224	291	319	305	269		253	
4261	29300	153	266	251	223	244	193	223	210	327	275	164	167	164
4262	29301	316	373	253	314	250	287	314	234	185	280	145	228	145
4263	29302	252	390	251	297	258	283	297	212	133	314	141	184	141
4264	Local Check (LC)	283	357	255	298	230	155	298	278	298	285	148	225	148
Exp. Mean		237	352	235	275	248	248	275	249	261	313	174	190	174

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Table No. 1.45 contd.: Panicles/m<sup>2</sup> of entries in IVT- IM, Kharif 2020

Entry No.	IET No.	ZONE V				ZONE VI								ZONE VII		
		MA1		MA1 (2)	Zone V (4)	MA2		MA (2)	MA (4)	GU		GU (2)	Zone VI (4)	AP		AP (2)
		SKL	SND	Mean	Mean	KJT	SHR	Mean	Mean	NVS	NWG	Mean	Mean	MTU	RGL	Mean
4201	28498	220	225	223	254	229	172	201	212	219	268	244	222		311	311
4202	28503	168	215	191	240	246	137	191	191	231	263	247	219		334	334
4203	28523	200	263	231	223	236	147	191	211	237	267	252	222		350	350
4204	28530	136	217	177	197	198	143	170	173	237	267	252	211	231	294	262
4205	27908	153	195	174	219	238	150	194	184	255	270	263	228	267	330	299
4206	28419	178	215	196	221	259	161	210	203	237	270	254	232	294	324	309
4207	28383	207	288	247	243	182	152	167	207	252	271	262	214		268	268
4208	28552	193	243	218	226	226	156	191	204	225	263	244	217	287	284	286
4209	29254	125	220	173	193	248	154	201	187	243	271	257	229	271	294	282
4210	29255	115	138	126	149	175	167	171	149	234	263	248	210	267	291	279
4211	29256	188	239	213	217	221	147	184	199	258	273	265	225	284	284	284
4212	29257	224	266	245	304	233	160	196	221	237	269	253	224	261	370	315
4213	29258	230	233	231	246	248	174	211	221	225	278	251	231	281	363	322
4214	28529	181	204	192	217	264	162	213	203	234	271	253	233	294	244	269
4215	29259	178	246	212	217	182	155	168	190	228	272	250	209	297	284	291
4216	28546	186	195	191	245	211	157	184	187	264	265	264	224	300	380	340
4217	29260	182	201	192	217	210	146	178	185	261	267	264	221	304	334	319
4218	29261	189	269	229	268	244	165	204	216	231	264	248	226	290	350	320
4219	29262	202	216	209	221	219	187	203	206	225	268	247	225	267	356	312
4220	29263	246	245	245	250	238	147	192	219	237	272	254	223	251	297	274
4221	29264	238		238	254	310	196	253	248		131	131	212			
4222	NDR 359 (NC)	203	189	196	229	300	158	229	212	243	275	259	244	314	330	322
4223	29265	213	206	209	250	244	156	200	205	237	267	252	226	267	396	332
4224	29266	178	235	206	235	215	141	178	192	237	270	254	216	360	294	327
4225	29267	158	161	159	189	246	152	199	179	210	211	211	205			
4226	29268	192	221	206	213	248	146	197	201	219	277	248	222		271	271
4227	29269	167	256	212	234	229	152	191	201	243	270	256	223		343	343
4228	29270	181	277	229	261	201	151	176	202	249	262	255	216	281	300	290
4229	29271	237	217	227	245	297	172	235	231	222	265	243	239	281	297	289
4230	29272	208	244	226	254	254	132	193	209	207	269	238	215	277	373	325
4231	29273	246	239	242	245	206	153	180	211	216	263	239	209	271	311	291
4232	29274	400	308	354	388	272	156	214	284	234	266	250	232	254	330	292
4233	29275				316	297	160	228	228	207	227	217	223	343		343
4234	29276	205	220	212	224	228	152	190	201	261	272	267	228	284	324	304
4235	29277	332	268	300	266	248	180	214	257	243	269	256	235	267	498	383
4236	29278	187	277	232	232	231	149	190	211	246	271	258	224	257	330	294
4237	29279	146	160	153	207	221	152	186	170	213	269	241	214	284	370	327
4238	29280	198	196	197	215	248	168	208	202	240	271	256	232	251	377	314
4239	29281	202	273	237	216	211	145	178	207	252	276	264	221	261	314	287
4240	28514	106	265	185	222	241	152	196	191	225	281	253	225	264	314	289
4241	28540	152	214	183	229	211	151	181	182	234	269	251	216	284	366	325
4242	29282	201	258	229	239	221	160	191	210	222	268	245	218	271	363	317
4243	29283	230	228	229	268	271	176	223	226	231	270	250	237	274	366	320
4244	29284	173	190	181	200	215	151	183	182	231	276	253	218	294	330	312
4245	29285	270	226	248	237	256	147	201	225	219	270	245	223	261	304	282
4246	29286	177	204	190	194	231	156	194	192	225	263	244	219		310	310
4247	29287	236	224	230	247	281	154	217	224	243	271	257	237		334	334
4248	29288	172	211	191	209	215	146	180	186	225	267	246	213		261	261
4249	29289	147	201	174	199	254	162	208	191	231	272	251	230		314	314
4250	29290	139	272	205	221	248	160	204	204	204	268	236	220		301	301
4251	Zonal Check (ZC)	191	296	244	267	249	154	201	222	219	273	246	224		294	294
4252	29291	146	251	198	240	287	171	229	214	255	261	258	243	271	386	328
4253	29292	134	279	206	240	267	167	217	212	246	266	256	237	277	386	332
4254	29293	141	182	161	194	205	154	179	170	246	274	260	220	277	307	292
4255	29294	140	201	170	209	172	158	165	167	255	263	259	212	267	261	264
4256	29295	178	199	188	201	215	148	181	185	255	269	262	221	304	314	309
4257	29296	161	273	217	232	198	162	180	199	231	264	248	214	287	314	300
4258	29297	141	190	165	184	183	151	167	166	234	262	248	208	281	254	267
4259	29298	137	238	187	205	259	142	201	194	267	209	238	219	294	380	337
4260	29299	191	162	176	207	215	147	181	179	237	268	252	217	323	357	340
4261	29300	147	204	176	197	196	152	174	175	219	268	244	209	274	340	307
4262	29301	223	245	234	223	248	165	206	220	249	264	257	231	254	311	282
4263	29302	249	291	270	249	185	174	179	224	231	273	252	215	314	366	340
4264	Local Check (LC)	277	245	261	238	274	148	211	236	240	271	255	233	300	416	358
Exp. Mean		191	229	210	231	234	156	195	203	235	264	249	222	281	328	307

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Table No. 1.45 contd.: Panicles/m<sup>2</sup> of entries in IVT- IM, Kharif 2020

Entry No.	IET No.	ZONE VII											Overall (18) Mean
		TE		TE (1)	TA (1)	KE (1)	KA			PUD		Zone VII (7)	
		@RNR	WGL	Mean	CBT	PTB	MND	GNV	Mean	@KBP	@KRR	Mean	
4201	28498	357	483	483	273	291	313	335	324	496	565	334	279
4202	28503	417	455	455	290	281	343	375	359	528	308	346	280
4203	28523	427	475	475	295	349	373	368	370	526	297	368	289
4204	28530	327	452	452	298	362	273	398	335	531	467	330	262
4205	27908	370	502	502	320	421	293	411	352	401	436	363	287
4206	28419	383	460	460	303	407	287	369	328	479	363	349	292
4207	28383	387	464	464	335	419	340	362	351	584	456	364	289
4208	28552	397	477	477	353	391	317	330	323	524	473	348	279
4209	29254	337	436	436	343	375	297	329	313	553	345	335	271
4210	29255	343	467	467	273	321	273	358	315	439	545	321	247
4211	29256	370	452	452	328	323	287	375	331	426	417	333	272
4212	29257	423	459	459	330	344	320	361	340	449	427	349	301
4213	29258	340	434	434	330	363	290	336	313	404	495	342	286
4214	28529	397	454	454	274	418	290	319	304	416	547	327	271
4215	29259	370	447	447	295	383	300	338	319	629	494	335	271
4216	28546	377	432	432	370	486	303	355	329	526	374	375	298
4217	29260	423	457	457	278	323	283	326	305	507	338	329	274
4218	29261	380	457	457	305	453	283	326	304	593	367	352	296
4219	29262	343	462	462	315	373	307	334	320	499	355	345	278
4220	29263	420	459	459	323	399	313	381	347	432	476	346	287
4221	29264	300				370	293		293		236	331	260
4222	NDR 359 (NC)	330	464	464	273	328	307	364	335	433	438	340	277
4223	29265	367	454	454	305	379	253	378	316	466	384	347	288
4224	29266	320	462	462	323	326	273	374	323	466	391	344	285
4225	29267	263	455	455	278	349	240	396	318	462	386	343	259
4226	29268	347	469	469	295	389	260	349	304	493	448	339	269
4227	29269	327	439	439	278	333	280	357	318	516	427	338	273
4228	29270	407	447	447	360	495	293	340	316	503	424	359	295
4229	29271	313	460	460	275	379	300	304	302	518	356	328	283
4230	29272	337	455	455	308	439	273	335	304	526	446	351	285
4231	29273	370	479	479	330	328	293	389	341	519	296	343	279
4232	29274	437	470	470	278	431	320	316	318	443	367	343	319
4233	29275	370	459	459	289	476	300	345	322		414	369	310
4234	29276	387	470	470	280	404	307	345	326	419	455	345	287
4235	29277	393	457	457	390	390	327	335	331	519	486	380	311
4236	29278	387	457	457	313	479	253	374	314	497	373	352	278
4237	29279	333	470	470	255	404	280	391	335	467	456	351	269
4238	29280	370	413	413	340	403	300	374	337	390	495	351	278
4239	29281	400	467	467	218	393	293	330	312	509	348	325	262
4240	28514	360	446	446	370	434	323	334	328	473	387	355	281
4241	28540	290	450	450	245	475	277	335	306	508	384	347	276
4242	29282	367	450	450	318	409	283	323	303	479	438	345	282
4243	29283	423	452	452	280	538	300	375	337	542	477	369	304
4244	29284	370	464	464	288	449	300	316	308	433	364	348	272
4245	29285	320	467	467	348	423	273	278	276	432	341	336	278
4246	29286	340	446	446	363	524	310	367	338	493	419	386	281
4247	29287	387	472	472	298	382	297	343	320	449	478	354	291
4248	29288	330	503	503	265	352	263	337	300	445	484	330	255
4249	29289	323	467	467	251	421	250	361	305	489	383	344	275
4250	29290	350	442	442	265	496	280	395	337	434	417	363	279
4251	Zonal Check (ZC)	350	441	441	303	484	257	400	328	459	344	363	291
4252	29291	300	470	470	295	383	293	379	336	476	365	354	285
4253	29292	310	460	460	285	362	283	373	328	502	284	347	290
4254	29293	373	464	464	250	352	283	312	298	426	474	321	263
4255	29294	330	457	457	255	507	293	335	314	465	415	339	266
4256	29295	303	444	444	225	388	283	355	319	512	486	330	266
4257	29296	380	462	462	355	366	297	364	330	519	465	349	285
4258	29297	347	431	431	305	396	267	332	299	449	384	323	256
4259	29298	347	462	462	303	353	333	375	354	490	278	357	281
4260	29299	307	469	469	308	412	317	341	329	499	525	361	287
4261	29300	343	488	488	255	401	277	450	363	459	415	355	265
4262	29301	357	441	441	250	384	283	480	381	506	497	343	287
4263	29302	420	437	437	403	450	290	312	301	402	539	367	295
4264	Local Check (LC)	343	488	488	340	388	267	405	336	569	437	372	299
Exp. Mean		360	459	459	302	398	292	356	324	484	416	347	281

**ADVANCE VARIETY TRIAL 1-LATE (AVT1-L)****Locations: 39****Test Entries: 38**

**Checks: Swarna-National; NDR 8002 (Eastern & Central), Ranjeet (North-Eastern), Salivahana (Western), Pushyami (Southern)-Zonal, PA 6444 (Hybrid) and Local check; Three Recurrent Parents (Rajendra Mahsuri, Samba Mahsuri and Improved Samba Mahsuri) and 10 NILs. Table: 1.46**

Advance Variety Trial 1-Late (AVT 1-L) consisted of 38 test entries including 4 checks: Swarna (National check), NDR 8002 (Eastern & Central), Ranjeet (North-Eastern), Salivahana (Western), Pushyami (Southern)-Zonal, PA 6444 (Hybrid) and Local check. Among the test entries IET 27637 is in 3<sup>rd</sup> year and the remaining entries are in 2<sup>nd</sup> year of testing. There are 5 NILs in the genetic background of Improved Samba Mahsuri, 4 NILs in Samba Mahsuri and 1 NIL in Rajendra Mahsuri. Trial was sent to 39 locations covering 5 zones (III, IV, V, VI and VII). However, data was not received from 15 centres *viz.*, Bhubaneswar, Pusa, Sabour, Ranchi, Chinsurah, Pundibhari, Masodha, Varanasi, Gerua-ICAR, Arundatinagar, Lembucherra, Ambikhapur, Pondaghat, Kampasagar, Jagtial and Brahmavar. The data pertaining to yield, days to 50% flowering, plant height, panicles/m<sup>2</sup> and quality are presented in tables 1.47, 1.48, 1.49, 1.50 and 1.51 respectively. Zone wise performance of the entries is mentioned below.

<b>Trial data/Status</b>	<b>Location/State/Zone</b>	<b>Total</b>
Data not received	Bhubaneswar, Pusa, Sabour, Chinsurah, Pundibhari, Masodha, Varanasi, Gerua-ICAR, Arundatinagar, Lembucherra, Ambikhapur, Pondaghat, Kampasagar, Jagtial and Brahmavar.	15
Trial failed	Ranchi	1
Data not included due to low/high CV%	Kariakal and Jagadapur	2
Data not included due to low experimental mean	Titabar and Ponnepet	2
Data included in the analysis	NRRI-Cuttack, Jeypore, Ranital, Bikramghanj, Raipur, Bilaspur, Sakoli, Karjat, Navsari, Maruteru, Ragolu, Bapatla, Nellore, Warangal, Adutrai, Coimbatore, Moncompo, Gangawathi and Sirsi	19
Total number of locations		39

Thus, only 19 locations data are considered in the analysis and a general over view of the observations at these locations across the zones is presented below.

Observation	Z-III		Z-V		Z-VI		Z-VII	
	Min	Max	Min	Max	Min	Max	Min	Max
Zonal mean yield (kg/ha)	2645 (NC)	5454 (IET 28501-NIL)	2257 (IET 28548)	5948 (IET 28535)	3600 (IET 28805-NIL)	5635 (IET 28497)	3768 (IET 28805-NIL)	6439 (IET 27632)
Experimental mean yield (kg/ha)	3419 (BKG)	4216 (CTK)	3700 (RPR)	4454 (BLP)	4470 (KJT)	4953 (NVS)	3323 (SRS)	6689 (CBT)
CV %	7.17 (BKG)	12.02 (RNT)	12.38 (SKL)	14.27 (RPR)	8.66 (KJT)	12.32 (NVS)	5.79 (RGL)	18.27 (MNC)
Days to 50% flowering	105 (IET 28500, IET 29207)	126 (IET 27632)	86 (ISM RP)	123 (IET 28519)	91 (ISM RP, IET 29207, 28804)	122 (IET 28515)	95 (IET 29209-NIL, ISM RP)	118 (IET 28538)
Plant height (cm)	65.51 (IET 28805-NIL)	89.65 (LC)	78.98 (NC)	122.39 (LC)	87.45 (IET 28805)	119.15 (LC)	86.06 (SM RP)	125.72 (IET 28538)
Panicles/m <sup>2</sup>	252 (IET 28805-NIL)	309 (IET 28501-NIL)	142 (IET 28519)	242 (IET 28508)	101 (IET 28515)	262 (IET 28519)	301 (IET 28784-NIL)	400 (NC)

Except in zone V, none of the entries recorded required superiority of more than 5% over the best check across the zones III, VI and VII. In zone V seven varietal entries (IET's 28535, 28508, 28538, 28501, 28497, 28544 and 28509) and one hybrid entry (IET 28510) recorded superior performance over best check. As only one entry is in 3<sup>rd</sup> year of testing could not record required yield superiority for promotion, hence performance of entry in 3<sup>rd</sup> year is not discussed.

#### Zonal performance of the entries in AVT1-L during Kharif 2020

IET No/Designation/ Cross combination	Zone V (3 locations)		State wise performance		
	Yield / DFF /GT	% Yield Adv.	Rank	Yield (Kg/ha)	%BC
IET 28535 (CR 3850-4-1-2-1-1) Maudamani/Reeta	5948 97 SB	38.48	CH (1)	6944	53.73
IET 28508 (CR 2830-48-1) Swarna/ARC10075	5713 100 SB	33	CH (4) MA1 (1)	5422 6294	20.03 19.72
IET 28538 (OR 2436-10) Indravati/Namsagui 19	5373 117 MB	25	CH (6) MA1 (2)	5279 5563	16.86 5.82
IET 28501 (RP 5970-2-6-19-16-24-12) Improved Samba Mahsuri*2/Swarna	5259 100 MS	22.44	CH (3)	5484	21.40



IET No/Designation/ Cross combination	Zone V (3 locations)		State wise performance		
	Yield / DFF /GT	% Yield Adv.	Rank	Yield (Kg/ha)	%BC
IET 28497 (OR 2491-9) Vandana/Indravati	5111 96 MB	18.9	CH (8) MA1 (4)	4950 5435	9.58 3.38
IET 28510 MEPH-154 (Hybrid)	4901 95 MS	14.10(V) 12.82(H)	CH (10)	4837	+7.08(V) -2.6(H)
IET 28544 (CR 3969-17-2-2-1-1-1-1) IR 73907-753-2-3/Pratiksyra	4827 105 MS	12.38	CH (9)	4883	8.10
IET 28509 (MTU 1317(MTU 2404-25-2) MTU 1064/MTU 1075	4741 114 MS	10.38	CH (-)	4568	+1.12
Zonal Check (ZC)	3769 102				
Swarna (NC)	4285 102				
Local Check (LC)	<b>4295</b> 91				

### Performance of entries in Zone V

IET 28535 (CR 3850-4-1-2-1-1) Maudamani/Reeta, a varietal entry ranked first in fifth zone with a Zonal mean yield of 5948 kg/ha, 97 days to 50% flowering and SB grain type and recorded 38.8, 57.81 and 38.48 % yield superiority over NC, ZC and LC, respectively. It ranked 1<sup>st</sup> in Chhattisgarh with 53.73% of yield advantage over BVC. ***In terms of quality parameters, IET 28535 has low HRR (42.2%), high amylose content of 26.31%, and hard GC of 22 mm. Due to its undesirable quality characterises it is dropped.***

IET 28508 (CR 2830-48-1) Swarna/ARC10075, a varietal entry ranked second in fifth zone with a Zonal mean yield of 5713 kg/ha, 100 days to 50% flowering and short bold grain type and recorded 33.3, 51.57 and 33% yield superiority over NC, ZC and LC, respectively. It ranked 4<sup>th</sup> in Chhattisgarh with 20.03% yield advantage over best varietal check and ranked 1<sup>st</sup> in Maharashtra with 19.72% yield advantage over best varietal check. In terms of quality parameters, IET 28508 has 66.4% HRR, amylose content of 26.86%, ASV of 4 and GC of 22 mm. ***Hence, it is promoted to AVT 2-L.***

IET 28538 (OR 2436-10) Indravati/Namsagui 19, a varietal entry ranked third in fifth zone with a Zonal mean yield of 5373 kg/ha, 117 days to 50% flowering and short bold grain type and recorded 25.39, 42.55 and 22.44% yield superiority over NC, ZC and LC, respectively. It ranked 6<sup>th</sup> in Chhattisgarh with 16.86% yield advantage over best varietal check and ranked 2<sup>nd</sup> in Maharashtra with 5.82% yield advantage over best varietal check. In terms of quality parameters, IET 28538 has 58.9% HRR, intermediate amylose content of 25.63 %, ASV of 4 and GC of 22 mm. ***This entry is promoted to AVT 2-L.***

IET 28501 (RP 5970-2-6-19-16-24-12) Improved Samba Mahsuri\*2/Swarna, a varietal entry ranked fourth in fifth zone with a Zonal mean yield of 5259 kg/ha, 100 days to 50% flowering and medium slender grain type and recorded 22.73, 39.53 and 22.44% yield superiority over NC, ZC and LC, respectively. It ranked 3<sup>rd</sup> in Chhattisgarh with 21.40%

yield advantage over best varietal check. In terms of quality parameters, IET 28501 has high HRR (60.4%), amylose content of 24.20%, ASV of 4 And GC of 22 mm. ***This entry is promoted to AVT 2-L.***

IET 28497 (OR 2491-9) Vandana/Indravati, a varietal entry ranked fifth in fifth zone with a Zonal mean yield of 5111 kg/ha, 96 days to 50% flowering and short bold grain type and recorded 19.27, 35.60 and 18.9% yield superiority over NC, ZC and LC, respectively. It ranked 8<sup>th</sup> in Chhattisgarh with 9.58 % of yield advantage over BVC and ranked 4<sup>th</sup> in MA1 with 3.38 % yield advantage over BVC. In terms of quality parameters, IET 28497 has 54.8% HRR, AC of 26.45%, ASV of 4 and medium GC of 42 mm. ***Hence, it is promoted to AVT 2-L.***

IET 28544 (CR 3969-17-2-2-1-1-1-1) IR 73907-753-2-3/Pratiksyra, a varietal entry ranked seventh in fifth zone with a Zonal mean yield of 4827 kg/ha, 105 days to 50% flowering and long slender grains and recorded 12.64, 28.07 and 12.38% yield superiority over NC, ZC and LC, respectively. It ranked 9<sup>th</sup> in Chhattisgarh with 8.10 % of yield advantage over BVC. In terms of quality parameters, IET 28544 has high HRR (66.2%), high AC of 27.74 %, ASV of 4 and GC of 57 mm. ***This entry is promoted to AVT 2-L.***

IET 28509 (MTU 1317(MTU 2404-25-2) MTU 1064/MTU 1075, a varietal entry ranked eighth in fifth zone with a Zonal mean yield of 4741 kg/ha, 114 days to 50% flowering and medium slender grain type and recorded 10.64, 25.78 and 10.38% yield superiority over NC, ZC and LC, respectively. In Chhattisgarh it had recorded 1.12 % yield advantage over BVC. In terms of quality parameters, IET 28509 has high HRR (63%), AC of 25.16%, ASV of 4 and GC of 22 mm. ***This entry is promoted to AVT 2-L.***

IET 28510 (MEPH-154) (Hybrid), a hybrid entry ranked sixth in fifth zone with a Zonal mean yield of 4901 kg/ha, 95 days to 50% flowering and long slender grain type and recorded 14.37, 30.03, 14.10 and 12.82% yield superiority over NC, ZC, LC and HC, respectively. It ranked 10<sup>th</sup> in Chhattisgarh with 7.08% yield advantage over BVC and could not record over HC (-2.6%). Quality wise, IET 28510 has high HRR (69.2%), high amylose content of 28.18%, and hard GC of 31 mm. ***Due to its undesirable quality characterises (high AC), it is dropped.***

### Three years' performance of the entry (IET 27637)

IET 27637 (OR2438-2-1) OR 142-99/MTU1065 a varietal entry has completed 3 years of testing (2018 to 2020). In third year of testing, this entry could not show yield advantage over best check in any zone or state. Due to inconsistent performance across the years, this entry is discontinued.

### Three years' performance of the entry (IET 27637) (2018-2020)

Entry	Year	Zone/ Rank	No. of locations	Yield	% BVC	State/ Rank	No. of locations	Yield	%BVC
IET 27637	2018	V	2	6577	7	MA	1	6551	15
	2019	V	2	5176	15.77	CH	1	5684	6.67
	2020	-	-	-	-	-	-	-	-

### **Assessment of NIL entries tested under AVT 1-L trial**

A total of 10 NILs were tested in AVT 1-L trial along with their recurrent parents. Five NIL's in the genetic background of Improved Samba Mahsuri, Four NIL's in Samba Mahsuri and one in Rajendra Mahsuri were nominated and tested in AVT 1-L.

### **Near Isogenic Lines (NILs) in the genetic background of Improved Samba Mahsuri**

A total of five NILs were evaluated. Three NIL's (IET's 28805, 28804 and 28801) are in second year of testing and two Nils (IET 28784 and IET 29207) in first year of testing.

IET 28805 (RP 6286-Bio Patho 5-156-24-10) derived from the cross of Improved samba Mahsuri\*2/C101A51/Tetep possessing *xa5+xa13+Xa21* (bacterial blight resistance) and *Pi2* and *Pi54* genes for blast resistance. IET 28805 recorded inferior yield compared to recurrent parent and showed susceptible reaction to Blast and BB with severity index score of 5.1 and 5.4 respectively, hence IET 28805 is discontinued. Whereas, IET 28804 had yield on par compared to recurrent parent and showed resistant reaction to blast (4.6) and susceptible reaction to BB (5.2), but in the year 2019 it recorded 4.6 for BB. Hence ***IET 28804 is promising in the gazette notified states of Improved Samba Mahsuri***

IET 28784 (RP 6287-188-45-12-88) derived from the cross Improved Samba Mahsuri\*3/// FL478 possessing genes for bacterial blight resistance (*xa5+xa13+Xa21*) and *Saltol* QTL for salt tolerance. Yield wise, it was superior to recurrent parent (Improved Samba Mahsuri) under normal as well as in stress condition. It was observed to show resistance reaction against bacterial blight with a severity index value of 3.7. ***Hence, IET 28784 is promising in the gazette notified states of Improved Samba Mahsuri.***

IET 29207 (RP 6470-RMS 93-3-2-22) derived from the cross Improved Samba Mahsuri / \*3/C101LAC possessing genes for bacterial blight resistance (*xa5+xa13+Xa21*) and Blast resistance (*Pi1*). It recorded susceptible disease reaction to blast (5.7) and resistance reaction to BB (4.6). Hence it is dropped.

IET 28801 (RP 6298-FG3G-12-5) derived from the cross Improved samba Mahsuri / FBR1-15 possessing genes for bacterial blight resistance (*xa5+xa13+Xa21+Xa33*). This entry had on par yield compared to recurrent parent and showed resistance reaction to bacterial leaf blight with a severity index value of 4.6. ***Hence, IET 28801 is promising in the gazette notified states of Improved Samba Mahsuri.***

### **Near Isogenic Lines (NILs) in the background of Samba Mahsuri**

A total of four NILs of Samba Mahsuri were evaluated against blast/bacterial blight in this trial.

IET 28014 (Pusa 1853-12-288) was derived from the cross Pusa 1850-5-18/Pusa 1701-10-5-8 possessing genes for bacterial blight resistance (*xa13+Xa21*) and *Pi1*, *Pi54* and *Pita* for blast resistance. It recorded superior yield performance over recurrent parent and showed resistance reaction to Bacterial leaf blight with a disease severity index value of 3.0 but had on par reaction for blast resistance (5.2) compared to recurrent parent.

However, it showed resistant reaction to blast in the years 2019 (4.6) and in 2018 (4.5). **Hence found promising for the states of Andhra Pradesh and Telangana.**

IET 29208 (RP 6477-Patho5-9-13-16) was derived from the cross Samba Mahsuri\*2/C101LAC/Tetep possessing genes *Pi1* and *Pi54* for blast resistance. It recorded superior yield performance over recurrent parent and showed susceptible reaction to blast with a disease severity index value of 5.9. Hence this entry is dropped.

IET 29209 (RP 6472-RMS20-35-15-4) was derived from the cross Samba Mahsuri\*2/MTS-Xa21+Pi54 possessing genes for bacterial blight resistance (Xa21) and *Pi54* for blast resistance. Yield wise, it recorded on par yield performance compared to recurrent parent and showed resistance reaction to both Blast and BB with a severity index value of 4.4 and 4.8 respectively. **Hence, this entry is promoted.**

IET 29210 (MASDBL-18) was derived from the cross BPT 5204/C101A51 possessing gene *Pi2* for blast resistance. It recorded superior yield compared to recurrent parent but showed susceptible disease reaction to blast with a severity index value of 5.4. Hence, this entry is dropped.

#### **Near Isogenic Lines (NILs) in the background of Rajendra Mahsuri**

IET 28794 (120-79-RM-Sub-1) was derived from the cross Rajendra Mahsuri // Swarna Sub-1 possessing *Sub1* QTL for submergence tolerance. This entry is in second year of testing and recorded on par yield compared to recurrent parent under normal condition. Whereas in stress (Submergence) condition, it had superior yield compared to recurrent parent but had inferior yield compared to tolerant check. **Hence this IET 28794 is discontinued.**

## Performance of the NIL entries during Kharif 2020

S. No	IET No	Recurrent Parent (RP) and genes	Gazette notified states	No. of locations	Normal condition (CD:297.4)			Severity Index (%) from hot spots				Salinity Stress condition			Remarks
					RP Yield	NIL Yield	% over RP	Blast		Bacterial leaf blight		RP Yield	NIL Yield	% over RP	
								RP	NIL	RP	NIL				
1	28805	Improved Samba Mahsuri ( <i>xa5+xa13+Xa21</i> ; <i>Pi2+ Pi54</i> )	AP	4	3629	3943	-15.8*	5.7	5.1	3.7	5.4	-	-	-	Discontinued due to inferior yield, susceptible reaction to BB and blast
			TE	1	3175	2948	-1.1#								
			JH	@	@	@									
			CH	2	3503	3098									
			MH	2	4603	3869									
			GU	1	4782	2991									
			OD	3	3291	2693									
			BI	1	3545	2685									
			Overall	14	<b>3695</b>	<b>3358</b>									
2	28804	Improved Samba Mahsuri ( <i>xa5+xa13+Xa21</i> ; <i>Pi2+ Pi54</i> )	AP	4	3629	4035	-5.5*	5.7	4.6	3.7	5.2 (4.6 : 2019)	-	-	-	Promising in Improved Samba Mahsuri gazette notified states
			TE	1	3175	3084	+11.0#								
			JH	@	@	@									
			CH	2	3503	2999									
			MH	2	4603	3661									
			GU	1	4782	4022									
			OD	3	3291	4458									
			BI	1	3545	2884									
			Overall	14	<b>3695</b>	<b>3773</b>									
3	28784 (R)	Improved Samba Mahsuri ( <i>xa5+xa13+Xa21</i> ; <i>Saltol QTL</i> )	AP	4	3629	3586	-1.8*	-	-	3.7	3.7	1700	2111	24.17%	Promising in Improved Samba Mahsuri gazette notified states
			TE	1	3175	3265	+15.3#								
			JH	@	@	@									
			CH	2	3503	3066									
			MH	2	4603	4686									
			GU	1	4782	4478									
			OD	3	3291	4079									
			BI	1	3545	5026									
			Overall	14	<b>3695</b>	<b>3918</b>									

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S. No	IET No	Recurrent Parent (RP) and genes	Gazette notified states	No. of locations	Normal condition (CD:297.4)			Severity Index (%) from hot spots				Salinity Stress condition			Remarks
					RP Yield	NIL Yield	% over RP	Blast		Bacterial leaf blight		RP Yield	NIL Yield	% over RP	
								RP	NIL	RP	NIL				
4	29207	Improved Samba Mahsuri ( <i>xa5+xa13+Xa21; Pi1</i> )	AP	4	3629	3965	+0.6* +18.2#	5.7	5.7	3.7	4.6	-	-	-	Dropped due to on par disease reaction to blast and high AC (26.31% ) and hard GC (22)
			TE	1	3175	2721									
			JH	@	@	@									
			CH	2	3503	4283									
			MH	2	4603	4921									
			GU	1	4782	4899									
			OD	3	3291	3320									
			BI	1	3545	4392									
Overall	14	<b>3695</b>	<b>4017</b>												
5	28801	Improved Samba Mahsuri ( <i>xa5+xa13+Xa21; Xa33</i> )	AP	4	3629	3636	-6.1* +11.0#	-	-	3.7	4.6	-	-	-	Promising in Improved Samba Mahsuri gazette notified states
			TE	1	3175	3447									
			JH	@	@	@									
			CH	@	@	@									
			MH	@	@	@									
			GU	@	@	@									
			OD	@	@	@									
			BI	@	@	@									
Overall	5	<b>3538</b>	<b>3598</b>												

RP: Recurrent Parent; \* Plus CD value; # Minus CD value

**Performance of the NIL entries during Kharif 2020**

S. No	IET No	Recurrent Parent (RP) and genes	Gazette notified states	No. of locations	Normal condition (CD:397)			Severity Index (%) from hot spots				Remarks
					RP Yield	NIL Yield	% over RP	Blast		Bacterial leaf blight		
								RP	NIL	RP	NIL	
1	28014 (R)	Samba Mahsuri ( <i>Xa13+Xa21; Pi2+ Pi54 +Pita</i> )	AP TE Overall	4 1 5	3987 2630 3716	4348 3855 4249	+3.3* +28.0#	5.8	5.2 (4.6:2019) (4.5:2018)	6.3	3.0	Promising for the states of Andhra Pradesh and Telangana
2	29208	Samba Mahsuri ( <i>Pi1+ Pi54</i> )	AP TE Overall	4 1 5	3987 2630 3716	4113 4490 4188	+1.8* +26.1#	5.8	5.9	-	-	Dropped due to susceptible disease reaction to blast
3	29209	Samba Mahsuri ( <i>Xa21; Pi54</i> )	AP TE Overall	4 @ 4	3987 @ 3987	4060 @ 4060	-7.1* +12.7#	5.8	4.4	6.3	4.8	Promoted
4	29210	Samba Mahsuri ( <i>Pi2</i> )	AP TE Overall	@ 1 1	@ 2630 2630	@ 6848 6848	+104.3* +258.7*	5.8	5.4	-	-	Dropped due to susceptible disease reaction to blast

RP: Recurrent Parent; \* Plus CD value; # Minus CD value

**Performance of the NIL entries during Kharif 2020**

S. No	IET No	Recurrent Parent (RP) and genes	Gazette notified states	No. of locations	Normal condition (CD:321.6)			Stress condition (CD: 322.4)					Remarks
					RP Yield	NIL Yield	% over RP	RP Yield	NIL Yield	TC yield	% over RP	% over TC	
1	28794	Rajendra Mahsuri ( <i>Sub 1</i> )	BI	1	4444	4392	-7.8* +6.5#	1170	2833	3248	+89.8%	-20.6* -3.1#	Discontinued

RP: Recurrent Parent; \* Plus CD value; # Minus CD value, TC: Tolerant check-Swarna Sub1

**Entries Promoted to AVT 2-L:**

Zone III, IV, VI, VII- None

Zone V- IET's 28508, 28538, 28501, 28497, 28544 and 28509 (Varietal entries)

**Performance of NIL Entries in AVT 1- L**

Sl. No.	NIL entry	Recurrent Parent	Remarks
1	IET 28805	Improved Samba Mahsuri	Discontinued due to inferior yield, susceptible reaction to BB and blast
2	IET 28804	Improved Samba Mahsuri	Discontinued due to susceptible disease reaction to BB
3	IET 28784	Improved Samba Mahsuri	<b>Promising</b>
4	IET 29207	Improved Samba Mahsuri	Dropped due to on par disease reaction to blast and high AC (26.31%) and hard GC (22)
5	IET 28801	Improved Samba Mahsuri	<b>Promoted</b>
6	IET 28014	Samba Mahsuri	<b>Promising</b> for the states of Andhra Pradesh and Telangana
7	IET 29208	Samba Mahsuri	Dropped due to susceptible disease reaction to blast
8	IET 29209	Samba Mahsuri	<b>Promoted</b>
9	IET 29210	Samba Mahsuri	Dropped due to susceptible disease reaction to blast
10	IET 28794	Rajendra Mahsuri	Discontinued due to inferior yield compared to tolerant check



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**Disease reaction of the entries to Bacterial leaf blight disease during Kharif 2020**

IET No	Locations												SI
	ADT	CHP	CTK	IIRR	KJT	LUD	NVS	NLR	PNT	TTB	VRNS		
28805	9	5	3	1	3	7	7	5	9	5	5	<b>5.4</b>	
28804	5	7	3	1	3	7	7	5	9	3	7	<b>5.2</b>	
28784 (R)	7	5	3	1	1	5	5	7	1	3	3	<b>3.7</b>	
29207	5	3	5	1	3	5	7	5	7	5	5	<b>4.6</b>	
Improved Samba Mahsuri (RP)	5	1	5	1	5	7	5	3	1	5	3	<b>3.7</b>	
28014 (R)	5	1	3	1	1	7	3	3	1	1	7	<b>3.0</b>	
28801	5	3	3	1	3	7	5	5	9	3	7	<b>4.6</b>	
29209	5	9		3	3	7	5	-	3	3	5	<b>4.8</b>	
Samba Mahsuri (RP)	7	7	3	7	7	7	7	5	7	5	7	<b>6.3</b>	
TN1 (Susceptible check)	7	7	9	9	7	7	9	9	9	7	5	<b>7.7</b>	

RP: Recurrent Parent; R: Repeat entry

**Disease reaction of the entries to blast disease during Kharif 2020**

IET No	Locations																				SI
	ALM	CBT	GDL	GGT	GNV	IIRR	JDP	JGT	LVN	MLN	MND	NDL	NVS	NLR	NWG	PNP	RNR	RNC	UMM	USG	
28805	4	6	5	5	8	4	7	7	4	3	3	3	5	6	5	5	7	3	3	8	<b>5.1</b>
28804	3	3	5	5	5	4	6	5	3	2	3	3	6	5	7	4	5	4	5	8	<b>4.6</b>
29207	6	8	9	5	6	5	7	7	5	4	6	5	8	4	5	4	5	4	-	6	<b>5.7</b>
Improved Samba Mahsuri (RP)	5	7	6	5	9	7	7	9	4	4	5	5	7	5	5	2	9	4	2	7	<b>5.7</b>
28014 (R)	5	5	9	5	9	7	6	5	3	5	5	3	6	2	6	4	9	6	1	3	<b>5.2</b>
29208	4	3	9	5	8	7	5	7	4	3	9	3	9	4	6	5	9	6	4	7	<b>5.9</b>
29209	4	6	7	5	5	4	5	3	3	3	4	3	5	4	5	3	7	6	1	4	<b>4.4</b>
29210	-	5	8	4	4	-	-	-	-	-	-	5	6	-	5	-	-	7	5	-	<b>5.4</b>
Samba Mahsuri (RP)	5	7	9	4	9	7	7	3	3	4	9	5	4	5	-	5	9	5	4	6	<b>5.8</b>
HR-12 (SC)	7	9	9	5	9	9	9	5	9	9	9	9	7	7	7	8	7	7	9	9	<b>8.0</b>
TN1 (SC)	7	6	9	5	9	7	8	7	9	9	7	7	7	7	8	5	9	6	6	7	<b>7.3</b>

RP: Recurrent Parent; R: Repeat entry; SC: Susceptible check

## INITIAL VARIETY TRIAL-LATE (IVT-L)

**Locations: 39**

**Test Entries: 60**

**Checks: Swarna -National; NDR 8002 (Eastern & Central), Ranjeet (North Eastern), Salivahana (Western), Pushyami (Southern)-Zonal, PA 6444 (Hybrid) and Local check. Table: 1.52**

The IVT-L trial comprised 59 varietal and 1 hybrid test entries and 4 checks with Swarna as national check (NC), NDR 8002 in the eastern and central, Ranjeet in the north eastern, Salivahana in the western and Pushyami in the southern zones as zonal check, PA 6444 as hybrid check and a local check. The trial was sent to 39 locations, however data was received from 19 locations and 10 centers viz. Chinsurah (CHN), Pundibhari (PNB), Masoda (MSD), Varanasi (VRN), Titabar (TTB), Gerua-ICAR (GER), Ambikapur (ABP), Bilaspur (BLP) and Brahmavar (BRM) not conducted the trial, at Lembuchera center trial conducted was failed. Data was not included in the analysis from 4 locations due to low experimental mean (Jeypore, Ranital, Sabour and Ponnampet).

CV% varied from as low as 0.49 at Kariakal to as high as 21.24% at Sabour, experimental mean from 1738 kg/ha at Sabour to 9293 kg/ha at Kariakal. Overall mean ranged from 3629 kg/ha (IET 28288) to 6261 kg/ha (Zonal Check (ZC)), days to 50% flowering from 94 days (IET 29350) to 119 days (IETs 29307 and 29321), plant height from 82 cm (IET 28271) to 120 cm (IET 29351) and panicles/m<sup>2</sup> from 208 (IET 28271) to 402 (IET 29332). The data pertaining to yield, days to 50% flowering, plant height and number of panicles/m<sup>2</sup> are presented in tables 1.53, 1.54, 1.55 and 1.56.

On the basis of overall performance none of the entries are found superior to Best check i.e. Zonal check (7173 kgs/ha) with days to 50% flowering 106, **hence no entry is promoted on overall basis.**

### **Performance of the entries on zonal basis:**

#### **Zone III**

On the basis of zonal performance none of the entries are found superior to Best check i.e. Zonal check (5781 kgs/ha) with days to 50% flowering 95, **hence no entry is promoted in zone III.**

#### **Zone V**

The trial was conducted at three locations viz. Raipur, Jagdalpur and Sikoli. On the basis of zonal performance only one entry i.e IET 29328 found superior to Best check with grain yield (5756 kgs/ha) with days to 50% flowering 110, **hence one entry IET 29328 is promoted in zone V further evaluation in AVT-I**

**Performance of the entries in Zone V in IVT-L, Kharif 2020**

Rank	IET No / Designation / Cross combination	Yield (kg/ha) / DFF / GT	% Yld Adv- NC / ZC/ HC /LC17	Remarks
1	<b>IET 29328</b> MSN112 IET 21341/MSN 54	5756 110	55 18 <b>15</b> 47	<b>Promoted - For Zone V</b>
	Swarna (NC)	3720 105		
	Zonal check (ZC)	4867 106		
	<b>PA 6444 (HC)</b>	<b>5027</b> <b>96</b>		
	Local check	3912 103		

**Zone VI**

The trial was conducted at two locations viz. Karjat and Navsari. Data was not received from Pondaghat. On the basis of zonal performance only two entries i.e IET 29347 and IET 28440 are qualified for promotion based on yield and duration (Days to 50 percent flowering). IET 29347 yielded 5359 kgs/ha with 112 days to 50% flowering and IET 28440 yielded 5285 kgs/ha with 112 days to 50% flowering, both the entries are found superior to best check i.e Zonal Check (4910 kgs/ha) with days to 50% flowering 105, Both the entries exhibited 9 and 8 % yield superiority over best check (more than 5% required superiority). Hence **two entries IET 29347 and IET 28440 are promoted in zone VI further evaluation in AVT-I.**

Eight entries Viz. IETs 29343 (5769 kgs/ha), 29350 (5530 kgs/ha), 29304 (5225 kgs/ha), 29349 (5910 kgs/ha), 28524 (5748 kgs/ha), 29351 (5368 kgs/ha), 29345 (5258 kgs/ha) and 29339 (5227 kgs/ha) recorded superiority over the best check i.e Zonal Check (4910 kgs/ha), however based on the days to 50% flowering four entries viz. **IETs 29343 (91), 29350 (91) 29304(91) and 29339(94) are considered for Shift to IVT-IME and four entries viz. IETs 29349(103), 28524(103), 29351(102), and 29345(102) are considered for shift to IVT-IM**

**Performance of the entries in Zone VI in IVT-L, Kharif 2020**

Rank	IET No / Designation / Cross combination	Yield (kg/ha) / DFF / GT	% Yld Adv- NC / ZC/ HC /LC	Remarks
1	<b>IET 29347</b> TTB1039-214-4 Ranjit / IRBB 52	5359 112	17 <b>9</b> 30 10	<b>Promoted - For Zone VI</b>
2.	<b>IET 28440</b> AD 13280 C0 ( R)50 / AD08132	5285 112	16 <b>8</b> 28 9	<b>Promoted - For Zone VI</b>

Rank	IET No / Designation / Cross combination	Yield (kg/ha) / DFF / GT	% Yld Adv-NC / ZC/ HC /LC	Remarks
3	<b>IET 29349</b> R 2284-52-114-1 R 1670-3267-1-3290-1 / ARC10550	5910 103	29 <b>20</b> 44 22	<b>Shift to IVT-IM</b>
4	<b>IET 29343</b> MTU 13519MTU 2223-29-2-1-1 IR 64 / PLA99-1-3-1-3	5769 91	26 <b>17</b> 40 19	<b>Shift to IVT-IME</b>
5	<b>IET 28524</b> RP 6330-179-3-9-1 MTU 1121 / Vijetha	5748 103	26 <b>17</b> 40 18	<b>Shift to IVT-IM</b>
6	<b>IET 29350</b> CR 4050-121-28-13-1 Swarna Sub 1* <sup>3</sup> / IRBB60	5530 91	21 <b>13</b> 34 14	<b>Shift to IVT-IME</b>
7	<b>IET 29351</b> WGL-1289 MTU 1081 / BM 71	5368 102	17 9 30 11	<b>Shift to IVT-IM</b>
8	<b>IET 29345</b> OR 2573-4 Birupa / IR 76561-AC-8-8	5258 102	14 7 28 8	<b>Shift to IVT-IM</b>
9	<b>IET 29339</b> CR 3954-607-116-541-436 Maudamani/Swarna Sub 1// Swarna Sub 1* <sup>2</sup>	5227 94	14 6 27 7	<b>Shift to IVT-IME</b>
10	<b>IET 29304</b> R 2454-1-R1-10 KM / IRBB59	5225 91	14 6 27 7	<b>Shift to IVT-IME</b>
	Swarna (NC)	4574 100		
	<b>Zonal check (ZC)</b>	<b>4910</b> <b>105</b>		
	PA 6444 (HC)	4116 110		
	Local check	4857 103		

## Zone VII

The trial was sent to 10 locations, only 8 locations viz. Maruteru, Ragole, Warangal, Aduthurai, Coimbatore, Moncompu, Gangavathi and Sirisi data is considered. While two locations Viz., Ponnompert and Kariakal data was not considered due low CV and low mean yields On the basis of zonal performance only one entry i.e IET 29307 with grain yield (7216 kgs/ha) with days to 50% flowering 127 found superior to Best check Zonal Check (7183

kg/ha with duration of 105 days), However the required superiority of 5% is not shown hence none of the entries are promoted in zone VII further evaluation.

The following entries are promoted on overall or zonal basis to AVT1-L or shifted to appropriate duration trial

**Promoted to AVT1-L-**

- Overall basis: NIL
- Zone III: NIL
- Zone V: IET 29328
- Zone VI: IETs 29347 and 28440
- Zone VII: NIL
  
- Shift to IVT-IME: IETs 29343, 29350, 29339 and 29304
- Shift to IVT-IM: IETs 29349, 28524, 29351 and 29345

**Table No. 1.46: Composition of entries in Advance Variety Trial 1 - Irrigated Late (AVT 1-L), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>2<sup>nd</sup> year of testing:</b>				
4301	28519	AD 16135	CR 1009 / MTU 1150	SB
4302	28501	RP 5970-2-6-19-16-24-12	Improved Samba Mahsuri*2 / Swarna	MS
4303	28509	MTU 1317 (MTU 2404-25-2)	MTU 1064 / MTU 1075	MS
4304	28515	CR 3856-55-14-2-1-1-1-1-1	IR 73963-86-1-5-2-2 / CR 2324-1-1	LB
4305	28548	BPT 2863	MTU 2077 / NLR 34449	MS
4306	28538	OR 2436-10	Indravati / Namsagui 19	SB
4307	<b>Swarna (NC)</b>			
4308	28507	KAU PTB 2011 mutant-46-1-1-2-1	Cul M6-2	SB
4309	28536	MTU 1316 (MTU 2222-26-1-1-2)	IR 64 / NLR 3042	MS
4310	28500	Pusa 5159-1-2-1-1-1-3-3	White Ponni / Pusa 44	LS
4311	28535	CR 3850-4-1-2-1-1	Maudamani / Reeta	SB
4312	28513	RGL 7016	NLR 34449 / JGL 3855	MS
<b>3<sup>rd</sup> year of testing:</b>				
4313	27637	OR 2438-2-1	OR 142-99 / MTU 1065	SB
4314	<b>NDR 8002-Eastern &amp; Central, Ranjeet- North Eastern, Salivahana-Western, Pushyami – Southern--ZC</b>			
<b>2<sup>nd</sup> year of testing:</b>				
4315	28502	RP 6112-MS-M-140-25-2-5-8-9-6	BPT 5204 Mutant	LS
4316	28551	AD 16154	CR 1009 / CR 2942-68	MS
4317	28497	OR 2491-9	Vandana / Indravati	SB
4318	<b>PA 6444 (HC)</b>			
4319	28544	CR 3969-17-2-2-1-1-1-1	IR 73907-753-2-3 / Pratiksyia	LS
4320	27632 (R)	MTU 1297 (MTU 2036-1-1-1-1)	MTU 1061 / MTU 1064	SB
4321	28549	RGL 7017	JGL 3855 / NLR 34449	MS
4322	28508	CR 2830-48-1	Swarna / ARC10075	SB
4323	28527	MTU 1318 (RM 67-60-1-1-1)	MTU 1064 / MTU 7029	MS
4324	28510	<i>MEPH – 154 (Hybrid)</i>	-	LS
4325	<b>Local Check</b>			

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Entry No.	IET No.	Designation	Cross Combination	GT
4326	28805	RP 6286-Bio Patho 5-156-24-10	Improved Samba Mahsuri * 2 / C 101 A51 / Tetep	MS
4327	28804	RP 6286-Bio Patho 5-156-24-7	Improved Samba Mahsuri * 2 / C 101 A51 / Tetep	MS
4328	28784 (R)	RP 6287-188-45-12-88	Improved Samba Mahsuri *3 /// FL 478	MS
4329	29207	RP 6470-RMS 93-3-2-22	Improved Samba Mahsuri * 3 / C 101 LAC	MS
4330	<b>Improved Samba Mahsuri (RP)</b>			MS
4331	28014 (R)	Pusa 1853-12-288	Pusa 1850-5-18 / Pusa 1701-10-5-8	MS
4332	28801	RP 6298-FG3G-12-5	Improved Samba Mahsuri / FBR 1-15	MS
4333	29208	RP 6477- Patho 5-9-13-16	Samba Mahsuri * 2 / C 101 LAC / Tetep	MS
4334	29209	RP 6472-RMS 20-35-15-4	Samba Mahsuri * 2 / MTS-Xa21 +Pi54	SB
4335	29210	MASDBL-18	BPT 5204 / C 101A51	MS
4336	<b>Samba Mahsuri (RP)</b>			MS
4337	28794	120-79-RM-Sub-1	Rajendra Mahsuri // Swarna Sub-1	MS
4338	<b>Rajendra Mahsuri (RP)</b>			MS

**Table No. 1.47: Grain Yield (Kg/ha) of entries in AVT 1 - LATE (Zone -III), Kharif 2020**

Entry No	IET No.	ZONE III													
		OD						OD (3)		BI (1)		Zone III (4)			
		CTK		JYP		RNT		Mean		BKG		Mean			
4301	28519	3938		6388	2 #	4847	7	5058	5 #	20%	2487		4415	9	
4302	28501	5448	4 #	6598	1 #	5667	1 #	5904	1 #	40%	4101		5454	1 #	16%
4303	28509	2963		4064		3953		3660			2474		3364		
4304	28515	5761	2 #	2776		3333		3957					3957		
4305	28548	4667		3110		1865		3214			4206	9	3462		
4306	28538	4703		4224		4213		4380			2487		3907		
4307	Swarna (NC)	3615		2793		1671		2693			2500		2645		
4308	28507	4729		2790		1565		3028			2487		2893		
4309	28536	3646		5068	10 #	4333		4349			2553		3900		
4310	28500	3311		5486	7 #	5327	3 #	4708	9 #	11%	5026	2 *	4788	4	
4311	28535	3482		3829		4473	10	3928			4312	8	4024		
4312	28513	4909	10	5934	5 #	4493	9	5112	4 #	21%	2569		4476	7	
4313	27637	5351	7 #	5835	6 #	5540	2 #	5575	3 #	32%	2302		4757	5	
4314	Zonal Check (ZC)	4471		5211	9	4953	6	4878	6				4878	3	
4315	28502	4054		5397	8 #	5047	5 #	4833	8 #	14%	2698		4299		
4316	28551	2411		3785		4427		3541			2438		3265		
4317	28497	3275		2824		3413		3171			3757		3317		
4318	PA 6444 (HC)	4331		4168		4193		4231			6111	1	4701	6	
4319	28544	5374	5 #	4352		4813	8	4846	7 #	15%	3307		4462	8	
4320	27632	5522	3 #	2057		2410		3330			2619		3152		
4321	28549	5770	1 #	3214		1915		3633			2540		3360		
4322	28508	4554		2668		2893		3372			4127	10	3561		
4323	28527	5371	6 #	2819		1512		3234			2646		3087		
4324	28510	4958	9	3930		4187		4358			3042		4029		
4325	Local Check (LC)	5275	8	6328	3	5313	4	5639	2		4418	5	5334	2	
4326	28805	2638		2808		2633		2693			2685		2691		
4327	28804	2975		6100	4 #	4300		4458	10		2884		4065		
4328	28784	3879		4204		4153		4079			5026	2 *	4316	10	
4329	29207	3744		2904		3313		3320			4392	6	3588		
4330	Improved Samba Mahsuri (RP)	2535		2952		4387		3291			3545		3355		
4337	28794	3857		3271		3653		3594			4392	6	3793		
4338	Rajendra Mahsuri (RP)	3426		2021		2338		2595			4444	4	3057		
Exp. Mean		4217		4060		3786		4021			3419		3886		
CD		697.96		525.05		742.8		386.79			400.45		321.69		
CV%		10.14		7.92		12.02		5.89			7.17		5.07		
D/S		28-07-2020		06-08-2020							07-08-2020				
D/P		14-09-2020		31-08-2020							03-09-2020				
Local Check Name		REETA		Hasanta							Rajendra Mahsuri 1				

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**Table No. 1.47 contd.: Grain Yield (Kg/ha) of entries in AVT 1 - LATE (Zone -IV), Kharif 2020**

Entry No	IET No.	ZONE IV	
		AS	@ TTB
4301	28519		
4302	28501		2709
4303	28509		
4304	28515		2919
4305	28548		
4306	28538		
4307	Swarna (NC)		1754
4308	28507		
4309	28536		
4310	28500		
4311	28535		1825
4312	28513		
4313	27637		
4314	Zonal Check (ZC)		
4315	28502		3567
4316	28551		
4317	28497		2866
4318	PA 6444 (HC)		3254
4319	28544		
4320	27632		
4321	28549		
4322	28508		3673
4323	28527		
4324	28510		3726
4325	Local Check (LC)		
<b>Exp. Mean</b>			<b>2921</b>
CD			
CV%			
D/S			07-08-2020
D/P			03-09-2020
Local Check Name			Ranjit

**Table No. 1.47 contd.: Grain Yield (Kg/ha) of entries in AVT 1 - LATE (Zone -V & VI), Kharif 2020**

Entry No.	IET No.	ZONE V											
		CH				CH (2)				MA1 (1)		Zone V (3)	
		RPR	@JDP	BLP		Mean			SKL		Mean		
4301	28519		2452	1931	1931				2749			2340	
4302	28501	5301	2 3705	6 5667	5 5484	3*	21%	11%	4809	# 54%		5259	4* 22% # 21%
4303	28509	4219	3 3462	9 4917	8 4568				5087	# 63%		4741	8 10%
4304	28515	5292	3 3226			5*	17%		3155			4224	
4305	28548	1156	2527	2194	1675				3120			2157	
4306	28538	4474	7 3873	3 6083	4 5279	6*	17%		5563	2 6% # 78%		5373	3* 25% # 24%
4307	Swarna (NC)	4394	9 3405	10 4639	4517				3822	0.22		4285	
4308	28507	3011	3066	4583	3797				2490			3361	
4309	28536	2579	3307	3417	2998				3327			3108	
4310	28500	4336	10 3486	8 6806	2* # 5571	2*	23%	12%	2350			4497	9
4311	28535		3056	6944	1* # 6944	1*	54% # 40%		4952	10 # 59%		5948	1* 38% # 37%
4312	28513		3739	5 3944	3944				4920	# 58%		4432	10
4313	27637		2644	3833	3833				3055			3444	
4314	Zonal Check (ZC)		2767	3250	3250				4287	# 37%		3769	
4315	28502	4246	4292	2 4667	10 4457				3083			3999	
4316	28551	4465	8 4418	1 3528	3997				2323			3439	
4317	28497	5455	1 3582	7 4444	4950	8	10%		5435	4 # 74%		5111	5* 19% # 18%
4318	PA 6444 (HC)	4602	6 2631	5306	7 4954	7	10%		3123			4344	
4319	28544	5209	4 2999	4556	4883	9	8%		4717	# 51%		4827	7* 12% 11%
4320	27632	2824	3365	3806	3215				5485	3 # 76%		3972	
4321	28549	2459	3846	4 3872	3216				5398	5 # 73%		3943	
4322	28508	4066	3149	6778	3* # 5422	4*	20%		6294	1* 20% # 102%		5713	2* 33% # 32%
4323	28527	2652	2970	3306	2979				4783	# 53%		3580	
4324	28510	4757	5 3040	4917	8 4837	10	7%		5030	9 # 61%		4901	6* 14% # 13%
4325	Local Check (LC)	2238	2551	5389	6 3814				5257	6 # 68%		4295	
4326	28805	3167	2580	3028	3098				3530	0.13		3242	
4327	28804	1470	2703	4528	2999				3557	0.14		3185	
4328	28784	3066	2730		3066				4569	# 46%		3818	
4329	29207	3955	2879	4611	4283				4549	# 46%		4372	
4330	Improved Samba Mahsuri (RP)	3312	3395	3694	3503				5164	7 # 65%		4057	
<b>Exp. Mean</b>		<b>3700</b>	<b>3195</b>	<b>4455</b>	<b>4092</b>				<b>4199</b>			<b>4124</b>	
CD		867.04	1237.77	935.35	710.06				849.65			531.19	
CV%		14.27	23.7	12.83	10.62				12.38			7.88	
D/S		21-07-2020	22-07-2020	22-07-2020					27-07-2020				
D/P		08-08-2020	13-08-2020	06-08-2020					12-08-2020				
Local Check Name		Jaldubi	Jaldubi	Karma mahsuri					Sakoli-8				

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Table No. 1.47 contd.: Grain Yield (Kg/ha) of entries in AVT 1 - LATE (Zone –V & VI), Kharif 2020

Entry No.	IET No.	ZONE VI							Overall (5)		
		MA2 (1)		MA(2)			GU(1)	Zone VI (3)		Mean	
		KJT		Mean			NVS	Mean			
4301	28519	4203		3476			4448	4326	3333		
4302	28501	4842		4826	7 #	28%	4559	4701	5036	5 8%	
4303	28509	3931		4509	#	19%	4469	4200	4525		
4304	28515	3803		3479				3803	4083		
4305	28548	4064		3592			3384	3724	2784		
4306	28538	5431	1 #	5497	2 *	16% # 46%	4824	5128	8 5275	3 * 13% # 13%	
4307	Swarna (NC)	5197	4	4510			5209	5203	6 4652	10	
4308	28507	4331		3411			4960	4646	3875		
4309	28536	3897		3612			4546	4222	3553		
4310	28500	4869	10	3610			4749	4809	4622		
4311	28535	4875	9	4914	6 #	30%	4043	4459	5204	4 * 12% # 11%	
4312	28513	3847		4384	#	16%	5146	4497	4464		
4313	27637	4597		3826			4728	4663	4053		
4314	Zonal Check (ZC)	4931	7	4609			5889	5	5410	3 4589	
4315	28502	3942		3513			5958	4	4950	10 4379	
4316	28551	5125	5 #	3724			5717	6	5421	2 4232	
4317	28497	5258	3 #	5347	3 *	13% # 42%	6011	1	5635	1 5321 2 * 14% # 14%	
4318	PA 6444 (HC)	4431		3777			5963	3	5197	7 4685 8	
4319	28544	4931	7	4824	8 #	28%	5607	7	5269	5 5004 6 8%	
4320	27632	3292		4389	#	16%	6010	2	4651	4243	
4321	28549	4597		4998	4	6% # 32%	4946		4772	4274	
4322	28508	5042	6	5668	1 *	20% # 50%	5512	8	5277	4 5538 1 * 19% # 18%	
4323	28527	4497		4640	#	23%	5048		4773	4057	
4324	28510	3875		4453	#	18%	5449	9	4662	4806 7	
4325	Local Check (LC)	4208		4733	9		5312	10	4760	4481	
4326	28805	4208		3869			2991		3600	3385	
4327	28804	3764		3661			4022		3893	3468	
4328	28784	4803		4686	10 #	24%	4478		4641	4229	
4329	29207	5292	2 #	4921	5 #	30%	4899		5096	9 4661 9	
4330	Improved Samba Mahsuri (RP)	4042		4603	#	22%	4782		4412	4199	
<b>Exp. Mean</b>		<b>4471</b>		<b>4335</b>			<b>4954</b>		<b>4693</b>	<b>4367</b>	
CD		632.95		537.92			988.28		561.24	392.56	
CV%		8.66		7.59			12.2		7.32	5.5	
D/S		25-07-2020						21-07-2020			
D/P		24-08-2020						19-08-2020			
Local Check Name		Karjat-2						Mashuri			

Table No. 1.47 contd.: Grain Yield (Kg/ha) of entries in AVT 1 - LATE (Zone –VII), Kharif 2020

Entry No.	IET No.	ZONE VII										TE (1)		
		MTU		RGL			BPT		NLR		AP (4)		WGL	
				AP					Mean					
4301	28519	3617		6655		5031		4352	6 #	4914		4535	#	19%
4302	28501	5921		6440		4593		3285		5060		3220		
4303	28509	4991	5	6528		5210	7	3909	#	5160		5760	7	# 51%
4304	28515	3626		6595				4005	10 #	4742		4308	13%	
4305	28548	3532		3821		4573		4193	9 #	4030		3175		
4306	28538	3987		7274	10	5133		3389		4946		6576	3	# 73%
4307	Swarna (NC)	4779		6984		5205	8	3577		5136		3900		
4308	28507	4740		6060		5279	5	3463		4886		4717	#	24%
4309	28536	4861		6028		4924		3920	#	4933		5351	9	# 40%
4310	28500	6012		5496		5154	10	5072	1 * #	5434	7	2857		
4311	28535	5255	2	7278	9	3657		3887	#	5019		3492		
4312	28513	4742		7579	6	5770	1	4972	2 * #	5766	1 #	6032	5	# 58%
4313	27637	4890		6901		4754		3614		5040		6485	4	# 70%
4314	Zonal Check (ZC)	6003		7964	1	5203	9	3695		5716	2 #	4717	#	24%
4315	28502	6065	3	6393		5426	4	3562		5362	10	7075	1	9% # 86%
4316	28551	5747	1	6266		5023		3957	#	5248		5578	8	# 46%
4317	28497	5818	8	7841	2	4276		3832	#	5442	6	3900		
4318	PA 6444 (HC)	5744	6	7579	6	4903		3075		5325		3810		
4319	28544	4550	9	7841	2	4890		4234	8 #	5379	8	3991		
4320	27632	5936		7579	6	4489		4249	7 #	5563	4			
4321	28549	5273	4	7623	4	5054		4799	3 * #	5687	3	5261	#	38%
4322	28508	5816		6790		4051		4533	4 * #	5298		4853	#	27%
4323	28527	5160	7	7317	8	4496		4481	5 * #	5364	9	3673		
4324	28510	5345		7056		5703	2	3702		5452	5	5351	9	# 40%
4325	Local Check (LC)	4718	10	6790		5483	3	3714		5176		5986	6	# 57%
4326	28805	4398		4770		3446		3156		3943		2948		
4327	28804	3632		5294		4242		2972		4035		3084		
4328	28784	3315		4111		3923		2994		3586		3265		
4329	29207	3274		5817		3736		3031		3965		2721		
4330	Improved Samba Mahsuri (RP)	3584		3980		4022		2931		3629		3175		
4331	28014	3909		4802		5231	6	3451		4348		3855		
4332	28801	3358		4893		3066		3226		3636		3447		
4333	29208	3220		5476		4580		3175		4113		4490	18%	
4334	29209	4046		4635		3793		3765		4060				
4335	29210											6848	2 *	14% # 80%
4336	Samba Mahsuri (RP)	3603		5294		3920		3130		3987		2630		
<b>Exp. Mean</b>		<b>4670</b>		<b>6279</b>		<b>4654</b>		<b>3752</b>		<b>4639</b>		<b>4443</b>		
CD		577.82		592.7		890.29		713.7		387.16		721.31		
CV%		7.59		5.79		11.73		11.68		4.91		9.96		
D/S		20-07-2020		20-07-2020		01-08-2020		17-09-2020				18-07-2020		
D/P		16-08-2020		19-08-2020		04-09-2020		06-10-2020				24-08-2020		
Local Check Name		MTU 1061		RGL 11414		BPT 2782						WGL-44		



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Table No. 1.47 contd.: Grain Yield (Kg/ha) of entries in AVT 1 - LATE (Zone –VII), Kharif 2020

Entry No.	IET No.	ZONE VII					
		TN			TN (2)	KE (1)	
		ADT		CBT	Mean		MNC
4301	28519	5972		5476	5724	7503	29%
4302	28501	5528		5863	5696	6279	
4303	28509	6611	6	6036	6324	7941	10 # 36%
4304	28515			6116	6116		
4305	28548	7444	1 #	6573	7009	6178	
4306	28538	5556		8194	6875	9203	2 # 58%
4307	Swarna (NC)	6028		6149	6089	6203	
4308	28507	6889	3	6979	6934	6992	20%
4309	28536	6417	9	7215	6816	8266	8 # 42%
4310	28500	6806	5	7793	7300	5898	
4311	28535	6111		5705	5908	4708	
4312	28513	7000	2 #	8227	7614	7834	# 34%
4313	27637	6167		8410	7289	9848	1 # 69%
4314	Zonal Check (ZC)	6861	4	7604	7233	8945	
4315	28502	6250		4401	5326	5690	
4316	28551	5306		6229	5768	8479	6 # 45%
4317	28497	5278		8214	6746	8664	5 # 48%
4318	PA 6444 (HC)	6167		6795	6481	5836	
4319	28544	6333		6517	6425	5084	
4320	27632	6250		9092	7671	8670	4 # 49%
4321	28549	6250		7401	6826	8131	9 # 39%
4322	28508	6556	7	5767	6162	3827	
4323	28527	6000		7655	6828	8440	7 # 45%
4324	28510	6556	7	6990	6773	6992	20%
4325	Local Check (LC)	5361		9151	7256	5342	
4326	28805	5472		3568	4520	4259	
4327	28804	6250		6019	6135	4383	
4328	28784	5639		5038	5339	3305	
4329	29207	5222		4656	4939	4966	
4330	Improved Samba Mahsuri (RP)	6417	9	6392	6405	4265	
4331	28014	5778		6936	6357	5859	
4332	28801	5528		6668	6098	3120	
4333	29208	5639		6028	5834	6313	
4334	29209			8082	7	8082	1 11% # 25%
4335	29210	5917			5917		
4336	Samba Mahsuri (RP)	5667		6158	5913	5685	
<b>Exp. Mean</b>		<b>6095</b>		<b>6689</b>	<b>6409</b>	<b>6380</b>	
CD		831		1628.97	1031.23	1899.76	
CV%		8.36		14.95	9.88	18.27	
D/S		08-08-2020		12-08-2020		30-09-2020	
D/P		10-09-2020		15-09-2020		15-10-2020	
Local Check Name		ADT 51		CR 1009 Sub 1		Uma	

Table No. 1.47 contd.: Grain Yield (Kg/ha) of entries in AVT 1 - LATE (Zone –VII), Kharif 2020

Entry No.	IET No.	ZONE VII									
		KA				KA (2)	PUD		Zone VII (10)		
		GNV	SRS	5 #	@PNP	Mean		@KPK	Mean		
4301	28519	6362		4439	5 #	3219	5401	6911	5394		
4302	28501	7115	10	3906	8	2441	5511	4182	5215		
4303	28509	8388	4 #	3778		4025	5	6083	3	# 21%	
4304	28515	6349		2656		4130	4	4503	3744	4808	
4305	28548	5715		3067		2269	4391	6944	4827		
4306	28538	9157	1 #	5039	1 #	2679	7098	1* 20% # 41%	6269	6351 3 # 18%	
4307	Swarna (NC)	6022		2878		2457	4450	6940	5173		
4308	28507	5385		3217		2577	4301	8240	8	5372	
4309	28536	6926		3478		3160	5202	7558	9	5739	
4310	28500	6561		3633		1321	5097	6900		5528	
4311	28535	6718		2756		3944	6	4737	7156	10 4957	
4312	28513	7724	6	3161		3605	8	5443	8364	7 6304 4 # 17%	
4313	27637	7119	9	4739	2 #	713	5929	5	18%	8829 4 6293 5 # 17%	
4314	Zonal Check (ZC)	8122	5	3583		3438	5853	6	7000	6270 6	
4315	28502	6782		2867		3932	7	4825	8944	3 5451	
4316	28551	8564	3 #	4056	7	4191	2	6310	2	6% # 25%	
4317	28497	6407		4533	3 #	3330	5470	10	5044	5876 #	
4318	PA 6444 (HC)	6667		3417		4139	3	5042	6851	5399	
4319	28544	7388	7	3550		4315	1	5469	6762	5438	
4320	27632	7244	8	4444	4 #	3225	5844	7	16%	6511 6439 1 # 19%	
4321	28549	5833		3894	9	2377	4864	4467	5952	8 # 10%	
4322	28508	6090		3883	10	3478	10	4987	4400	5217	
4323	28527	5702		3122		2398	4412	5022	5605		
4324	28510	8808	2 #	3078		2506	5943	4	# 18%	7000 5958 7 # 10%	
4325	Local Check (LC)	6923		4167	6	3059	5545	8	6951	5764	
4326	28805	3372		2289		2003	2831	6800		3768	
4327	28804	4487		2828		3281	3658	6467		4319	
4328	28784	6026		2667		2457	4347	6767		4028	
4329	29207	5769		3044		3275	4407	8367	6	4224	
4330	Improved Samba Mahsuri (RP)	5000		2406		1796	3703	9142	1	4217	
4331	28014	5106		2156		1457	3631	8433	5	4708	
4332	28801	6154		1722		2512	3938	5111		4118	
4333	29208	6734		2444		2531	4589	5244		4810	
4334	29209	5766		2878		2676	4322	4531		4597	
4335	29210							7078	6383	2 # 18%	
4336	Samba Mahsuri (RP)	6179		2533		3543	9	4356	5000	4480	
<b>Exp. Mean</b>		<b>6533</b>		<b>3323</b>		<b>2927</b>	<b>4928</b>	<b>6590</b>	<b>5326</b>		
CD		890.24		1101.37		717.28	898.38	107.82		384.28	
CV%		6.7		16.3		12.05	11.19	1.00		4.43	
D/S		29-07-2020		21-07-2020		08-08-2020		20-08-2020			
D/P		22-08-2020		10-08-2020		08-09-2020		20-09-2020			
Local Check Name		BPT-5204		Tunga				Savithri (CR 1009)			

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**Table No 1.48: Days to 50% flowering of entries in AVT 1-L (Zone -III), Kharif 2020**

Entry No	IET No.	ZONE III					
		OD			OD (3)	BI (1)	Zone III (4)
		CTK	JYP	RNT	Mean	BKG	Mean
4301	28519	131	123	122	125	125	125
4302	28501	116	112	113	113	105	111
4303	28509	126	123	123	124	117	122
4304	28515	116	117	117	117	117	117
4305	28548	124	117	117	119	113	118
4306	28538	131	120	119	123	123	123
4307	Swarna (NC)	130	116	116	120	109	118
4308	28507	130	102	101	111	105	110
4309	28536	130	101	101	111	112	111
4310	28500	118	103	103	108	95	105
4311	28535	114	107	106	109	95	106
4312	28513	129	126	124	126	111	123
4313	27637	131	102	102	111	107	110
4314	Zonal Check (ZC)	112	108	109	110		110
4315	28502	113	128	126	122	107	119
4316	28551	129	125	125	126	114	123
4317	28497	129	107	108	115	101	111
4318	PA 6444 (HC)	117	112	111	113	92	108
4319	28544	116	124	123	121	118	120
4320	27632	130	128	126	128	122	126
4321	28549	128	118	117	121	122	121
4322	28508	115	116	116	116	119	116
4323	28527	129	111	111	117	121	118
4324	28510	112	127	125	121	97	115
4325	Local Check (LC)	124	118	118	120	97	114
4326	28805	128	101	103	111	96	107
4327	28804	128	106	106	113	92	108
4328	28784	114	116	114	115	94	110
4329	29207	115	105	105	108	95	105
4330	Improved Samba Mahsuri (RP)	120	106	106	111	95	107
4337	28794	129	111	111	117	97	112
4338	Rajendra Mahsuri (RP)	113	126	125	121	98	115
Exp. Mean		123	114	114	117	106	114
SEM		1.03	0.70	0.74	0.53	0.87	0.46

**Table No 1.48 contd.: Days to 50% flowering of entries in AVT 1-L (Zone -IV), Kharif 2020**

Entry No	IET No.	ZONE IV
		AS
		@TTB
4301	28519	
4302	28501	103
4303	28509	
4304	28515	98
4305	28548	
4306	28538	
4307	Swarna (NC)	113
4308	28507	
4309	28536	
4310	28500	
4311	28535	103
4312	28513	
4313	27637	
4314	Zonal Check (ZC)	
4315	28502	99
4316	28551	
4317	28497	108
4318	PA 6444 (HC)	93
4319	28544	
4320	27632	
4321	28549	
4322	28508	104
4323	28527	
4324	28510	97
4325	Local Check (LC)	
Exp. Mean		102

**Table No 1.48 contd.: Days to 50% flowering of entries in AVT 1-L (Zone -V & VI), Kharif 2020**

Entry No.	IET No.	ZONE V					ZONE VI					Overall (5)	
		CH		CH (2)	MA1 (1)	Zone V (3)	MA2 (1)	MA (2)	GU (1)	Zone VI (2)			
		RPR	@JDP	BLP	Mean	SKL	Mean	KJT	Mean	NVS	Mean		
4301	28519		129	124	124	122	123	115	119	105	110	117	
4302	28501	96	117	99	98	104	100	104	104	93	99	99	
4303	28509	112	114	117	115	112	114	115	114	105	110	112	
4304	28515	99	128		99	98	98	122	110		122	106	
4305	28548	123	115	114	119	120	119	122	121	106	114	117	
4306	28538	116	130	118	117	117	117	118	118	110	114	116	
4307	Swarna (NC)	101	112	100	100	105	102	103	104	100	102	102	
4308	28507	107	101	107	107	107	107	112	109	98	105	106	
4309	28536	108	126	111	110	108	109	115	112	98	107	108	
4310	28500	99	132	98	99	98	98	119	108	95	107	102	
4311	28535		128	96	96	98	97	100	99	93	97	97	
4312	28513		113	114	114	121	118	121	121	104	113	115	
4313	27637		130	114	114	99	107	114	107	105	110	108	
4314	Zonal Check (ZC)		116	105	105	98	102	119	109	98	109	105	
4315	28502	102	118	100	101	110	104	110	110	94	102	103	
4316	28551	120	112	118	119	108	115	119	114	99	109	113	
4317	28497	100	130	99	100	88	96	113	101	94	104	99	
4318	PA 6444 (HC)	84	114	85	85	100	90	102	101	83	93	91	
4319	28544	101	113	111	106	103	105	113	108	95	104	105	
4320	27632	117	111	117	117	116	117	122	119	104	113	115	
4321	28549	119	115	119	119	112	117	116	114	109	113	115	
4322	28508	103	113	98	100	99	100	113	106	98	106	102	
4323	28527	122	121	118	120	113	118	121	117	110	116	117	
4324	28510	97	121	99	98	89	95	100	95	85	93	94	
4325	Local Check (LC)	84	121	91	88	98	91	111	105	98	105	96	
4326	28805	99	129	99	99	97	98	113	105	90	102	100	
4327	28804	100	114	93	97	97	97	98	98	84	91	95	
4328	28784	94	126		94	96	95	110	103	88	99	97	
4329	29207	90	115	90	90	95	92	97	96	85	91	91	
4330	Improved Samba Mahsuri (RP)	83	118	85	84	89	86	100	94	81	91	88	
Exp. Mean		103	119	104	104	103	104	112	108	97	105	104	
SEM		0.85				1.09	0.64	0.88	0.77	0.58	0.18	0.44	0.56

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Table No 1.48 contd.: Days to 50% flowering of entries in AVT 1-L (Zone –VII), Kharif 2020

Entry No.	IET No.	ZONE VII															
		AP				AP (4)	TE (1)	TN		TN (2)	KE (1)	KA			KA (2)	PUD	Zone VII (10)
		MTU	RGL	BPT	NLR	Mean	WGL	ADT	CBT	Mean	MNC	GNV	SRS	@PNP	Mean	@KRK	Mean
4301	28519	119	118	99	106	111	124	129	117	123	105	105	117	127	111	89	114
4302	28501	91	97	107	105	100	100	118	107	113	96	99	106	110	102	86	103
4303	28509	115	112	105	108	110	124	130	112	121	104	113	107	120	110	86	113
4304	28515	99	102		103	101	107		104	104		111	95	108	103	85	103
4305	28548	115	115	112	108	113	122	126	125	126	107	121	115	130	118	85	117
4306	28538	118	119	107	110	113	123	129	118	123	116	121	119	135	120	80	118
4307	Swarna (NC)	110	104	103	104	105	118	126	116	121	97	113	112	122	113	85	110
4308	28507	111	106	112	113	111	120	114	108	111	103	114	112	122	113	86	111
4309	28536	112	112	106	112	111	120	129	107	118	97	111	105	120	108	82	111
4310	28500	106	102	108	113	107	104	116	122	119	96	103	101	118	102	87	107
4311	28535	98	102	104	107	103	106	124	101	113	96	113	98	113	105	86	105
4312	28513	115	111	105	113	111	123	124	112	118	103	117	112	125	114	85	113
4313	27637	104	112	110	112	109	116	118	118	117	111	121	115	139	118	85	113
4314	Zonal Check (ZC)	104	104	106	106	105	113	112	101	107	96	112	100	117	106	86	105
4315	28502	107	104	111	109	108	116	130	98	114	96	110	97	111	103	84	108
4316	28551	116	118	106	113	113	123	115	107	111	103	114	106	121	110	86	112
4317	28497	105	104	107	107	106	112	108	107	107	97	109	107	123	108	83	106
4318	PA 6444 (HC)	92	89	109	106	99	96	130	93	111	95	89	90	107	89	80	99
4319	28544	105	103	112	111	108	117	126	102	114	96	104	99	112	102	78	108
4320	27632	116	112	111	104	111		121	110	115	103	122	113	125	117	85	112
4321	28549	115	119	115	107	114	124	127	108	118	103	115	112	127	113	87	114
4322	28508	106	102	102	110	105	115	126	110	118	97	111	112	123	111	86	109
4323	28527	115	117	106	113	113	124	114	108	111	104	113	107	127	110	83	112
4324	28510	95	91	99	102	97	108	129	95	112	96	104	98	109	101	87	102
4325	Local Check (LC)	112	109	109	124	114	114	116	117	117	94	106	110	133	108	81	111
4326	28805	100	97	100	107	101	101	114	103	109	96	101	100	119	100	84	102
4327	28804	88	91	100	102	95	93	117	103	110	96	95	100	118	97	87	98
4328	28784	92	97	96	108	98	103	110	102	106	95	98	99	110	99	86	100
4329	29207	89	97	97	103	97	89	115	93	104	96	95	95	109	95	85	97
4330	Improved Samba Mahsuri (RP)	89	89	97	110	96	88	114	90	102	96	84	97	107	90	85	95
4331	28014	111	102	108	115	109	110	116	106	111	103	113	113	132	113	82	110
4332	28801	111	91	97	104	101	95	114	93	104	95	97	93	108	95	80	99
4333	29208	100	97	95	105	99	101	111	106	109	96	98	104	120	101	79	101
4334	29209	89	93	97	107	97			95	95	95	94	92	107	93	86	95
4335	29210						96	115		115						87	106
4336	Samba Mahsuri (RP)	99	102	99	100	100	104	122	103	113	96	99	104	114	101	89	103
Exp. Mean		105	104	105	108	105	110	120	106	113	99	107	104	119	106	84	107
SEM		0.53	0.21	0.69	1.44	0.48	0.85	0.76	0.58	0.48	0.29	1.63	1.67	0.30	1.21	0.34	0.41

Table No 1.49: Plant Height (cm) of entries in AVT 1 – Late (Zone III), Kharif 2020

Entry No	IET No.	ZONE III					
		OD		OD (3)	BI (1)	Zonal (4)	
		CTK	JYP	RNT	Mean	BKG	Mean
4301	28519	71.00	72.80	74.31	72.70	84.67	75.70
4302	28501	77.00	75.60	76.34	76.30	88.33	79.32
4303	28509	68.00	66.87	68.23	67.43	80.00	70.78
4304	28515	80.00	58.53	65.30	69.27	76.67	70.13
4305	28548	80.00	85.47	89.27	82.73	73.67	82.10
4306	28538	78.00	61.27	64.63	69.63	88.67	73.14
4307	Swarna (NC)	64.00	75.67	78.73	69.83	73.00	72.85
4308	28507	82.00	66.27	67.13	74.13	98.67	78.52
4309	28536	74.00	80.60	82.40	77.30	83.00	80.00
4310	28500	75.00	80.40	84.57	77.70	100.00	84.99
4311	28535	79.00	78.40	81.48	78.70	101.33	85.05
4312	28513	89.00	80.13	81.14	84.57	79.67	82.49
4313	27637	81.00	61.80	66.67	71.40	81.67	72.78
4314	Zonal Check (ZC)	71.00	83.13	84.85	77.07	94.00	83.25
4315	28502	72.00	68.17	70.62	70.08	94.67	76.36
4316	28551	66.00	70.33	70.58	68.17	83.00	72.48
4317	28497	63.00	91.27	94.78	77.13	94.33	85.85
4318	PA 6444 (HC)	72.00	64.83	65.15	68.42	93.67	73.91
4319	28544	83.00	75.13	77.31	79.07	86.00	80.36
4320	27632	74.00	57.40	67.28	65.70	75.00	68.42
4321	28549	72.00	74.07	75.40	73.03	63.00	71.12
4322	28508	67.00	73.53	73.95	70.27	79.33	73.45
4323	28527	75.00	90.63	93.35	82.82	63.67	80.66
4324	28510	82.00	61.90	64.74	71.95	100.00	77.16
4325	Local Check (LC)	90.00	87.07	91.54	88.53	90.00	89.65
4326	28805	60.00	60.47	67.90	60.23	73.67	65.51
4327	28804	64.00	76.47	79.25	70.23	81.67	75.35
4328	28784	72.00	55.73	65.97	63.87	85.00	69.68
4329	29207	69.00	65.40	70.17	67.20	85.33	72.48
4330	Improved Samba Mahsuri (RP)	69.00	77.20	82.12	73.10	83.67	78.00
4337	28794	72.00	82.63	84.78	77.32	79.67	79.77
4338	Rajendra Mahsuri (RP)	72.00	92.20	93.53	82.10	92.33	87.52
Exp. Mean		73.84	73.48	76.67	73.69	84.60	77.15

Table No 1.49 contd.: Plant Height (cm) of entries in AVT 1 – Late (Zone IV), Kharif 2020

Entry No	IET No.	ZONE IV	
		AS	@TTB
		4301	28519
4302	28501		74
4303	28509		
4304	28515		82
4305	28548		
4306	28538		
4307	Swarna (NC)		68
4308	28507		
4309	28536		
4310	28500		
4311	28535		86
4312	28513		
4313	27637		
4314	Zonal Check (ZC)		
4315	28502		80
4316	28551		
4317	28497		79
4318	PA 6444 (HC)		82
4319	28544		
4320	27632		
4321	28549		
4322	28508		75
4323	28527		
4324	28510		96
4325	Local Check (LC)		
Exp. Mean			80

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Table No 1.49 contd.: Plant Height (cm) of entries in AVT 1 – Late (Zone V &amp; VI), Kharif 2020

Entry No.	IET No.	ZONE V						ZONE VI				Ovearl (5) Mean
		CH			CH (2) Mean	MA1 (1) SKL	Zone V (3) Mean	MA2 (1) KJT	MA(1) Mean	GU (1) NVS	Zone VI (2) Mean	
		RPR	@JDP	BLP								
4301	28519		81.07	88.00	88.00	74.00	81.00	97.00	85.50	116.40	106.70	93.85
4302	28501	105.17	80.93	94.00	99.59	88.00	95.72	85.00	86.50	99.20	92.10	94.27
4303	28509	93.55	83.53	91.00	92.28	73.00	85.85	83.33	78.17	113.50	98.42	90.88
4304	28515	113.01	80.20		113.01	92.00	102.51	96.33	94.17		96.33	100.45
4305	28548	97.55	60.93	80.00	88.77	75.00	84.18	103.50	89.25	123.50	113.50	95.91
4306	28538	115.29	60.40	114.00	114.65	99.00	109.43	117.00	108.00	92.60	104.80	107.58
4307	Swama (NC)	89.95	62.30	87.00	88.47	60.00	78.98	95.67	77.83	106.70	101.18	87.86
4308	28507	102.68	76.47	109.00	105.84	84.00	98.56	102.33	93.17	104.90	103.62	100.58
4309	28536	103.93	75.07	85.00	94.47	73.00	87.31	109.00	91.00	112.70	110.85	96.73
4310	28500	116.21	64.13	108.00	112.11	85.00	103.07	90.00	87.50	118.40	104.20	103.52
4311	28535		60.40	109.00	109.00	94.00	101.50	102.33	98.17	109.70	106.02	103.76
4312	28513		63.60	92.00	92.00	85.00	88.50	95.33	90.17	105.80	100.57	94.53
4313	27637		42.33	99.00	99.00	85.00	92.00	103.50	94.25	115.50	109.50	100.75
4314	Zonal Check (ZC)		62.40	89.00	89.00	85.00	87.00	105.33	95.17	103.70	104.52	95.76
4315	28502	105.49	92.47	95.00	100.25	96.00	98.83	89.67	92.83	95.40	92.53	96.31
4316	28551	95.05	61.73	87.00	91.02	80.00	87.35	90.33	85.17	104.10	97.22	91.30
4317	28497	93.96	67.13	99.00	96.48	78.00	90.32	93.67	85.83	101.70	97.68	93.27
4318	PA 6444 (HC)	118.23	64.40	113.00	115.62	98.00	109.74	103.33	100.67	116.70	110.02	109.85
4319	28544	101.14	63.67	86.00	93.57	90.00	92.38	99.33	94.67	110.10	104.72	97.31
4320	27632	112.26	61.40	99.00	105.63	94.00	101.75	97.50	95.75	113.60	105.55	103.27
4321	28549	92.67	67.47	90.00	91.34	88.00	90.22	90.67	89.33	99.90	95.28	92.25
4322	28508	105.39	65.20	95.00	100.19	95.00	98.46	85.67	90.33	111.50	98.58	98.51
4323	28527	96.01	68.00	87.00	91.51	77.00	86.67	81.33	79.17	98.50	89.92	87.97
4324	28510	132.13	87.33	116.00	124.06	113.00	120.38	98.67	105.83	131.40	115.03	118.24
4325	Local Check (LC)	184.17	70.93	100.00	142.08	83.00	122.39	87.00	85.00	151.30	119.15	121.09
4326	28805	94.58	66.33	84.00	89.29	78.00	85.53	81.00	79.50	93.90	87.45	86.30
4327	28804	94.96	64.40	92.00	93.48	65.00	83.99	86.33	75.67	101.00	93.67	87.86
4328	28784	106.28	70.73		106.28	84.00	95.14	89.67	86.83	112.30	100.98	98.06
4329	29207	96.24	76.47	93.00	94.62	77.00	88.75	86.33	81.67	111.50	98.92	92.81
4330	Improved Samba Mahsuri (RP)	88.73	65.47	92.00	90.36	84.00	88.24	85.67	84.83	92.20	88.93	88.52
Exp. Mean		106.19	68.48	95.74	100.83	84.76	94.53	94.30	89.53	108.98	101.60	97.78

Table No 1.49 contd.: Plant Height (cm) of entries in AVT 1 – Late (Zone VII), Kharif 2020

Entry No.	IET No.	ZONE VII																
		AP				AP (4) Mean	TE (1) WGL	TN			TN (2) Mean	KE (1) MNC	KA			KA (2) Mean	PUD @KMK	Zone VII (10) Mean
		MTU	RGL	BPT	NLR			ADT	CBT	GNV			SRS	@PNP				
4301	28519	117.60	114.00	143.00	89.93	116.13	97.60	112.73	96.00	104.37	127.13	103.50	86.30	65.50	94.90	130.50	108.78	
4302	28501	109.00	101.00	126.00	75.33	102.83	78.21	105.30	85.33	95.32	109.80	93.50	90.20	68.38	91.85	118.00	97.37	
4303	28509	116.30	95.00	126.00	90.47	106.94	95.13	121.33	57.73	89.53	119.27	94.00	91.20	69.38	92.60	126.50	100.64	
4304	28515	118.00	107.00		65.93	96.98	100.53		97.33	97.33		111.00	96.20	82.00	103.60	118.50	99.43	
4305	28548	106.60	111.00	115.00	95.67	107.07	94.00	106.43	87.67	97.05	119.60	103.50	78.10	64.50	90.80	112.00	101.76	
4306	28538	129.40	120.00	153.00	102.40	126.20	116.67	135.30	115.67	125.48	135.20	138.00	111.60	83.38	124.80	139.00	125.72	
4307	Swama (NC)	102.10	91.00	112.00	80.60	96.43	76.93	95.50	81.80	88.65	111.23	72.00	80.80	64.25	76.40	102.50	90.40	
4308	28507	129.20	81.00	147.00	93.07	112.57	99.47	113.43	98.53	105.98	117.63	104.50	98.20	72.13	101.35	117.50	108.20	
4309	28536	109.60	94.00	107.00	95.40	101.50	93.20	110.37	94.00	102.18	117.00	98.50	88.30	75.50	93.40	116.00	100.74	
4310	28500	104.80	105.00	122.00	82.67	103.62	97.80	100.37	84.07	92.22	92.43	103.50	101.40	73.38	102.45	108.00	99.40	
4311	28535	119.70	106.00	120.00	94.33	110.01	112.13	114.47	99.00	106.73	116.23	106.50	103.60	75.63	105.05	123.50	109.20	
4312	28513	119.80	104.00	116.00	100.33	110.03	105.07	123.60	97.27	110.43	119.10	102.50	94.30	76.00	98.40	130.50	108.20	
4313	27637	128.90	115.00	121.00	99.27	116.04	109.93	112.63	100.33	106.48	154.43	122.00	97.30	69.63	109.65	133.00	116.08	
4314	Zonal Check (ZC)	113.40	105.00	130.00	91.73	110.03	109.13	116.27	90.41	103.34	114.03	106.00	95.20	70.50	100.60	123.50	107.12	
4315	28502	116.50	97.00	129.00	81.60	106.03	93.00	108.63	82.40	95.52	97.60	99.50	88.60	62.75	94.05	131.00	99.38	
4316	28551	113.00	92.00	134.00	86.60	106.40	95.47	104.55	87.40	95.98	121.97	94.50	92.10	65.38	93.30	110.00	102.16	
4317	28497	104.60	101.00	120.00	84.53	102.53	81.83	99.83	86.53	93.18	109.00	95.50	90.00	65.63	92.75	103.00	97.28	
4318	PA 6444 (HC)	109.40	105.00	116.00	82.80	103.30	84.27	81.50	92.33	86.92	99.37	99.50	95.50	71.63	97.50	107.00	96.57	
4319	28544	119.50	101.00	117.00	87.20	106.18	89.80	118.37	91.07	104.72	104.93	103.00	91.00	69.25	97.00	116.50	102.29	
4320	27632	126.00	97.00	123.00	91.73	109.43		100.63	94.47	97.55	123.80	99.50	83.90	72.88	91.70	136.00	104.45	
4321	28549	110.20	97.00	124.00	86.53	104.43	83.73	110.60	84.80	97.70	111.00	87.00	82.30	66.13	84.65	126.00	97.72	
4322	28508	112.00	97.00	95.00	84.93	97.23	80.07	101.47	83.20	92.33	107.53	89.50	83.20	66.38	86.35	124.00	93.39	
4323	28527	111.60	91.00	108.00	87.07	99.42	90.53	131.33	90.40	110.87	110.20	89.00	81.00	63.13	85.00	113.00	99.01	
4324	28510	135.60	121.00	146.00	97.40	125.00	113.07	116.40	106.53	111.47	126.23	123.50	112.40	76.88	117.95	125.00	119.81	
4325	Local Check (LC)	110.70	100.00	115.00	106.47	108.04	98.40	90.17	96.87	93.52	102.04	94.00	100.80	77.38	97.40	120.00	101.44	
4326	28805	91.20	92.00	105.00	76.27	91.12	78.00	87.20	79.07	83.13	101.60	82.00	78.60	61.50	80.40	109.00	87.11	
4327	28804	96.80	89.00	115.00	76.67	94.37	84.40	89.87	84.27	87.07	103.70	89.50	87.20	63.88	88.35	106.50	91.64	
4328	28784	103.20	93.00	111.00	81.47	97.17	96.67	93.77	87.07	90.42	102.33	98.50	85.90	62.75	92.20	110.00	95.29	
4329	29207	98.80	86.00	89.00	73.47	86.82	85.33	93.63	78.07	85.85	97.13	85.00	79.50	60.25	82.25	105.00	86.59	
4330	Improved Samba Mahsuri (RP)	93.90	80.00	103.00	71.40	87.08	86.33	101.97	75.67	88.82	96.30	82.50	73.90	62.88	78.20	117.50	86.50	
4331	28014	104.20	89.00	116.00	81.87	97.77	86.53	88.40	83.20	85.80	114.40	91.50	79.90	56.75	85.70	106.50	93.50	
4332	28801	101.10	84.00	96.00	75.60	89.18	87.33	91.50	82.73	87.12	90.23	93.00	80.70	56.88	86.85	102.50	88.22	
4333	29208	99.10	94.00	114.00	74.13	95.31	86.80	104.37	77.47	90.92	107.20	89.00	76.90	55.75	82.95	113.00	92.30	
4334	29209	114.10	106.00	100.00	88.00	102.03			97.07	97.07	112.07	104.50	95.70	69.38	100.10	115.00	102.18	
4335	29210					107.07	90.53		90.53							108.00	98.80	
4336	Samba Mahsuri (RP)	92.80	81.00	78.00	74.87	81.67	69.60	122.83	80.13	101.48	101.27	83.50	76.60	59.63	80.05	103.50	86.06	
Exp. Mean		111.11	98.34	117.41	85.94	103.05	93.06	105.74	88.74	97.03	111.56	98.07	89.39	67.92	93.73	114.24	99.85	

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**Table No. 1.50: Panicles/M<sup>2</sup> of entries in AVT 1 - Late (Zone III), Kharif 2020**

Entry No	IET No.	ZONE III					
		OD			BI (1)	Zone (4)	
		CTK	JYP	RNT	Mean	BKG	Mean
4301	28519	255	270	285	270	217	257
4302	28501	244	389	345	326	258	309
4303	28509	231	313	267	270	214	256
4304	28515	235	358	270	288		288
4305	28548	275	356	257	296	224	278
4306	28538	253	325	273	284	247	275
4307	Swarna (NC)	235	355	257	282	240	272
4308	28507	282	351	273	302	250	289
4309	28536	207	382	301	297	254	286
4310	28500	185	396	335	305	263	295
4311	28535	179	327	278	262	243	257
4312	28513	283	347	270	300	249	287
4313	27637	251	276	298	275	256	270
4314	Zonal Check (ZC)	194	364	301	286		286
4315	28502	290	306	306	301	284	297
4316	28551	235	312	312	287	234	273
4317	28497	239	405	272	305	246	290
4318	PA 6444 (HC)	250	303	294	282	248	274
4319	28544	231	302	297	277	261	273
4320	27632	294	348	256	299	232	282
4321	28549	293	357	267	306	239	289
4322	28508	324	355	268	316	225	293
4323	28527	240	320	276	279	227	266
4324	28510	217	306	293	272	265	270
4325	Local Check (LC)	221	340	308	290	260	282
4326	28805	250	277	269	265	212	252
4327	28804	216	352	295	287	236	275
4328	28784	212	335	294	281	247	272
4329	29207	233	336	272	280	244	271
4330	Improved Samba Mahsuri (RP)	231	321	295	282	269	279
4337	28794	267	338	275	293	268	287
4338	Rajendra Mahsuri (RP)	204	329	275	269	258	267
<b>Exp. Mean</b>		<b>242</b>	<b>336</b>	<b>285</b>	<b>288</b>	<b>246</b>	<b>278</b>

**Table No.1.50 contd.: Panicles/M<sup>2</sup> of entries in AVT 1 - Late (Zone IV), Kharif 2020**

Entry No	IET No.	ZONE IV
		AS @TTB
4301	28519	
4302	28501	219
4303	28509	
4304	28515	194
4305	28548	
4306	28538	
4307	Swarna (NC)	237
4308	28507	
4309	28536	
4310	28500	
4311	28535	188
4312	28513	
4313	27637	
4314	Zonal Check (ZC)	
4315	28502	288
4316	28551	
4317	28497	249
4318	PA 6444 (HC)	198
4319	28544	
4320	27632	
4321	28549	
4322	28508	231
4323	28527	
4324	28510	232
4325	Local Check (LC)	
<b>Exp. Mean</b>		<b>226</b>

**Table No. 1.50 contd.: Panicles/M<sup>2</sup> of entries in AVT 1 - Late (Zone V & VI), Kharif 2020**

Entry No.	IET No.	ZONE V					ZONE VI				Overall (4)
		CH		CH (1)	MA1 (1)	Zone V (2)	MA2 (1)	MA (2)	GU (1)	Zone VI (2)	
		RPR	@JDP	Mean	SKL	Mean	KJT	Mean	NVS	Mean	Mean
4301	28519		155		142	142	257	199	267	262	222
4302	28501	164	230	164	175	170	202	188	240	221	195
4303	28509	200	171	200	194	197	225	209	280	252	225
4304	28515	189	191	189	148	168	202	175		101	179
4305	28548	191	110	191	152	171	202	177	230	216	193
4306	28538	184	251	184	186	185	257	222	229	243	214
4307	Swarna (NC)	186	172	186	144	165	217	180	267	242	203
4308	28507	217	117	217	167	192	221	194	229	225	208
4309	28536	173	258	173	276	224	246	261	239	242	233
4310	28500	179	158	179	193	186	256	224	226	241	213
4311	28535		184		209	209	209	209	269	239	229
4312	28513		157		172	172	223	197	256	239	217
4313	27637		232		168	168	192	180	238	215	199
4314	Zonal Check (ZC)		198		198	198	226	212	222	224	215
4315	28502	174	190	174	162	168	226	194	268	247	207
4316	28551	183	182	183	174	178	234	204	229	232	205
4317	28497	170	195	170	173	171	259	216	257	258	215
4318	PA 6444 (HC)	169	160	169	197	183	221	209	231	226	204
4319	28544	195	175	195	166	180	212	189	237	224	202
4320	27632	204	124	204	166	185	215	190	224	219	202
4321	28549	173	272	173	221	197	185	203	261	223	210
4322	28508	262	157	262	223	242	201	212	269	235	239
4323	28527	167	214	167	249	208	173	211	229	201	204
4324	28510	166	268	166	186	176	210	198	267	239	207
4325	Local Check (LC)	173	188	173	254	214	214	234	211	212	213
4326	28805	161	170	161	153	157	206	180	222	214	186
4327	28804	136	225	136	144	140	219	182	245	232	186
4328	28784	178	270	178	206	192	202	204	229	215	203
4329	29207	202	227	202	217	210	172	195	262	217	213
4330	Improved Samba Mahsuri (RP)	213	230	213	268	240	190	229	238	214	227
<b>Exp. Mean</b>		<b>184</b>	<b>195</b>	<b>184</b>	<b>191</b>	<b>186</b>	<b>214</b>	<b>203</b>	<b>243</b>	<b>226</b>	<b>209</b>

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Table No. 1.50 contd.: Panicles/M<sup>2</sup> of entries in AVT 1 - Late (Zone -VII), Kharif 2020

Entry No.	IET No.	ZONE VII															
		AP				AP (4)	TE (1)	TN		TN (2)	KE (1)	KA			KA (2)	PUD	Zone VII (10)
		MTU	RGL	BPT	NLR	Mean	WGL	ADT	CBT	Mean	MNC	GNV	SRS	@PNP	Mean	@KRK	Mean
4301	28519	337	232	253	504	331	432	370	302	336	329	428	360	330	394	434	355
4302	28501	312	245	273	344	294	441	326	295	311	360	424	327	248	375	336	335
4303	28509	301	244	231	498	318	431	366	312	339	318	400	350	358	375	528	345
4304	28515	323	282		504	370	431		271	271		345	363	259	354	292	360
4305	28548	299	263	247	478	322	446	285	395	340	407	421	363	347	392	403	360
4306	28538	286	303	285	438	328	425	385	293	339	591	414	366	242	390	312	379
4307	Swama (NC)	334	357	245	458	348	436	366	358	362	518	496	429	292	463	242	400
4308	28507	339	292	254	400	321	439	364	338	351	253	407	340	319	373	243	343
4309	28536	304	289	243	427	316	446	292	287	289	349	438	350	325	394	305	342
4310	28500	315	286	245	451	324	440	288	310	299	380	356	320	264	338	271	339
4311	28535	337	239	228	409	303	438	387	320	354	349	424	310	325	367	310	344
4312	28513	317	252	258	371	300	451	338	287	313	307	340	320	336	330	324	324
4313	27637	332	302	217	502	338	429	339	371	355	438	427	337	358	382	225	369
4314	Zonal Check (ZC)	301	318	205	344	292	435	289	265	277	362	356	327	308	341	367	320
4315	28502	337	326	231	424	330	441	309	273	291	351	390	327	363	358	426	341
4316	28551	317	285	252	540	348	437	351	285	318	327	438	347	336	392	482	358
4317	28497	293	355	276	491	354	439	297	302	300	309	330	353	341	342	465	344
4318	PA 6444 (HC)	312	291	222	378	301	439	279	335	307	369	304	380	347	342	507	331
4319	28544	310	285	242	778	404	435	308	297	302	302	411	327	292	369	546	369
4320	27632	268	310	225	402	301		319	257	288	336	386	340	286	363	583	316
4321	28549	308	334	255	458	339	444	378	288	333	338	398	383	341	390	366	358
4322	28508	299	262	213	473	312	427	371	350	361	231	350	370	374	360	316	335
4323	28527	312	302	261	378	313	428	320	385	353	331	444	403	325	423	335	356
4324	28510	328	312	284	411	334	430	338	275	307	267	393	337	308	365	301	338
4325	Local Check (LC)	306	284	276	347	303	432	288	445	366	371	424	356	341	390	286	353
4326	28805	290	434	202	411	334	438	257	290	274	407	362	337	363	349	325	343
4327	28804	304	341	210	382	309	438	290	327	308	360	381	333	336	357	454	336
4328	28784	299	253	227	324	276	428	308	285	297	213	324	350	286	337	425	301
4329	29207	290	284	214	367	289	450	351	323	337	438	429	389	380	409	485	354
4330	Improved Samba Mahsuri (RP)	275	307	206	451	310	433	315	273	294	427	373	376	347	374	503	344
4331	28014	319	344	226	440	332	436	239	278	259	431	437	373	319	405	486	352
4332	28801	304	309	234	418	316	428	322	292	307	476	478	383	358	430	325	364
4333	29208	295	341	273	449	339	427	264	318	291	591	461	399	292	430	326	382
4334	29209	308	284	220	511	331			297	297	373	406	376	292	391	301	347
4335	29210						433	241		241						436	337
4336	Samba Mahsuri (RP)	297	320	237	436	322	439	377	303	340	460	394	393	385	393	366	366
<b>Exp. Mean</b>		<b>309</b>	<b>299</b>	<b>240</b>	<b>440</b>	<b>323</b>	<b>436</b>	<b>321</b>	<b>311</b>	<b>314</b>	<b>373</b>	<b>400</b>	<b>357</b>	<b>323</b>	<b>378</b>	<b>379</b>	<b>348</b>

**Table No. 1.51: Grain quality characteristics of entries in AVT 1-L, kharif 2020**

Entry No.	Designation / IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
4301	28519	78.3	67.0	55.4	5.10	2.35	2.17	SB	VOC	4.0	26.25	22
4302	28501	78.3	68.5	60.4	4.92	1.71	2.87	MS	A	4.0	24.20	22
4303	28509	78.6	69.3	63.0	5.32	2.04	2.6	MS	VOC	4.0	25.16	22
4304	28515	81.2	70.5	62.9	6.18	2.34	2.64	LB	VOC	3.0	21.82	57
4305	28548	78.8	65.1	52.9	5.06	1.90	2.66	MS	VOC	4.0	26.25	61
4306	28538	78.3	67.2	58.9	5.35	2.30	2.32	SB	VOC	4.0	25.63	22
4307	Swarna (NC)	78.6	69.5	64.6	5.20	2.21	2.35	SB	A	4.0	24.14	26
4308	28507	79.7	69.3	61.4	5.60	2.52	2.22	SB	VOC	4.0	26.16	37
4309	28536	77.9	69.1	63.3	5.21	1.97	2.64	MS	VOC	4.0	24.87	22
4310	28500	79.3	64.2	27.5	6.32	1.90	3.32	LS	VOC	7.0	26.75	25
4311	28535	77.4	64.6	42.2	5.32	2.50	2.12	SB	VOC	4.0	26.31	22
4312	28513	78.1	69.9	66.2	5.51	2.01	2.74	MS	A	5.0	24.08	22
4313	27637	79.5	70.2	62.6	5.41	2.49	2.17	SB	VOC	7.0	25.16	36
4314	Zonal Check	79.6	69.7	65.3	5.74	1.98	2.89	MS	VOC	4.0	25.37	22
4315	28502	79.0	67.5	56.8	7.82	2.00	3.91	LS	VOC	7.0	26.37	22
4316	28551	78.8	67.1	62.0	5.47	2.07	2.64	MS	VOC	7.0	25.34	22
4317	28497	80.5	67.7	54.8	5.40	2.39	2.25	SB	VOC	4.0	26.45	42
4318	PA 6444 (HC)	80.9	75.2	66.0	6.05	2.08	2.9	LB	VOC	4.0	23.61	66
4319	28544	80.6	70.2	66.2	6.40	2.08	3.07	LS	VOC	4.0	27.74	57
4320	27632	78.5	69.5	62.0	5.49	2.22	2.47	SB	VOC	4.0	23.67	22
4321	28549	79.5	71.4	65.9	5.16	2.02	2.55	MS	A	7.0	24.22	22
4322	28508	79.5	71.4	66.4	5.17	2.10	2.46	SB	A	4.0	26.86	22
4323	28527	79.6	71.5	65.2	5.30	2.04	2.59	MS	VOC	7.0	26.22	24
4324	28510	81.3	73.1	69.2	6.37	2.06	3.09	LS	VOC	4.0	28.18	31
4325	Local Check	78.1	69.2	65.8	5.56	2.02	2.75	MS	VOC	7.0	26.07	41
4326	28805	74.8	67.1	62.2	5.11	1.76	2.9	MS	VOC	4.0	24.08	22
4327	28804	77.0	67.4	61.2	5.19	1.80	2.88	MS	VOC	4.0	26.51	45
4328	28784	79.1	67.5	62.4	5.46	1.93	2.82	MS	VOC	7.0	25.87	22
4329	29207	78.9	69.1	62.4	4.99	1.77	2.81	MS	VOC	4.0	26.31	22
4330	Improved Samba Mahsuri (RP)	77.0	67.2	61.7	5.12	1.76	2.9	MS	A	5.0	23.55	22
4331	28014	78.1	68.6	65.6	5.21	1.81	2.87	MS	A	7.0	24.81	46
4332	28801	77.3	68.4	65.0	5.08	1.79	2.83	MS	A	4.5	23.93	22
4333	29208	78.2	71.2	68.7	5.41	1.89	2.86	MS	A	4.0	24.61	22
4334	29209	79.0	69.6	66.0	5.23	1.89	2.27	SB	A	4.0	27.66	47
4335	29210											
4336	Samba Mahsuri (RP)	79.5	70.1	66.1	5.13	1.80	2.85	MS	VOC	5.0	24.99	22
4337	28794	79.6	66.4	59.0	5.21	2.05	2.54	MS	VOC	7.0	24.13	22
4338	Rajendra Mahsuri	79.2	67.4	59.0	5.62	2.01	2.79	MS	A	7.0	24.55	31

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB:Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

**Table No 1. 52: Composition of entries in Initial Variety Trial -Irrigated Late (IVT-L), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>1<sup>st</sup> year of testing:</b>				
4401	28271	CR 4114-4-5-1-1-1	Reeta / CR 2324-4-1	LB
4402	28455	RGL 7014	RGL 2538 / NLR 34449	LS
4403	28454	WGL 1272	WGL-14 / JGL 13595	MS
4404	28462	MTU 1314 (MTU 2493-3-3-2)	MTU 5249 / BM 71	MS
4405	28272	KAU PTB 0627-2-24	Cul 06-4	SB
4406	28524	RP 6330-179-3-9-1	MTU 1121 / Vijetha	SB
4407	28440	AD 13280	CO (R) 50 / AD 08132	SB
4408	29303	BPT 2953	BPT 5204 / IR 50	LS
4409	29304	R 2454-1-R1-10	KM / IRBB59	
4410	29305	RDR-1200	JGL-3844 / NLR 34449	MS
4411	29306	SKL 9-30-49-182-78-75-48	Siddhigiri / PKV HMT	MS
4412	28287	CR 3993-4-19-31	CR 1009 / O. brachyantha // CR 1009	SB
4413	29307	MTU 1350 (MTU 2139-7-1-1-1)	MTU1061 / TKM6	MS
4414	29308	RGL 7022	RGL -2537 / NLR-34449	LS
4415	29309	Pusa 5315-2-5-1-62-1-3-4	P 5115-61-6 / Swarna	SB
4416	28275	CR 3564-1-1-3-1-1-1	Vijetha / N22	MS
4417	29310	PRPK 7303	PRP 9092 / PRP 1	SB
4418	29311	MSN 110	IET 21341 / MSN 54	MB
4419	29312	RP 6354-RMS-1-10-23-27	Samba Mashuri*2 / ST12	MS
4420	<b>Swarna (NC)</b>			
4421	29313	CR 4320-4-1-1-1	IR72158-154-3-2-1-1-1 CR 2668-8-2-1	LS
4422	29314	RP Bio 4918-B-B-7K-1	Swarna / O. nivara	MS
4423	29315	TTB 1048-60-6	IRGC 25239 / Ranjit	MS
4424	29316	RP 5977-MS-M-127-6-2-7-3-5-4	BPT 5204 Mutant	MS
4425	29317	RP 5933-241	Swarna / IBL57	SB
4426	29318	CR 3856-44-22-2-1-11-4-3-2	IR 73963-86-1-5-2-2 / CR 2324-1	LB
4427	29319	CR 4328-18-1-1-2-1	Tapaswini / Kalachampa	SB
4428	29320	BRR 0151	Rajendra Mahsuri Mutant	LS
4429	29321	NLR 3548	NLR 28523 / QR 16	MS
4430	29322	<b>MEPH – 160 (Hybrid)</b>	-	LS
4431	29323	MTU 1352 (MTU 2222-26-4-3-3)	IR64 / NLR3042	MS
4432	29324	CR 3504- 12-1-2-1-1-1	IR 36 / Birupa	MS
4433	<b>NDR 8002-Eastern &amp; Central, Ranjeet- North Eastern, Salivahana-Western, Pushyami –Southern--ZC</b>			
4434	29325	IR 12N242 (IRON 239)		LS
4435	29326	RP 6112-MS-M-35-25-2-5-8-9-6	BPT 5204 Mutant	MS
4436	29327	CR 3954-607-116-541-117	Maudamani / Swarna-Sub1 // Swarna-Sub1*2	SB
4437	29328	MSN 112	IET 21341 / MSN 54	MB
4438	29329	CR 4156-1-56-2-24	CR 1009 / O. brachyantha // CR 1009	MS
4439	29330	CR 2850-S-2B-2-1-219-1-2	Gayatri / FL 496	SB
4440	29331	MTU 1353 (MTU 2541-23-1-2-1)	MTU 7029 / NLR 34449	MS
4441	29332	CR 4314-1-1-1-1-2-1	CR 3755-131 / CR 3561-53	MS



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Entry No.	IET No.	Designation	Cross Combination	GT
4442	29333	RP 6166-NPV37	MTU 1010 / O. rufipogon	LB
4443	29334	MSN 111	IET 21341 / MSN 54	MB
4444	29335	CR 3580-3-2-1-1-1-2	Lalat / N22	MS
4445	29336	RP 6466-665-2-1-1-1-1	BPT5204 // IR 5326-218-3 / BPT 5204	LS
4446	28288	CR 3564-4-2-2-1-1-2	Vijetha / N22	SB
4447	29337	BPT 3113	BPT 2270 / NLR 145	MS
4448	29338	CR 3511-2-2-1-1-1-1	IR 36 / Surendra	MS
4449	29339	CR 3954-607-116-541-436	Maudamani / Swarna-Sub1 // Swarna-Sub1*2	SB
4450	29340	RP 5977-MS-M-109-2-5-8-6-11-5	BPT 5204 Mutant	MS
4451	<b>PA 6444 (HC)</b>			
4452	29341	BRR 0148	Rajendra Mahsuri Mutant	MS
4453	29342	CR 4330-486-1-2-1	Swarna- Sub 1 / CR 1014	MS
4454	29343	MTU 1351 (MTU 2223-29-2-1-1)	IR64 / PLA99-1-3-1-3	LS
4455	29344	CR 3969-24-1-2-1-1-1	IR 73907-753-2-3 / Pratiksyta	LS
4456	29345	OR 2573-4	Birupa / IR 76561-AC-8-8	LS
4457	29346	CR 4335-1-1-1-16-1	IR 73930-31-3-2-2 / CR 2324-1 // Reeta	LB
4458	29347	TTB 1039-214-4	Ranjit / IRBB 52	MS
4459	29348	CR 4050-121-29-1-1	Swarna Sub1 / IR BB60	LS
4460	29349	R 2284-52-114-1	R 1670-3267-1-3920-1 / ARC 10550	SB
4461	29350	CR 4050-121-28-13-1	Swarna-Sub1* <sup>3</sup> / IRBB60	SB
4462	29351	WGL-1289	MTU1081 / BM71	LS
4463	29352	AD 18073	CR 1009 / BPT 2270	SB
4464	<b>Local Check</b>			

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**Table No. 1.53: Grain Yield (Kg/ha) of entries in IVT- L, Kharif 2020**

Entry No.	IET No.	ZONE III								ZONE V			
		OD		BI		Zone III (1)		CH		RPR	JDP		
		@JYP	@RNT	BKG	@SBR	BI(1)							
4401	28271	3306	6	3647	5						4180		
4402	28455	958		2566		2604		308		2604		3255	
4403	28454	769		1891		2396		273		2396		2773	
4404	28462	1644		2362							3431	3770	
4405	28272	1340		1168		3490		1348		3490		4349	
4406	28524	1504		1408		3646		1864		3646		2656	
4407	28440	646		2369		2500				2500		3424	
4408	29303	767		2171		2760		424		2760		3919	
4409	29304	1229		2552		4115		3479	3	4115		4258	
4410	29305	2861		3500	7	4167		2902	6	4167		2995	
4411	29306	2563		2871		2500		368		2500		4180	
4412	28287	757		2247		2693		1614		2693		2799	
4413	29307	1622		1763		2344				2344		3001	
4414	29308	2158		2690		2292				2292		2780	
4415	29309	2388		2384		2578		259		2578		4232	
4416	28275	1154		2568				1477				3438	
4417	29310	671		2466		2500				2500		3164	
4418	29311	2458		2824		2396		226		2396		3008	
4419	29312	3594	2	3677	4	3594		1326		3594		3353	
4420	Swarna (NC)	792		1916		2604		2070		2604		4336	
4421	29313	3567	3	3768	1							3353	
4422	29314	2660		2942		2969		1841		2969		2630	
4423	29315	1532		2370		2604				2604		3841	
4424	29316	2826		2910		3438		1659		3438		3242	
4425	29317	3243	7	3308	9			2515				4473	
4426	29318	1069		2335				426				4017	
4427	29319	706		1566		2865		1141		2865		4297	
4428	29320	3425	4	3278	10	3594		3229	4	3594		2741	
4429	29321	3658	1	3595	6	2448		815		2448		3034	
4430	29322	2201		3052		3281		492		3281		3978	
4431	29323	1351		2315		5365	2	417		5365	2	4466	
4432	29324	2361		2456		5208	4	1789		5208	4	3529	
4433	Zonal Check (ZC)	2390		2301		5781	1	2392		5781	1	4076	
4434	29325	1174		1980		5000	8	2745	10	5000	8	4076	
4435	29326	2743		2550		5104	6	1927		5104	6	4043	
4436	29327	1035		2304		2344		2152		2344		2858	
4437	29328	3349	5	3692	3	2604		474		2604		3919	
4438	29329	2243		2614		3542		1944		3542		3724	
4439	29330	2708		2830		3594		2280		3594		3796	
4440	29331	2972	9	3316	8	3333		1811		3333		2858	
4441	29332	2903	10	2691				1318				4408	
4442	29333	1917		2071		5052	7	1530		5052	7	2923	
4443	29334	1333		2307		2865		723		2865		4460	
4444	29335	2185		2153		4063		3606	2	4063		3385	
4445	29336	986		1867		5313	3	2197		5313	3	4316	
4446	28288	2750		2833								2754	
4447	29337	1368		1797		2344				2344		3262	
4448	29338	2331		2241		3177		1932		3177		3802	
4449	29339	1278		1914		4844	9	2856	9	4844	9	3327	
4450	29340	1215		2261		2396		667		2396		4121	
4451	PA 6444 (HC)	2125		2302		5156	5	3644	1	5156	5	4336	
4452	29341	2729		2841		3542		2659		3542		2695	
4453	29342	2601		2417		2969		1077		2969		3587	
4454	29343	993		1851		2344		1606		2344		4492	
4455	29344	2288		2336				2894	7			4056	
4456	29345	808		1699		3542		2861	8	3542		4206	
4457	29346	1000		1766		2865		1924		2865		4368	
4458	29347	2154		1998		2448				2448		2975	
4459	29348	1014		2134		3646		1583		3646		4128	
4460	29349	1042		1922		3073		1579		3073		4102	
4461	29350	2357		2201		4844	9	2644		4844	9	4427	
4462	29351	2569		2509		4063		2053		4063		4434	
4463	29352	826		1977								2747	
4464	Local Check (LC)	2986	8	3764	2	3229		3030	5	3229		4318	
<b>Exp. Mean</b>		<b>1940</b>		<b>2474</b>		<b>3408</b>		<b>1738</b>		<b>3408</b>		<b>3663</b>	
CD		481.66		798.39		489.99		741.01		489.99		952.65	
CV%		12.42		16.15		7.17		21.24		7.17		13.01	
D/S		14-08-2020		08-08-2020		07-08-2020		30-07-2020		30-07-2020		29-07-2020	
D/P		10-09-2020		04-09-2020		29-08-2020		14-08-2020		22-08-2020		17-08-2020	
Local Check Name		Hasanta		Rajendra Mahsuri 1		Rajendra Mahsuri		Jaldubi		Jaldubi		Sakoli-8	

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**Table No. 1.53 contd.: Grain Yield (Kg/ha) of entries in IVT- L, Kharif 2020**

Entry No.	IET No.	ZONE V						ZONE VI					
		CH (2)			MA1 (1)			Zone V (3)			MA2 (1)		
		Mean			SKL			Mean			KJT		
4401	28271	4180	7	5%				4180			4125	12%	
4402	28455	3255			4459			3857			4808	#	31%
4403	28454	3102			4749			3651			4333	18%	
4404	28462	3486			4633			3868			4208	15%	
4405	28272	3937			3145			3673			4167	14%	
4406	28524	3073			5305			3817			4833	#	32%
4407	28440	3438			2585			3154			4408	20%	
4408	29303	2129			5365			3208			3917		
4409	29304	4008			6943	4	13%	4986	6		5167	8	6% # 41%
4410	29305	3537			6454	10		4509			4375	19%	
4411	29306	3826			4089			3914			4125	12%	
4412	28287	2686			5005			3459			4667	#	27%
4413	29307	3283			5199			3922			4208	15%	
4414	29308	3233			5605			4024			4083	11%	
4415	29309	3124			5225			3824			4542	#	24%
4416	28275	2907			6735	6		4183			4758	#	30%
4417	29310	3164			4035			3600			3833		
4418	29311	3041			4295			3459			4500	#	23%
4419	29312	3330			4095			3585			4250	16%	
4420	Swarna (NC)	3567			4025			3720			4458		
4421	29313	3118						3118			4008		
4422	29314	2595			4335			3175			4083	11%	
4423	29315	3477			1945			2966			4042	10%	
4424	29316	3242			2025			2634			5167	8	6% # 41%
4425	29317	3254			3555			3354			4375	19%	
4426	29318	3112			4585			3603			5592	2	15% # 52%
4427	29319	4356	5	10%	4065			4259			4292	17%	
4428	29320	3602			5535			4246			5500	3	13% # 50%
4429	29321	3288			2415			2997			3625		
4430	29322	3978			6795	5	11%	5387	2	11%	4167	14%	
4431	29323	4175	8	5%	5995			4781	9		4042	10%	
4432	29324	3616			6555	9		4596			5292	4	9% # 44%
4433	Zonal Check (ZC)	3964			6665	7		4864	7		4875		
4434	29325	3807			4505			4039			4000		
4435	29326	4062			4260			4128			3417		
4436	29327	3258			5085			3867			4167	14%	
4437	29328	3919			7593	1	14% # 24%	5756	1 *	18% # 15%	4667	#	27%
4438	29329	3574			3505			3551			4250	16%	
4439	29330	3545			6416			4502			5667	1 *	16% # 55%
4440	29331	3311			5495			4039			4250	16%	
4441	29332	4408	2	11%	3835			4122			4333	18%	
4442	29333	2923			3815			3369			3542		
4443	29334	3800			7365	2	11% 20%	4988	5		4100	12%	
4444	29335	3559			5735			4284			3525		
4445	29336	4316	6	9%	4265			4291			4000		
4446	28288	2924						2924			4500	#	23%
4447	29337	1960			2965			2295			4292	17%	
4448	29338	3745			6557	8		4682			4167	14%	
4449	29339	4074	10		5465			4537			5208	6	7% # 42%
4450	29340	3288						3288			3750		
4451	PA 6444 (HC)	4473	1		6135			5027	3		3667		
4452	29341	3336			5375			4016			4333	18%	
4453	29342	2681			4705			3356			3708		
4454	29343	4103	9		5625			4610			4500	#	23%
4455	29344	4056						4056			4208	15%	
4456	29345	3509			7075	3	6% 15%	4697	10		5258	5	8% # 43%
4457	29346	4368	4	10%	5665			5017	4		5167	8	6% # 41%
4458	29347	2975			2685			2830			4500	#	23%
4459	29348	3309			2345			2987			3417		
4460	29349	3477			4225			3726			5000	10	# 36%
4461	29350	4049			2745			3614			4000		
4462	29351	4376	3	10%	5765			4839	8		4000		
4463	29352	1829			3585			2414			4042	10%	
4464	Local Check (LC)	3465			4807			3912			4292		
<b>Exp. Mean</b>		<b>3477</b>			<b>4814</b>			<b>3911</b>			<b>4355</b>		
CD		806.56			1297.85			572.84			790.74		
CV%		11.61			13.47			7.33			9.09		
D/S					09-08-2020						01-08-2020		
D/P					07-09-2020						28-08-2020		
Local Check Name					Karijat-2						Mashuri		

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**Table No. 1.53 contd.: Grain Yield (Kg/ha) of entries in IVT- L, Kharif 2020**

Entry No.	IET No.	ZONE VI						ZONE VII	
		MA (2)		GU (1)		Zone VI (2)		AP	
		Mean		NVS		Mean		MTU	
4401	28271	4125				4125			
4402	28455	4634		5505	21%	5157	5% # 25%	5980	
4403	28454	4541		5361	17%	4847	# 18%	5358	
4404	28462	4421		4676		4442		4250	
4405	28272	3656		5625	23%	4896	# 19%	4952	
4406	28524	5069		6662	5 * 23% # 46%	5748	3 * 17% # 40%		
4407	28440	3497		6162	7 14% # 35%	5285	7 8% # 28%		
4408	29303	4641		4856		4387			
4409	29304	6055	3 4.94% # 24%	5282	16%	5225	10 6% # 27%		
4410	29305	5415		4782		4579	11%	6971	7
4411	29306	4107		6042	8 11% # 32%	5084	# 24%	3600	
4412	28287	4836		5394	18%	5031	# 22%	6135	
4413	29307	4704		4579		4394		5450	
4414	29308	4844		5542	21%	4813	# 17%	5053	
4415	29309	4884		4861		4702	14%	4650	
4416	28275	5747	7 # 17.25%			4758	16%	5070	
4417	29310	3934		5690	25%	4762	16%	3805	
4418	29311	4398		4884		4692	14%	4983	
4419	29312	4173		5009		4630	12%	5335	
4420	Swarna (NC)	4242		4690		4574		6997	6
4421	29313	4008				4008			
4422	29314	4209		4852		4468		6458	
4423	29315	2994		4769		4406		4500	
4424	29316	3596		4588		4878	# 19%	6758	
4425	29317	3965		4926		4651	13%	6458	
4426	29318	5089		3796		4694	14%		
4427	29319	4179		5097	12%	4695	14%	4777	
4428	29320	5518	9 13%	4894		5197	6% # 26%	3312	
4429	29321	3020		4829		4227		4850	
4430	29322	5481	10 12%	4699		4433		3700	
4431	29323	5019		4676		4359		6150	
4432	29324	5924	5 #21%	4815		5054	# 23%	3377	
4433	Zonal Check (ZC)	5770	6	4944		4910		6840	10
4434	29325	4253		4560		4280		6345	
4435	29326	3839		4148		3783		3685	
4436	29327	4626		5394	18%	4781	# 16%	6142	
4437	29328	6130	2 6.24% #25%	5028	10%	4848	# 18%	5780	
4438	29329	3878		5384	18%	4817	# 17%	5340	
4439	29330	6042	4 #23%	3949		4808	# 17%	5715	
4440	29331	4873		5347	17%	4799	# 17%	6864	9
4441	29332	4084		5120	12%	4727	15%		
4442	29333	3679		4639		4091		4350	
4443	29334	5733	8 #17%	5653	24%	4877	# 18%	4500	
4444	29335	4630		5912	10 9% # 30%	4719	15%	5497	
4445	29336	4133		5796	7% # 27%	4898	# 19%	4050	
4446	28288	4500				4500			
4447	29337	3629		4671		4482		3392	
4448	29338	5362	9%	6032	9 11% # 32%	5100	# 24%	3445	
4449	29339	5337	9%	5245	15%	5227	9 6% # 27%	7317	2
4450	29340	3750		5102	12%	4426		4900	
4451	PA 6444 (HC)	4901		4565		4116		7300	3
4452	29341	4854		4944		4639	13%	4250	
4453	29342	4207				3708		7445	1
4454	29343	5063		7037	2 * 30% # 54%	5769	2 * 17% # 40%	4000	
4455	29344	4208				4208			
4456	29345	6167	1 6.87% #26%			5258	8 7% # 28%	6798	
4457	29346	5416	10%			5167	5% # 26%		
4458	29347	3593		6218	6 15% # 36%	5359	6 9% # 30%	7273	4
4459	29348	2881		4560		3989		6058	
4460	29349	4613		6819	3 * 26% # 49%	5910	1 * 20% # 44%	4450	
4461	29350	3373		7060	1 * 30% # 55%	5530	4 13% # 34%	6926	8
4462	29351	4883		6736	4 * 24% # 48%	5368	5 9% # 30%	7024	5
4463	29352	3814		4991		4517		6227	
4464	Local Check (LC)	4550		5421		4857		4973	
<b>Exp. Mean</b>		<b>4557</b>		<b>5229</b>		<b>4745</b>		<b>5393</b>	
CD		773		1136.12		661.69		715.53	
CV%		8.48%		10.84		6.98		6.61	
D/S				06-08-2020				20-07-2020	
D/P				03-09-2020				20-08-2020	
Local Check Name				MTU 1061				RGL 11414	

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**Table No. 1.53 contd.: Grain Yield (Kg/ha) of entries in IVT- L, Kharif 2020**

Entry No.	IET No.	ZONE VII																				
		AP		AP (2)		TE (1)			TA													
		RGL		Mean		WGL			ADT		CBT											
4401	28271																					
4402	28455	7704	3 * #	6842	6	8571	4	8% #	114%	6833	7 #	4636										
4403	28454	4900		5129		8286	7	#	107%	6208	#	6448	#									
4404	28462	6436		5343		9048	2	14% #	126%	5833		4416										
4405	28272	7266	5 #	6109		6762	#	69%		4750		6095										
4406	28524	5407		5407		6762	#	69%		6375	#	6832	#									
4407	28440	6006		6006		6476	#	62%		8000	1 * #	3511										
4408	29303	5469		5469		6762	#	69%		6083	#	3350										
4409	29304	4662		4662		5143	29%			6875	6 #	3243										
4410	29305	5300		6136		7619	#	90%		5417		5866										
4411	29306	4293		3947		6000	#	50%		5250		8709	4 * #									
4412	28287	6306		6221		6571	#	64%		4500		4145										
4413	29307	5507		5479		9143	1	16% #	129%	6917	5 #	9570	1 * #									
4414	29308	5315		5184		7238	#	81%		6833	7 #	7652	#									
4415	29309	5545		5098		6381	#	60%		6792	9 #	3241										
4416	28275			5070						4833												
4417	29310	6406		5106		5619	40%			5000		3900										
4418	29311	6505		5744		8571	4	8% #	114%	4233		8491	7 * #									
4419	29312	5561		5448		4762	19%			5625		4341										
4420	Swarna (NC)	3594		5296		6095				4917		5977										
4421	29313									6792	9 #											
4422	29314	4293		5376		4667	17%			5333		6966	#									
4423	29315	5906		5203		4952	24%			6667	#	6021										
4424	29316	4808		5783		3619				4417		3327										
4425	29317	6006		6232	10					5083		2204										
4426	29318									4250		5357										
4427	29319	8971	1 * #	6874	5	5619	40%			5250		6052										
4428	29320	6206		4759		6286	#	57%		5417		2132										
4429	29321	2995		3923		3048				6958	4 #	8984	2 * #									
4430	29322	6866	6 #	5283		5905	48%			6583	#	8593	5 * #									
4431	29323	6260		6205		6571	#	64%		7333	3 * #	8571	6 * #									
4432	29324	4693		4035		8476	6	7% #	112%	5417		6464	#									
4433	Zonal Check (ZC)	6306		6573	8	7905				6333		6870										
4434	29325	5806		6076		7619	#	90%		6083	#	7368	#									
4435	29326	4900		4293		5048	26%			4583		4461										
4436	29327	5407		5775		4476	12%			4750		6745	#									
4437	29328	6190		5985		3619				5750		2059										
4438	29329	4800		5070		3714				5125		1679										
4439	29330	6605	10	6160		6000	#	50%		5233		3509										
4440	29331	5461		6163		8095	8.5	#	102%	5167		6523	#									
4441	29332									6583	#	8314	9 #									
4442	29333	3994		4172		4476	12%			5958		4973										
4443	29334	5230		4865		3905				6500	#	3257										
4444	29335	8356	2 * #	6927	2	5%				5708		3064										
4445	29336	3794		3922		7143	#	79%		5708		6782	#									
4446	28288																					
4447	29337	5000		4196		3905				5417		6918	#									
4448	29338	5507		4476		7057	#	76%		4833		3257										
4449	29339	6805	7	7061	1	7%	5143	29%		5958		5068										
4450	29340	4393		4647		5333	33%			4958		5798										
4451	PA 6444 (HC)	5607		6454	9	4000				5167		5320										
4452	29341	7627	4 * #	5939		6571	#	64%		5417		6666	#									
4453	29342	3195		5320		3238				5167		2580										
4454	29343	5200		4600		8095	8.5	#	102%	7833	2 * #	8970	3 * #									
4455	29344									5417		3152										
4456	29345	6667	9	6733	7	8571	4	8% #	114%	6000		7932	10 #									
4457	29346									6000		6786	#									
4458	29347	4900		6087		4571	14%			6125	#	6957	#									
4459	29348	3395		4727		2952				5167		4620										
4460	29349	4700		4575		6286	#	57%		5083		8364	8 #									
4461	29350			6926	3	5%	3524			4167		3261										
4462	29351	6805	7	6915	4	5%	6190	#	55%	5708		4254										
4463	29352	4401		5314		5714	43%			5792		5071										
4464	Local Check (LC)	6106		5540		6286				4583		7354										
<b>Exp. Mean</b>		<b>5570</b>		<b>5489</b>		<b>6007</b>				<b>5694</b>		<b>5534</b>										
CD		1202.93		747.16		1920.16				899.41		1041.04										
CV%		10.77		6.8		15.94				7.9		9.4										
D/S		29-07-2020				07-08-2020				11-09-2020		30-09-2020										
D/P		28-08-2020				10-09-2020				14-10-2020		15-10-2020										
Local Check Name		WGL-44				ADT 51				CR 1009 Sub 1		Uma										

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**Table No. 1.53 contd.: Grain Yield (Kg/ha) of entries in IVT- L, Kharif 2020**

Entry No.	IET No.	ZONE VII											
		TA (2)			KE (1)			KA					
		Mean			MNC			GNV		SRS		@PNP	
4401	28271												
4402	28455	5735			7002	# 71%		4840	#	5912		1400	
4403	28454	6328	# 21%		5880	# 44%		5080	#	5170		2411	
4404	28462	5125			4606	13%		5196	#	4582		3478	9
4405	28272	5423			3704			2734		3282		2322	
4406	28524	6604	# 26%		7951	6 # 95%		6083	3 #	4888		2619	
4407	28440	5756			8426	5 # 106%		5564	8 #	4741		796	
4408	29303	4717			5405	32%		5474	#	6046		1644	
4409	29304	5059			3681			4038	#	5167		133	
4410	29305	5642			4502	10%		6154	1 #	5996		2722	
4411	29306	6980	8 6% # 33%		3808			4487	#	5852		2752	
4412	28287	4323			3218			5577	6 #	6122		3915	4
4413	29307	8244	2 * 25% # 57%		9120	3 # 123%		4808	#	7209	6	2059	
4414	29308	7243	7 10% # 38%		7326	9 # 79%		5577	6.5 #	6249		2213	
4415	29309	5017			6609	# 62%		5385	#	6457		2715	
4416	28275	4833			4919	20%				6101			
4417	29310	4450			5463	34%		4795	#	7479	4 #	4359	1
4418	29311	6362	# 21%		3611			5385	#	6218		3319	10
4419	29312	4983			5671	39%		4231	#	6952	8	2478	
4420	Swarna (NC)	5447			5164			5010		5453		519	
4421	29313	6792	10 # 30%							1351			
4422	29314	6150	# 17%		4028			4481	#	4219		485	
4423	29315	6344	# 21%		7917	7 # 94%		2862		5214		759	
4424	29316	3872			3889			3013		4400		1867	
4425	29317	3644			4537	11%		4827	#	5003		1463	
4426	29318	4804			5208	27%				1927			
4427	29319	5151			6030	# 48%		4231	#	4508		1870	
4428	29320	3775			4248			4984	#	5071		2778	
4429	29321	7971	3 * 21% # 52%		4144			2407		1190		407	
4430	29322	7588	5 * 15% # 45%		6539	# 60%		4487	#	8404	1 #	4130	3
4431	29323	7952	4 * 20% # 52%		6285	# 54%		4631	#	6260		3511	7
4432	29324	5941	# 13%		4035			5494	10 #	4898		2400	
4433	Zonal Check (ZC)	6602			9653	2		5513	9	8041	2	1989	
4434	29325	6726	# 28%		6667	# 63%		5000	#	6617		3485	8
4435	29326	4522			4236			4487	#	3979		3122	
4436	29327	5748			5556	36%		2821		5172		2241	
4437	29328	3905			6169	# 51%		3654		6237		3041	
4438	29329	3402			10648	1 10% # 161%		2205		3050		1585	
4439	29330	4371			5093	25%		2756		5448		2474	
4440	29331	5845	11%		5764	41%		4551	#	6387		274	
4441	29332	7449	6 * 13% # 42%		4051					7744	3 #	2170	
4442	29333	5466			6181	# 51%		2356		6167		2867	
4443	29334	4879			6829	# 67%		3109		7240	5	3222	
4444	29335	4386						2330		3378		1281	
4445	29336	6245	# 19%		4113			2955		4708		1604	
4446	28288				4167								
4447	29337	6168	# 18%		8449	4 # 107%		5096	#	4839		1304	
4448	29338	4045			4734	16%		4731	#	6917	9	1707	
4449	29339	5513			5498	35%		3253		4792		2196	
4450	29340	5378			3773			2740		3696		2848	
4451	PA 6444 (HC)	5244			4086			3112		6638	10	3196	
4452	29341	6042	# 15%		7396	8 # 81%		5256	#	4376		2789	
4453	29342	3874			3704			4497	#	2228		74	
4454	29343	8402	1 * 27% # 60%		7199	10 # 76%		6154	1 #	7194	7	3748	5
4455	29344	4285								5267			
4456	29345	6966	9 6% # 33%		3912			6048	4 #	6250		4315	2
4457	29346	6393	# 22%		4537	11%				4138			
4458	29347	6541	# 25%		6794	# 66%		2641		5346		526	
4459	29348	4894			3160			2215		3072		196	
4460	29349	6724	# 28%		3773			5840	5 #	5583		1885	
4461	29350	3714			3646			2503		4740		1570	
4462	29351	4981			6111	# 50%		5449	#	6402		3274	
4463	29352	5432			4583	12%		4881	#	5936		2800	
4464	Local Check (LC)	5969			5394			4295		4620		3744	6
<b>Exp. Mean</b>		<b>5619</b>			<b>5480</b>			<b>4326</b>		<b>5299</b>		<b>2229</b>	
CD		683.01			1760.78			710.19		671.04		621.5	
CV%		6.08			16.06			8.19		6.33		13.92	
DIS					05-08-2020					21-07-2020		08-08-2020	
D/P					02-09-2020					10-08-2020		07-09-2020	
Local Check Name					BPT-5204					ASHA		Tunga	

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**Table No. 1.53 contd.: Grain Yield (Kg/ha) of entries in IVT- L, Kharif 2020**

Entry No.	IET No.	ZONE VII						Overall (14)	
		KA (2)		PUD		Zone VII (8)		Mean	
		Mean		@KPK		Mean			
4401	28271							4153	
4402	28455	5376	# 10%	11767	6435	8 # 25%	5547	8 # 11%	
4403	28454	5125		4533	5916	# 15%	5027		
4404	28462	4889		3083	5546		4989		
4405	28272	3008		12317	4943		4560		
4406	28524	5486	# 13%	11700	6328	# 23%	5453	#	
4407	28440	5153		10283	6103	# 18%	5020		
4408	29303	5760	# 18%	6483	5513		4596		
4409	29304	4603		7450	4687		4795		
4410	29305	6075	8 # 25%	12350	9 5978	# 16%	5334	#	
4411	29306	5170		9450	5250		4743		
4412	28287	5850	# 20%	5817	5322		4693		
4413	29307	6009	9 # 23%	6850	7216	1 # 40%	5759	4 # 16%	
4414	29308	5913	# 21%	9700	6405	9 # 24%	5374	#	
4415	29309	5921	# 21%	10850	5633	#	4894		
4416	28275	6101	7 # 25%	5150	5231		4779		
4417	29310	6137	6 # 26%	7017	5308		4745		
4418	29311	5802	# 19%	8350	6000	# 16%	5011		
4419	29312	5592	# 15%	11133	5310		4720		
4420	Swama (NC)	5232		12350	9 5401		4723		
4421	29313	1351			4072		3677		
4422	29314	4350		12500	4 5056		4420		
4423	29315	4038		8350	5505		4597		
4424	29316	3707		9083	4279		4053		
4425	29317	4915			4874		4457		
4426	29318	1927			4186		4104		
4427	29319	4370		9133	5555		4962		
4428	29320	5028		9733	4707		4599		
4429	29321	1799		11717	4322		3891		
4430	29322	6446	4 # 32%	11150	6385	10 # 24%	5692	6 # 14%	
4431	29323	5446	# 12%	9750	6508	6 # 26%	5749	5 # 15%	
4432	29324	5196		11850	5357		5140		
4433	Zonal Check (ZC)	6777	2	12983	3 7183	2	6261	1 # 26%	
4434	29325	5809	# 19%	5250	6438	7 # 25%	5513	10 # 11%	
4435	29326	4233		9050	4422		4317		
4436	29327	3997		13183	2 5134		4612		
4437	29328	4946		12483	5 4932		4867		
4438	29329	2628		3233	4570		4314		
4439	29330	4102		9733	5045		4791		
4440	29331	5469	# 12%	12383	7 6102	# 18%	5276		
4441	29332	7744	1* 14% # 59%	11050	6673	4 # 29%	5549	7 # 11%	
4442	29333	4262		5817	4807		4494		
4443	29334	5175		7250	5071		4868		
4444	29335	2854			4722		4557		
4445	29336	3832		9750	4907		4842		
4446	28288				4167		3629		
4447	29337	4968		10350	5377		4372		
4448	29338	5824	# 19%	11783	5060		4850		
4449	29339	4023		12367	8 5479		5196		
4450	29340	3218		6550	4449		4109		
4451	PA 6444 (HC)	4875			5154		4979		
4452	29341	4816		13217	1 5945	# 15%	5173		
4453	29342	3363		7667	4007		3754		
4454	29343	6674	3 # 37%	11883	6831	3 # 33%	5883	2 # 18%	
4455	29344	5267		6467	4612		4420		
4456	29345	6149	5 # 26%	4550	6522	5 # 27%	5775	3 # 16%	
4457	29346	4138		8450	5365		4941		
4458	29347	3994		9750	5576	#	4879		
4459	29348	2644		7717	3830		3659		
4460	29349	5712	# 17%	12467	6 5510		5011		
4461	29350	3622		8367	4110		4270		
4462	29351	5926	10 # 22%	7800	5993	# 16%	5519	9 # 11%	
4463	29352	5409	# 11%	7083	5326		4529		
4464	Local Check (LC)	4458		11167	5451		4878		
<b>Exp. Mean</b>		<b>4817</b>		<b>9293</b>	<b>5367</b>		<b>4818</b>		
CD		457.52		84.88	417.92		313.8		
CV%		4.75		0.46	3.9		3.26		
D/S				20-08-2020					
D/P				18-09-2020					
Local Check Name				Savithri (CR 1009)					

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**Table No. 1.54: Days to 50% flowering of entries in IVT L, Kharif 2020**

Entry No.	IET No.	ZONE III					ZONE V				
		OD		BI		Zone III(1)	CH		CH (2)	MA1 (1)	Zone V (3)
		@JYP	@RNT	BKG	@SBR	BI (1)	RPR	JDP	Mean	SKL	Mean
4401	28271	101	102					118	118		118
4402	28455	117	116	97	109	97		121	121	106	113
4403	28454	119	117	98	103	98	102	134	118	113	116
4404	28462	107	106				94	118	106	116	109
4405	28272	117	117	97	98	97	113	123	118	100	112
4406	28524	114	114	99	104	99	96	127	111	105	109
4407	28440	117	116	116		116	102	128	115	116	115
4408	29303	117	115	116	100	116	118	118	118	105	113
4409	29304	127	124	126	98	126	107	122	114	92	107
4410	29305	102	101	125	96	125	90	130	110	97	105
4411	29306	127	125	99	115	99	96	115	105	114	108
4412	28287	118	120	98	99	98	110	130	120	104	115
4413	29307	113	113	126		126	105	128	116	118	117
4414	29308	117	117	120		120	120	131	125	112	121
4415	29309	121	121	118	116	118	111	113	112	114	112
4416	28275	104	105		105		111	124	117	94	109
4417	29310	115	116	119		119		125	125	113	119
4418	29311	118	116	116	103	116	111	128	119	100	113
4419	29312	117	119	98	99	98	96	125	110	103	108
4420	Swarna (NC)	117	118	116	102	116	101	110	105	104	105
4421	29313	115	115				101	122	111		111
4422	29314	123	123	97	104	97	96	131	114	101	109
4423	29315	113	113	118		118	107	118	112	120	115
4424	29316	103	104	96	101	96	107	122	114	93	107
4425	29317	105	107		102		97	101	99	98	98
4426	29318	107	109		106		95	120	108	100	105
4427	29319	102	103	96	101	96	97	109	103	117	108
4428	29320	103	104	94	111	94	96	129	112	93	106
4429	29321	108	107	114	112	114	91	131	111	120	114
4430	29322	124	125	119	116	119		127	127	102	115
4431	29323	116	115	97	118	97	104	111	107	112	109
4432	29324	95	98	117	96	117	100	112	106	98	103
4433	Zonal Check (ZC)	129	127	95	104	95	95	117	106	105	106
4434	29325	123	126	95	94	95	108	109	108	93	103
4435	29326	99	100	99	85	99	93	119	106	89	100
4436	29327	111	110	100	94	100	83	130	106	100	104
4437	29328	108	106	119	119	119		107	107	113	110
4438	29329	105	106	98	86	98	109	118	113	117	114
4439	29330	107	109	116	109	116	90	117	103	108	105
4440	29331	104	104	117	95	117	109	128	118	110	116
4441	29332	100	100		106			109	109	105	107
4442	29333	107	107	94	96	94		129	129	92	111
4443	29334	99	99	120	115	120	82	107	94	114	101
4444	29335	105	105	97	96	97	109	120	114	99	109
4445	29336	115	115	97	95	97		103	103	95	99
4446	28288	101	101				95	131	113		113
4447	29337	115	115	96		96	117	126	121	118	120
4448	29338	101	101	98	101	98	102	117	109	106	108
4449	29339	107	107	97	101	97	90	121	105	90	100
4450	29340	102	102	117	101	117	108	108	108		108
4451	PA 6444 (HC)	114	114	94	89	94	81	113	97	95	96
4452	29341	123	123	107	100	107	96	111	103	98	102
4453	29342	125	125	97	99	97	97	126	111	97	106
4454	29343	99	99	124	87	124	111	109	110	113	111
4455	29344	94	94		100			118	118		118
4456	29345	104	104	109	93	109	93	107	100	93	98
4457	29346	108	108	95	108	95		120	120	103	111
4458	29347	109	109	119		119	117	122	120	119	119
4459	29348	119	119	94	95	94	88	111	99	98	99
4460	29349	123	123	118	100	118	102	117	109	102	107
4461	29350	103	103	94	86	94	86	107	96	90	94
4462	29351	124	124	93	94	93	98	115	106	97	103
4463	29352	103	103					107	130	119	118
4464	Local Check (LC)	118	122	99	99	99	85	121	103	103	103
<b>Exp. Mean</b>		<b>111</b>	<b>111</b>	<b>106</b>	<b>101</b>	<b>106</b>	<b>100</b>	<b>119</b>	<b>111</b>	<b>104</b>	<b>109</b>



**Table No.1.54 contd.: Days to 50% flowering of entries in IVT -L, Kharif 2020**

Entry No.	IET No.	ZONE VI				ZONE VII						
		MA2 (1)	MA2 (1)	GU (1)	Zone VI (2)	AP		AP (2)	TE (1)	TA		TA (2)
		KJT	Mean	NVS	Mean	MTU	RGL	Mean	WGL	ADT	CBT	Mean
4401	28271	106			106							
4402	28455	112	109	94	103	98	106	102	108	113	105	109
4403	28454	108	110	95	101	98	114	106	105	113	110	111
4404	28462	116	116	105	110	106	115	110	115	126	118	122
4405	28272	109	105	94	101	95	103	99	102	115	111	113
4406	28524	111	108	95	103		102	102	104	114	105	109
4407	28440	119	117	106	112		118	118	118	134	120	127
4408	29303	108	106	93	101		107	107	114	115	112	113
4409	29304	99	95	84	91		99	99	95	115	104	109
4410	29305	104	100	82	93	88	101	95	96	129	103	116
4411	29306	113	113	92	102	99	112	105	111	116	111	114
4412	28287	112	108	94	103	109	104	106	103	113	95	104
4413	29307	116	117	106	111	118	117	117	120	131	114	122
4414	29308	110	111	105	107	114	119	116	115	131	121	126
4415	29309	113	113	96	104	90	104	97	112	115	106	110
4416	28275	98	96		98	93		93		117		117
4417	29310	112	112	102	107	105	107	106	116	115	111	113
4418	29311	112	106	95	103	95	101	98	108	114	103	109
4419	29312	113	108	90	101	96	101	98	95	112	99	106
4420	Swarna (NC)	106	105	95	100	105	107	106	112	120	111	115
4421	29313	114	114		114					115		115
4422	29314	107	104	95	101	106	102	104	108	115	112	113
4423	29315	116	118	105	110	112	117	114	118	126	121	123
4424	29316	107	100	91	99	89	102	95	81	114	99	106
4425	29317	110	104	95	102	98	103	100		115	98	106
4426	29318	99	99	95	97					111	107	109
4427	29319	110	113	95	102	92	101	96	96	127	98	112
4428	29320	97	95	89	93	87	94	90	93	115	93	104
4429	29321	113	116	111	112	116	122	119	123	131	122	126
4430	29322	113	108	94	103	97	105	101	113	119	111	115
4431	29323	107	109	105	106	114	112	113	115	124	114	119
4432	29324	107	102	97	102	88	105	96	101	111	97	104
4433	Zonal Check (ZC)	111	108	100	105	115	106	111	110	114	95	105
4434	29325	98	96	88	93	89	86	87	95	111	101	106
4435	29326	101	95	87	94	86	91	88	91	113	101	107
4436	29327	108	104	91	99	98	100	99	105	115	98	106
4437	29328	120	116	97	108	98	104	101	110	131	113	122
4438	29329	102	109	89	95	86	90	88	88	114	97	106
4439	29330	107	107	92	99	98	105	101	103	113	97	105
4440	29331	111	110	96	103	106	104	105	103	115	98	106
4441	29332	108	106	95	101					117	110	113
4442	29333	105	99	82	93	96	91	93	89	113	101	107
4443	29334	114	114	98	106	99	112	105	110	136	141	139
4444	29335	96	97	89	92	95	102	98		113	100	106
4445	29336	102	98	91	96	90	94	92	97	112	103	107
4446	28288	98	98		98							
4447	29337	109	113	111	110	118	116	117	115	127	119	123
4448	29338	111	108	97	104	95	105	100	109	120	109	114
4449	29339	105	97	84	94	93	101	97	98	117	104	110
4450	29340	110	110	100	105	104	112	108	109	122	108	115
4451	PA 6444 (HC)	109	102	112	110	91	90	90	111	112	100	106
4452	29341	110	104	95	102	106	101	104	108	112	99	105
4453	29342	107	102		107	114	101	107	96	113	100	106
4454	29343	113	113	103	108	91	117	104	118	118	100	109
4455	29344	110	110		110					114	110	112
4456	29345	102	98		102	96	101	98	102	111	98	104
4457	29346	103	103		103					114	99	106
4458	29347	115	117	109	112	109	115	112	120	139	120	129
4459	29348	97	98	84	90	89	91	90	101	115	100	107
4460	29349	113	107	92	102	103	108	105	109	112	103	107
4461	29350	99	94	84	91	85		85	96	111	94	102
4462	29351	109	103	95	102	98	101	99	104	112	96	104
4463	29352	119	119	106	112	117	112	115	118	134	118	126
4464	Local Check (LC)	111	107	95	103	109	106	107	111	111	122	117
<b>Exp. Mean</b>		<b>108</b>	<b>106</b>	<b>95</b>	<b>102</b>	<b>99</b>	<b>105</b>	<b>102</b>	<b>106</b>	<b>118</b>	<b>106</b>	<b>112</b>

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Table No. 1.54 contd.: Days to 50% flowering of entries in IVT -L, Kharif 2020

Entry No.	IET No.	ZONE VII								
		KE (1)		KA			KA (2)	PUD	Zone VII (8)	Overall (14)
		MNC	GNV	SRS	@PNP	Mean	@KPK	Mean	Mean	
4401	28271								112	
4402	28455	102	108	107	109	108	103	106	106	
4403	28454	107	113	123	122	118	103	110	109	
4404	28462	104	122	125	128	124	99	116	114	
4405	28272	97	108	113	111	111	94	105	106	
4406	28524	100	105	113	109	109	103	106	106	
4407	28440	107	120	127	128	123	97	120	118	
4408	29303	106	109	129	126	119	106	113	111	
4409	29304	101	110	106	103	108	100	104	104	
4410	29305	101	101	113	117	107	96	104	104	
4411	29306	102	110	119	121	114	106	110	108	
4412	28287	97	105	119	117	112	95	105	106	
4413	29307	117	121	130	129	125	115	121	119	
4414	29308	110	114	127	126	121	103	119	118	
4415	29309	103	107	119	119	113	116	107	108	
4416	28275	97		100		100	98	102	104	
4417	29310	106	108	127	124	118	99	112	113	
4418	29311	102	110	112	114	111	102	105	107	
4419	29312	102	110	113	113	111	105	103	104	
4420	Swarna (NC)	103	111	119	117	115	97	111	108	
4421	29313			115		115		115	113	
4422	29314	105	111	119	120	115	96	110	107	
4423	29315	113	120	130	128	125	112	119	117	
4424	29316	97	100	112	107	106	97	99	101	
4425	29317	102	103	113	110	108		104	103	
4426	29318	101		119		119		109	105	
4427	29319	102	106	113	108	110	100	104	104	
4428	29320	97	98	104	104	101	87	97	98	
4429	29321	118	122	130	134	126	106	123	119	
4430	29322	100	111	115	120	113	98	109	109	
4431	29323	102	113	119	115	116	104	114	110	
4432	29324	97	100	104	102	102	98	100	102	
4433	Zonal Check (ZC)	100	106	113	112	109	97	107	106	
4434	29325	98	105	112	112	108	96	99	99	
4435	29326	97	101	104	106	103	91	98	98	
4436	29327	100	111	119	117	115	97	106	104	
4437	29328	102	114	119	119	117	106	111	111	
4438	29329	103	96	100	101	98	88	97	100	
4439	29330	97	107	119	115	113	98	105	105	
4440	29331	99	110	119	114	114	97	106	109	
4441	29332	102		123	124	123	105	113	108	
4442	29333	100	96	106	109	101	90	99	99	
4443	29334	105	106	123	121	115	105	116	112	
4444	29335		99	100	100	100		101	101	
4445	29336	101	111	119	118	115	95	103	101	
4446	28288	107						107	108	
4447	29337	112	120	127	129	123	116	119	116	
4448	29338	102	114	115	116	115	101	108	107	
4449	29339	100	113	112	118	112	96	104	101	
4450	29340	102	113	119	115	116	98	111	110	
4451	PA 6444 (HC)	97	93	73	100	83		96	98	
4452	29341	97	105	107	108	106	93	104	104	
4453	29342	97	100	112	108	106	87	104	104	
4454	29343	102	113	119	114	116	106	110	111	
4455	29344			107		107	96	110	112	
4456	29345	102	104	113	112	109	100	103	102	
4457	29346	106		112		112	92	108	106	
4458	29347	106	111	127	128	119	113	118	117	
4459	29348	96	97	104	103	101	93	99	97	
4460	29349	97	91	115	111	103	96	105	106	
4461	29350	97	94		103	94	91	96	94	
4462	29351	102	102	107	102	105	97	102	102	
4463	29352	107	118	130	125	124	114	119	118	
4464	Local Check (LC)	94	106	115	127	110	116	109	106	
<b>Exp. Mean</b>		<b>102</b>	<b>107</b>	<b>115</b>	<b>115</b>	<b>111</b>	<b>100</b>	<b>108</b>	<b>107</b>	

## Annual Progress Report 2020 Volume I - Varietal Improvement

**Table No. 1.55: Plant Height (cm) of entries in IVT- L, Kharif 2020**

Entry No.	IET No.	ZONE III					ZONE V				
		OD		BI		Zone III (1)	CH		CH (2)	MA1 (1)	Zone V (3)
		@JYP	@RNT	BKG	@SBR	BI (1)	RPR	JDP	Mean	SKL	Mean
4401	28271	86.30	87.66					74.20	74.20		74.20
4402	28455	66.80	69.50	89.33	76.50	89.33		68.20	68.20	104.00	86.10
4403	28454	80.10	79.20	94.67	64.17	94.67	105.09	96.20	100.65	106.00	102.43
4404	28462	56.50	68.39				105.83	69.80	87.82	85.00	86.88
4405	28272	78.00	80.59	106.00	84.33	106.00	84.56	67.60	76.08	106.00	86.05
4406	28524	76.70	80.03	95.00	75.00	95.00	106.55	64.20	85.38	105.00	91.92
4407	28440	70.10	72.65	80.00		80.00	96.15	67.60	81.88	84.00	82.58
4408	29303	80.10	82.70	85.33	77.33	85.33	97.58		97.58	94.00	95.79
4409	29304	65.70	74.45	84.33	76.67	84.33	96.26	102.00	99.13	107.00	101.75
4410	29305	72.10	72.10	73.00	75.83	73.00	97.99	91.80	94.90	111.00	100.26
4411	29306	58.70	65.00	73.00	77.50	73.00	97.02	84.20	90.61	95.00	92.07
4412	28287	61.50	66.30	84.00	70.17	84.00	95.02	71.20	83.11	95.00	87.07
4413	29307	76.00	84.32	61.33		61.33	95.89	90.70	93.30	99.00	95.20
4414	29308	78.25	77.10	62.00		62.00	85.69	68.00	76.85	95.00	82.90
4415	29309	53.20	62.65	71.00	63.00	71.00	93.02	49.80	71.41	65.00	69.27
4416	28275	65.80	70.85		98.33		67.38	71.00	69.19	102.00	80.13
4417	29310	64.20	66.45	65.67		65.67		72.40	72.40	73.00	72.70
4418	29311	70.60	69.70	82.00	88.67	82.00	79.56	90.80	85.18	110.00	93.45
4419	29312	68.30	68.80	96.33	71.33	96.33	109.89	95.00	102.45	88.00	97.63
4420	Swarna (NC)	57.20	63.33	94.00	62.00	94.00	77.65	75.50	76.58	65.00	72.72
4421	29313	63.30	67.46				76.34	78.10	77.22		77.22
4422	29314	66.00	67.45	99.67	66.67	99.67	41.20	92.10	66.65	91.00	74.77
4423	29315	65.50	63.05	96.33		96.33	78.58	72.40	75.49	94.00	81.66
4424	29316	53.50	68.87	101.33	75.33	101.33	87.52	78.40	82.96	75.00	80.31
4425	29317	69.30	70.80		65.33		75.52	79.30	77.41	90.00	81.61
4426	29318	60.50	62.37		78.50		44.58	62.80	53.69	99.00	68.79
4427	29319	57.20	59.55	107.33	67.67	107.33	48.65	93.20	70.93	74.00	71.95
4428	29320	94.40	99.35	109.00	83.67	109.00	92.25	68.20	80.23	107.00	89.15
4429	29321	58.20	66.30	96.67	81.00	96.67	105.78	69.80	87.79	92.00	89.19
4430	29322	78.30	82.05	92.00	77.50	92.00		69.80	69.80	100.00	84.90
4431	29323	68.40	72.87	103.33	73.33	103.33	112.17	67.20	89.69	88.00	89.12
4432	29324	84.40	86.00	99.67	95.67	99.67	46.90	66.60	56.75	120.00	77.83
4433	Zonal Check (ZC)	66.00	69.25	104.67	76.17	104.67	120.01	70.40	95.21	77.00	89.14
4434	29325	64.80	73.85	104.00	77.17	104.00	85.42	65.40	75.41	119.00	89.94
4435	29326	88.30	91.70	104.00	103.33	104.00	95.88	68.90	82.39	123.00	95.93
4436	29327	80.00	80.07	102.33	67.33	102.33	138.05	67.00	102.53	85.00	96.68
4437	29328	72.60	76.80	99.67	79.50	99.67		74.10	74.10	93.00	83.55
4438	29329	87.50	89.65	106.33	107.83	106.33	108.18	78.10	93.14	115.00	100.43
4439	29330	72.90	77.78	104.33	86.67	104.33	119.03	80.20	99.62	100.00	99.74
4440	29331	78.00	78.27	104.33	76.67	104.33	107.41	76.80	92.11	97.00	93.74
4441	29332	63.90	64.60		71.50			72.00	72.00	95.00	83.50
4442	29333	63.60	66.11	90.67	82.00	90.67		64.80	64.80	105.00	84.90
4443	29334	70.80	70.80	95.67	87.50	95.67	93.18	65.50	79.34	100.00	86.23
4444	29335	97.30	97.30	90.67	95.00	90.67	100.41	75.40	87.91	104.00	93.27
4445	29336	72.20	72.20	102.67	72.83	102.67		78.30	78.30	117.00	97.65
4446	28288	74.10	76.60				105.11	80.40	92.76		92.76
4447	29337	63.30	65.15	122.67		122.67	87.94	69.40	78.67	92.00	83.11
4448	29338	74.40	77.15	101.33	78.67	101.33	94.30	68.60	81.45	93.00	85.30
4449	29339	54.50	75.65	101.67	77.33	101.67	93.46	63.10	78.28	97.00	84.52
4450	29340	64.00	66.05	101.67	58.33	101.67	75.85	77.80	76.83		76.83
4451	PA 6444 (HC)	69.00	76.15	101.67	78.83	101.67	97.61	81.20	89.41	109.00	95.94
4452	29341	55.10	65.70	115.67	65.33	115.67	98.11	64.80	81.46	98.00	86.97
4453	29342	69.50	76.65	119.00	72.00	119.00	89.92	82.00	85.96	83.00	84.97
4454	29343	66.30	68.65	104.33	73.00	104.33	85.95	85.40	85.68	75.00	82.12
4455	29344	63.00	64.45		79.17			87.40	87.40		87.40
4456	29345	61.20	62.85	118.33	91.00	118.33	110.44	77.80	94.12	114.00	100.75
4457	29346	73.40	69.75	104.33	71.67	104.33		69.20	69.20	103.00	86.10
4458	29347	55.50	64.30	106.00		106.00	87.94	61.20	74.57	93.00	80.71
4459	29348	72.20	74.20	100.33	70.67	100.33	78.85	79.00	78.93	85.00	80.95
4460	29349	75.30	77.80	100.33	76.67	100.33	95.78	80.90	88.34	96.00	90.89
4461	29350	95.00	94.55	101.33	91.50	101.33	114.17	64.00	89.09	103.00	93.72
4462	29351	53.20	62.95	101.33	103.33	101.33	119.73	67.60	93.67	124.00	103.78
4463	29352	73.90	73.35				56.03	70.50	63.27	64.00	63.51
4464	Local Check (LC)	87.60	94.33	104.33	73.50	104.33	164.05	69.60	116.83	86.00	106.55
	<b>Exp. Mean</b>	<b>70.06</b>	<b>73.79</b>	<b>96.59</b>	<b>78.27</b>	<b>96.59</b>	<b>93.03</b>	<b>74.68</b>	<b>82.47</b>	<b>96.00</b>	<b>87.17</b>

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**Table No. 1.55 contd.: Plant Height (cm) of entries in IVT- L, Kharif 2020**

Entry No.	IET No.	ZONE VI				ZONE VII						
		MA2 (1)	MA (2)	GU (1)	Zone VI (2)	AP		AP (2)	TE (1)	TA		TA (2)
		KJT	Mean	NVS	Mean	MTU	RGL	Mean	WGL	ADT	CBT	Mean
4401	28271	90.00	90.00		90.00							
4402	28455	107.00	105.50	91.50	99.25	106.80	106.00	106.40	110.10	112.10	99.20	105.65
4403	28454	106.50	106.25	114.70	110.60	104.90	103.00	103.95	103.90	116.40	101.00	108.70
4404	28462	90.50	87.75	93.00	91.75	109.00	103.00	106.00	92.50	112.80	85.40	99.10
4405	28272	110.50	108.25	108.60	109.55	126.40	139.00	132.70	115.50	106.60	107.60	107.10
4406	28524	102.50	103.75	96.20	99.35		110.00	110.00	105.80	93.25	83.00	88.13
4407	28440	105.50	94.75	70.60	88.05		118.00	118.00	104.50	120.60	98.00	109.30
4408	29303	91.50	92.75	97.00	94.25		101.00	101.00	95.10	109.20	99.60	104.40
4409	29304	99.50	103.25	99.20	99.35		105.00	105.00	86.20	91.10	96.60	93.85
4410	29305	104.00	107.50	100.00	102.00	111.60	105.00	108.30	95.50	91.30	79.40	85.35
4411	29306	95.50	95.25	106.60	101.05	111.90	104.00	107.95	108.20	99.20	92.00	95.60
4412	28287	93.50	94.25	98.40	95.95	113.10	115.00	114.05	95.20	85.70	97.00	91.35
4413	29307	97.00	98.00	110.10	103.55	119.40	101.00	110.20	95.10	105.60	98.40	102.00
4414	29308	95.00	95.00	104.80	99.90	115.00	102.00	108.50	95.35	104.25	104.00	104.13
4415	29309	90.00	77.50	80.70	85.35	103.40	86.00	94.70	75.30	83.40	83.60	83.50
4416	28275	104.00	103.00		104.00	121.00		121.00		100.50		100.50
4417	29310	91.00	82.00	84.00	87.50	106.00	95.00	100.50	86.30	102.10	71.80	86.95
4418	29311	117.00	113.50	116.50	116.75	137.00	131.00	134.00	107.10	133.40	113.20	123.30
4419	29312	98.00	93.00	92.20	95.10	105.70	104.00	104.85	97.25	101.35	86.40	93.88
4420	Swarna (NC)	87.00	76.00	84.80	85.90	95.70	90.00	92.85	80.75	83.00	80.00	81.50
4421	29313	89.00	89.00		89.00					121.70		121.70
4422	29314	88.00	89.50	89.70	88.85	102.00	100.00	101.00	81.30	93.80	90.00	91.90
4423	29315	104.50	99.25	103.90	104.20	125.50	120.00	122.75	105.60	119.50	110.00	114.75
4424	29316	89.00	82.00	91.60	90.30	95.90	97.00	96.45	86.00	95.20	73.40	84.30
4425	29317	96.50	93.25	99.50	98.00	103.30	107.00	105.15		95.00	82.60	88.80
4426	29318	97.20	98.10	115.40	106.30					109.55	110.20	109.88
4427	29319	106.50	90.25	104.70	105.60	113.30	110.00	111.65	88.60	103.00	92.00	97.50
4428	29320	103.00	105.00	98.50	100.75	112.20	108.00	110.10	97.50	88.35	78.80	83.58
4429	29321	130.00	111.00	127.80	128.90	136.20	132.00	134.10	118.40	140.95	126.40	133.68
4430	29322	110.00	105.00	110.10	110.05	109.30	123.00	116.15	101.10	110.35	90.40	100.38
4431	29323	96.00	92.00	103.60	99.80	110.60	106.00	108.30	96.20	107.80	96.80	102.30
4432	29324	103.50	111.75	123.60	113.55	135.00	123.00	129.00	112.80	103.40	96.60	100.00
4433	Zonal Check (ZC)	118.00	97.50	120.10	119.05	114.60	107.00	110.80	97.40	104.95	94.40	99.68
4434	29325	96.00	107.50	106.50	101.25	104.30	113.00	108.65	98.15	95.00	90.60	92.80
4435	29326	115.00	119.00	135.90	125.45	114.50	145.00	129.75	122.70	108.70	103.60	106.15
4436	29327	96.50	90.75	100.70	98.60	105.80	102.00	103.90	82.30	88.45	99.20	93.83
4437	29328	113.50	103.25	105.70	109.60	115.10	124.00	119.55	102.60	115.90	101.00	108.45
4438	29329	120.50	117.75	141.80	131.15	131.60	119.00	125.30	122.50	109.65	119.20	114.43
4439	29330	105.00	102.50	115.60	110.30	115.10	127.00	121.05	108.80	102.65	99.60	101.13
4440	29331	97.50	97.25	99.50	98.50	115.50	106.00	110.75	94.20	91.40	88.60	90.00
4441	29332	94.00	94.50	94.20	94.10					97.55	82.80	90.18
4442	29333	95.00	100.00	96.10	95.55	115.40	106.00	110.70	97.60	94.50	81.00	87.75
4443	29334	105.00	102.50	108.00	106.50	114.30	92.00	103.15	120.90	121.40	98.00	109.70
4444	29335	112.50	108.25	131.10	121.80	121.70	138.00	129.85		113.55	91.00	102.28
4445	29336	86.00	101.50	101.00	93.50	106.70	96.00	101.35	91.10	91.45	87.40	89.43
4446	28288	106.00	106.00		106.00							
4447	29337	107.00	99.50	108.00	107.50	113.90	109.00	111.45	97.60	115.25	99.50	107.38
4448	29338	107.00	100.00	97.80	102.40	117.70	125.00	121.35	103.50	107.70	98.80	103.25
4449	29339	99.50	98.25	96.80	98.15	96.90	107.00	101.95	88.20	102.20	95.40	98.80
4450	29340	87.00	87.00	91.30	89.15	92.90	88.00	90.45	80.00	91.30	84.40	87.85
4451	PA 6444 (HC)	98.50	103.75	102.10	100.30	107.80	114.00	110.90	79.80	91.75	99.00	95.38
4452	29341	99.00	98.50	96.70	97.85	112.20	115.00	113.60	80.80	101.65	79.40	90.53
4453	29342	84.00	83.50		84.00	107.30	103.00	105.15	73.10	84.60	71.60	78.10
4454	29343	93.50	84.25	94.30	93.90	109.10	93.00	101.05	86.90	91.90	89.40	90.65
4455	29344	113.50	113.50		113.50					99.90	88.80	94.35
4456	29345	107.00	110.50		107.00	123.60	123.00	123.30	102.75	106.15	116.40	111.28
4457	29346	104.50	103.75		104.50					101.50	96.60	99.05
4458	29347	106.00	99.50	101.40	103.70	126.80	118.00	122.40	102.50	115.15	105.60	110.38
4459	29348	95.70	90.35	96.30	96.00	86.60	94.00	90.30	72.40	85.40	71.60	78.50
4460	29349	101.50	98.75	105.80	103.65	115.50	116.00	115.75	95.65	115.05	93.20	104.13
4461	29350	109.50	106.25	104.30	106.90	126.00		126.00	114.90	91.05	99.80	95.43
4462	29351	122.50	123.25	138.80	130.65	137.30	149.00	143.15	124.20	127.30	99.60	113.45
4463	29352	93.00	78.50	89.30	91.15	99.60	93.00	96.30	82.10	85.35	82.80	84.08
4464	Local Check (LC)	86.00	86.00	91.50	88.75	115.70	113.00	114.35	92.50	112.25	109.60	110.93
	<b>Exp. Mean</b>	<b>101.00</b>	<b>98.54</b>	<b>103.36</b>	<b>101.95</b>	<b>113.09</b>	<b>110.53</b>	<b>111.87</b>	<b>97.26</b>	<b>103.24</b>	<b>94.02</b>	<b>98.91</b>

## Annual Progress Report 2020 Volume I - Varietal Improvement

**Table No. 1.55 contd.: Plant Height (cm) of entries in IVT- L, Kharif 2020**

Entry No.	IET No.	ZONE VII							Overall (14) Mean
		KE (1)	KA			KA (2)	PUD	Zone VII (8)	
		MNC	GNV	SRS	@PNP	Mean	@KRK	Mean	
4401	28271								82.10
4402	28455	115.40	91.00	80.80	80.88	85.90	105.20	102.68	98.57
4403	28454	114.80	95.00	85.80	80.13	90.40	108.60	103.10	103.43
4404	28462	106.65	92.00	69.40	69.25	80.70	133.30	96.34	93.45
4405	28272	134.00	111.00	83.90	73.88	97.45	100.25	115.50	107.66
4406	28524	113.62	100.00	83.90	76.25	91.95	118.60	98.51	96.85
4407	28440	130.20	93.50	83.70	78.63	88.60	122.20	106.93	96.33
4408	29303	120.70	89.50	79.80	74.00	84.65	131.20	99.27	96.69
4409	29304	99.20	83.00	84.80	55.88	83.90	124.85	92.27	94.94
4410	29305	103.90	92.50	89.80	76.50	91.15	123.00	96.13	96.20
4411	29306	106.30	90.00	84.10	69.63	87.05	119.00	99.46	96.22
4412	28287	94.00	91.00	85.50	75.13	88.25	135.20	97.06	93.83
4413	29307	128.70	90.50	82.90	79.88	86.70	123.00	102.70	98.26
4414	29308	138.50	100.00	91.30	86.38	95.65	136.50	106.30	97.21
4415	29309	96.20	69.50	73.80	64.63	71.65	146.50	83.90	80.05
4416	28275	110.50		91.80		91.80	125.75	105.95	96.02
4417	29310	104.30	83.00	81.20	65.38	82.10	115.50	91.21	85.83
4418	29311	118.50	111.00	100.80	88.50	105.90	128.00	119.00	110.56
4419	29312	104.50	82.00	81.20	75.75	81.60	132.50	95.30	95.84
4420	Swarna (NC)	96.80	78.00	78.00	57.88	78.00	100.75	85.28	83.30
4421	29313			86.50		86.50		104.10	90.33
4422	29314	100.65	73.50	77.80	64.13	75.65	109.00	89.88	87.19
4423	29315	132.50	93.50	100.30	74.13	96.90	140.00	113.36	104.04
4424	29316	99.10	79.50	84.80	61.75	82.15	110.50	88.86	88.13
4425	29317	100.80	91.50	85.10	73.63	88.30		95.04	92.18
4426	29318	115.40		99.60		99.60		108.69	94.86
4427	29319	122.30	70.00	76.80	68.38	73.40	119.75	97.00	93.60
4428	29320	115.80	95.50	93.90	83.38	94.70	118.50	98.76	97.71
4429	29321	151.20	105.50	88.30	104.88	96.90	151.00	124.87	115.79
4430	29322	114.00	85.50	102.70	87.00	94.10	131.00	104.54	101.40
4431	29323	108.90	82.50	91.30	72.13	86.90	122.50	100.01	97.89
4432	29324	108.50	95.50	101.50	77.00	98.50	135.50	109.54	102.61
4433	Zonal Check (ZC)	118.30	47.50	93.30	80.63	70.40	120.50	97.18	99.12
4434	29325	110.00	44.50	93.00	71.50	68.75	116.00	93.57	94.63
4435	29326	127.80	56.00	111.70	97.63	83.85	141.00	111.25	109.48
4436	29327	111.35	41.00	91.90	73.25	66.45	122.00	90.25	93.68
4437	29328	126.10	52.50	101.40	83.88	76.95	137.00	104.83	101.89
4438	29329	113.40	55.50	104.40	92.13	79.95	148.50	109.41	110.37
4439	29330	111.40	52.50	104.40	91.25	78.45	149.00	102.68	103.26
4440	29331	101.30	44.50	90.70	54.88	67.60	143.50	91.53	93.91
4441	29332	112.90		73.90	61.13	73.90	120.50	91.79	90.29
4442	29333	102.50	87.00	85.60	71.38	86.30	126.50	96.20	93.94
4443	29334	116.90	110.50	99.10	83.25	104.80	104.20	109.14	102.89
4444	29335		112.00	102.80	78.13	107.40		113.18	107.76
4445	29336	100.90	80.50	85.30	76.00	82.90	140.00	92.42	94.18
4446	28288	104.80						104.80	99.08
4447	29337	119.87	103.50	87.50	70.88	95.50	115.50	105.77	102.37
4448	29338	122.80	104.50	91.80	83.50	98.15	137.50	108.98	102.42
4449	29339	108.10	84.50	88.70	75.63	86.60	127.00	96.38	94.47
4450	29340	100.90	67.00	71.40	63.75	69.20	119.50	84.49	85.35
4451	PA 6444 (HC)	96.70	83.50	85.20	77.88	84.35		94.72	96.27
4452	29341	110.90	86.00	85.00	72.63	85.50	119.50	96.37	95.94
4453	29342	93.90	67.50	71.90	51.00	69.70	121.00	84.11	86.99
4454	29343	115.20	82.00	83.30	70.25	82.65	94.75	93.85	92.09
4455	29344			94.80		94.80	126.50	94.50	96.88
4456	29345	109.25	106.00	106.80	87.13	106.40	125.50	111.74	109.35
4457	29346	117.80		99.60		99.60	129.00	103.88	99.57
4458	29347	126.00	99.50	97.20	79.00	98.35	146.00	111.34	103.31
4459	29348	95.05	83.00	78.30	58.25	80.65	125.50	83.29	85.82
4460	29349	109.45	103.00	88.20	73.75	95.60	127.00	104.51	101.17
4461	29350	114.20	111.00	103.30	79.13	107.15	145.00	108.61	104.35
4462	29351	128.20	124.00	109.80	97.00	116.90	122.50	124.93	119.53
4463	29352	105.05	79.00	70.90	63.88	74.95	124.50	87.23	82.36
4464	Local Check (LC)	102.00	95.50	97.00	89.38	96.25	105.50	104.69	102.79
	<b>Exp. Mean</b>	<b>112.32</b>	<b>85.33</b>	<b>89.18</b>	<b>75.49</b>	<b>87.53</b>	<b>125.41</b>	<b>100.62</b>	<b>97.26</b>

## Annual Progress Report 2020 Volume I - Varietal Improvement

**Table No.1.56: Panicles/m<sup>2</sup> of entries in IVT L, Kharif 2020**

Entry No.	IET No.	ZONE III					ZONE V				
		OD		BI		Zone III (1)	CH		CH (2)	MA1 (1)	Zone V (3)
		@JYP	@RNT	BKG	@SBR	BI (1)	RPR	JDP	Mean	SKL	Mean
4401	28271	330	309					186	186		186
4402	28455	333	290	281	237	237		216	216	249	232
4403	28454	296	290	250	249	249	151	252	201	281	228
4404	28462	328	301				179	281	230	277	245
4405	28272	276	285	254	318	318	148	174	161	334	219
4406	28524	282	289	248	233	233	148	179	163	326	218
4407	28440	306	297	237			198	180	189	254	210
4408	29303	246	255	253	232	232	206	151	178	290	216
4409	29304	311	296	275	248	248	167	183	175	260	203
4410	29305	296	295	200	216	216	162	141	152	253	185
4411	29306	318	302	200	260	260	170	237	203	272	226
4412	28287	350	309	215	348	348	195	224	209	291	237
4413	29307	313	298	205			152	208	180	334	231
4414	29308	373	316	221			165	202	183	218	195
4415	29309	334	300	266	339	339	169	264	216	402	278
4416	28275	378	313		213	213	183	255	219	158	198
4417	29310	350	305	211				273	273	251	262
4418	29311	324	299	238	323	323	179	239	209	218	212
4419	29312	302	297	229	247	247	198	206	202	229	211
4420	Swarna (NC)	323	307	226	270	270	180	192	186	291	221
4421	29313	300	295				215	202	209		209
4422	29314	412	353	250	242	242	209	209	209	221	213
4423	29315	336	323	293			196	124	160	183	167
4424	29316	296	296	260	253	253		228	228	155	191
4425	29317	276	276		226	226	136	281	208	168	195
4426	29318	331	305		153	153	149	225	187	163	179
4427	29319	320	305	287	295	295	160	223	192	209	197
4428	29320	311	302	231	232	232	193	271	232	302	255
4429	29321	276	272	215	306	306	186	183	185	120	163
4430	29322	315	299	265	294	294		180	180	206	193
4431	29323	305	293	300	220	220	203	235	219	183	207
4432	29324	360	322	268	208	208	204	224	214	255	228
4433	Zonal Check (ZC)	292	292	245	283	283	191	165	178	172	176
4434	29325	352	340	267	210	210	176	214	195	187	192
4435	29326	356	333	266	240	240	209	213	211	251	224
4436	29327	307	302	246	224	224	203	224	213	203	210
4437	29328	323	323	227	214	214		181	181	203	192
4438	29329	235	235	226	222	222	157	224	190	312	231
4439	29330	269	269	218	255	255	143	204	173	239	195
4440	29331	260	260	266	243	243	167	249	208	231	216
4441	29332	376	354		223	223		273	273	337	305
4442	29333	265	260	266	242	242		220	220	302	261
4443	29334	240	246	261	218	218	179	195	187	290	221
4444	29335	303	308	256	215	215	157	164	160	354	225
4445	29336	286	285	254	231	231		258	258	198	228
4446	28288	293	293				170	224	197		197
4447	29337	306	301	227				236	236	209	222
4448	29338	331	331	226	220	220	195	209	202	254	219
4449	29339	324	324	245	250	250	178	223	200	225	208
4450	29340	286	286	284	240	240	191	230	211		211
4451	PA 6444 (HC)	235	237	288	286	286	167	141	154	272	193
4452	29341	263	263	231	273	273	164	199	181	222	195
4453	29342	334	329	246	193	193	162	208	185	266	212
4454	29343	349	323	297	187	187	187	198	193	280	222
4455	29344	430	331		230	230		163	163		163
4456	29345	300	298	232	258	258	196	190	193	245	210
4457	29346	280	283	291	175	175		214	214	167	191
4458	29347	263	238	271				217	217	205	211
4459	29348	349	333	265	195	195	149	220	184	172	180
4460	29349	336	332	287	243	243	160	183	171	169	170
4461	29350	283	287	277	239	239	190	230	210	189	203
4462	29351	365	317	265	197	197	192	225	209	172	196
4463	29352	300	312					176	196	186	204
4464	Local Check (LC)	282	301	291	330	330	154	168	161	277	199
	<b>Exp. Mean</b>	<b>312</b>	<b>299</b>	<b>252</b>	<b>244</b>	<b>244</b>	<b>177</b>	<b>210</b>	<b>198</b>	<b>240</b>	<b>211</b>

**Table No. 1.56 contd.: Panicles/m<sup>2</sup> of entries in IVT L, Kharif 2020**

Entry No.	IET No.	ZONE VI				ZONE VII			
		MA2 (1)	MA (2)	GU (1)	Zone VI (2)	AP		AP (2)	TE (1)
		KJT	Mean	NVS	Mean	MTU	RGL	Mean	WGL
4401	28271	231	231		231				
4402	28455	231	240	190	211	290	346	318	444
4403	28454	190	235	249	219	290	249	269	444
4404	28462	228	252	217	222	310	284	297	437
4405	28272	190	262	271	230	323	398	360	426
4406	28524	182	254	263	222		341	341	454
4407	28440	191	222	333	262		343	343	446
4408	29303	198	244	234	216		321	321	437
4409	29304	216	238	256	236		234	234	457
4410	29305	229	241	209	219	307	228	267	429
4411	29306	182	227	230	206	310	302	306	427
4412	28287	165	228	232	198	304	364	334	426
4413	29307	238	286	229	233	290	315	303	460
4414	29308	218	218	267	242	297	263	280	450
4415	29309	246	324	176	211	307	384	345	427
4416	28275	190	174		190	297		297	
4417	29310	173	212	261	217	274	359	316	465
4418	29311	180	199	239	209	297	330	313	452
4419	29312	231	230	246	239	314	317	315	457
4420	Swarna (NC)	215	253	249	232	277	323	300	450
4421	29313	203	203		203				
4422	29314	173	197	238	206	300	279	289	429
4423	29315	226	205	248	237	310	362	336	424
4424	29316	201	178	242	221	244	286	265	419
4425	29317	185	176	265	225	284	362	323	
4426	29318	201	182	248	224				
4427	29319	221	215	280	251	290	402	346	446
4428	29320	203	252	255	229	323	268	296	446
4429	29321	185	152	272	228	317	284	300	459
4430	29322	218	212	248	233	294	383	338	455
4431	29323	198	190	233	215	297	396	347	447
4432	29324	215	235	268	241	337	270	303	446
4433	Zonal Check (ZC)	198	185	266	232	290	289	289	455
4434	29325	177	182	246	211	317	399	358	436
4435	29326	182	216	247	214	300	338	319	457
4436	29327	185	194	271	228	257	302	279	454
4437	29328	218	210	258	238	290	305	297	450
4438	29329	200	256	280	240	310	258	284	444
4439	29330	223	231	245	234	290	259	275	452
4440	29331	198	214	285	242	271	399	335	446
4441	29332	198	267	169	184				
4442	29333	167	234	259	213	310	398	354	439
4443	29334	182	236	256	219	304	302	303	441
4444	29335	200	277	255	227	429	327	378	
4445	29336	198	198	268	233	304	244	274	457
4446	28288	200	200		200				
4447	29337	208	208	249	228	310	238	274	444
4448	29338	219	237	278	248	317	343	330	465
4449	29339	165	195	254	209	310	304	307	446
4450	29340	158	158	259	209	284	297	290	441
4451	PA 6444 (HC)	175	223	264	219	284	317	300	442
4452	29341	254	238	235	245	320	337	329	467
4453	29342	183	224		183	327	330	328	450
4454	29343	231	255	250	241	350	264	307	431
4455	29344	203	203		203				
4456	29345	200	222		200	284	323	303	459
4457	29346	269	218		269				
4458	29347	213	209	245	229	317	271	294	450
4459	29348	218	195	227	222	277	323	300	447
4460	29349	257	213	253	255	294	343	318	446
4461	29350	186	187	236	211	310		310	449
4462	29351	218	195	260	239	317	356	336	470
4463	29352	165	203	248	206	294	284	289	406
4464	Local Check (LC)	178	227	253	215	304	350	327	450
	<b>Exp. Mean</b>	<b>203</b>	<b>220</b>	<b>249</b>	<b>223</b>	<b>303</b>	<b>318</b>	<b>310</b>	<b>445</b>

## Annual Progress Report 2020 Volume I - Varietal Improvement

**Table No.1.56 contd.: Panicles/m<sup>2</sup> of entries in IVT L, Kharif 2020**

Entry No.	IET No.	ZONE VII										Overall (14) Mean	
		TA		TA (2)	KE (1)	KA			KA (2)	PUD	Zone VII (8)		
		ADT	CBT	Mean	MNC	GNV	SRS	@PNP	Mean	@KRK	Mean		
4401	28271												208
4402	28455	321	360	341	353	306	294	330	300	467	339		298
4403	28454	334	348	341	413	425	382	330	404	242	361		304
4404	28462	328	318	323	303	335	352	336	343	384	333		296
4405	28272	336	393	364	280	327	314	319	320	404	349		297
4406	28524	347	324	335	310	321	327	292	324	203	346		290
4407	28440	336	368	352	360	341	413	336	377	249	372		307
4408	29303	353	425	389	227	346	371	341	359	307	354		293
4409	29304	323	475	399	473	361	374	209	367	386	385		312
4410	29305	286	363	324	423	352	366	303	359	428	344		282
4411	29306	342	393	367	400	338	410	413	374	488	365		301
4412	28287	281	383	332	550	401	413	363	407	515	390		317
4413	29307	333	453	393	253	346	374	347	360	310	353		299
4414	29308	330	473	401	423	336	413	391	374	408	373		305
4415	29309	299	349	324	497	424	368	352	396	316	382		327
4416	28275	299		299	390		366		366	299	338		267
4417	29310	321	350	336	297	370	424	369	397	265	357		310
4418	29311	333	371	352	473	363	366	264	364	495	373		305
4419	29312	339	330	335	360	374	316	286	345	476	351		296
4420	Swarna (NC)	315	400	357	470	375	404	347	389	328	377		312
4421	29313	329		329			314		314		321		252
4422	29314	308	490	399	493	315	429	319	372	358	380		310
4423	29315	304	469	386	387	262	377	374	319	391	362		297
4424	29316	339	518	428	297	269	311	303	290	376	335		290
4425	29317	339	346	343	283	310	374	242	342		328		278
4426	29318	305	363	334	483		366		366		379		278
4427	29319	321	360	341	433	336	446	369	391	364	379		315
4428	29320	283	310	296	300	325	347	264	336	445	325		290
4429	29321	314	496	405	213	314	300	281	307	411	337		275
4430	29322	281	358	319	347	335	393	358	364	468	356		305
4431	29323	357	338	347	300	249	418	297	333	283	350		296
4432	29324	325	349	337	340	273	308	319	290	344	331		291
4433	Zonal Check (ZC)	261	370	316	377	327	454	314	390	563	353		290
4434	29325	311	480	395	433	307	380	396	343	387	383		309
4435	29326	322	348	335	260	361	358	297	359	317	343		293
4436	29327	272	445	359	407	296	401	325	349	444	354		297
4437	29328	326	384	355	270	274	363	275	319	277	333		288
4438	29329	318	429	373	393	243	462	286	353	367	357		304
4439	29330	306	319	312	463	269	459	292	364	425	352		292
4440	29331	276	383	329	380	285	368	253	327	261	351		300
4441	29332	317	454	385	1008		462	468	462	307	560		402
4442	29333	261	489	375	527	296	467	407	381	329	398		338
4443	29334	348	321	334	543	313	413	352	363	593	373		310
4444	29335	305	313	309		347	377	303	362		349		290
4445	29336	351	323	337	320	339	347	270	343	426	335		297
4446	28288				770						770		341
4447	29337	328	370	349	327	326	377	319	351	487	340		296
4448	29338	362	373	367	433	348	358	330	353	412	375		313
4449	29339	297	351	324	360	330	335	336	333	486	342		287
4450	29340	361	499	430	323	303	396	418	350	285	363		310
4451	PA 6444 (HC)	281	375	328	377	331	388	341	359		349		293
4452	29341	328	393	360	487	378	424	303	401	446	392		317
4453	29342	378	556	467	647	365	382	341	373	276	429		346
4454	29343	327	550	438	703	365	404	303	385	582	424		345
4455	29344	309	365	337			404		404	327	359		289
4456	29345	334	413	373	373	357	338	275	348	263	360		303
4457	29346	291	443	367	298		347		347	323	344		290
4458	29347	360	396	378	270	232	380	347	306	474	334		294
4459	29348	288	493	390	460	297	374	429	336	384	370		301
4460	29349	329	470	400	287	345	371	374	358	466	361		299
4461	29350	273	488	380	430	327	327	286	327	426	372		301
4462	29351	347	340	344	440	371	352	303	361	312	374		309
4463	29352	365	413	389	357	336	426	336	381	325	360		300
4464	Local Check (LC)	319	493	406	386	329	385	297	357	486	377		310
	Exp. Mean	319	402	359	404	329	379	327	356	383	369		301



**ADVANCE VARIETY TRIAL 1 - BORO (AVT 1- BORO) 2019-20****Locations: 07****Test Entries: 06****Checks: Gautam (National), IR 64 (Zonal), Rajalaxmi (Hybrid) and Local Check Table:1.57**

Advanced Variety Trial 1 – Boro was constituted with seven test and four checks namely IR 64, Gautam, Rajalaxmi (Hybrid) and Local Check. All the seven test entries were in second year of testing which also includes one test hybrid (IET 28092). The trial was sent to 11 locations and data was received from seven locations namely Cuttack (NRRI), Chinsurah, Pundibari, Varanasi, Arundhatinagar, Lembucherra, and Gerua. Data from Chinsurah (low CV 4.09%) and Arundhatinagar (low experimental yield-3348kg/ha) did not considered for analysis. The data pertaining to yield, days to 50% flowering, plant height, number of panicles/m<sup>2</sup> and quality are presented in tables 1.58, 1.59, 1.60, 1.61 and 1.62. The remaining five locations were considered for analysis in Zone III and Zone IV.

In overall, data from five locations was considered for analysis. Grain yield was ranged from 4226 kg/ha (Rajalaxmi) to 6044 kg/ha (Local check) and days to 50% flowering ranged from 98 (Rajalaxmi and IET 28092) to 117 days (IET 28089). Among the checks, local check recorded maximum grain yield of 6044 kg/ha whereas, none of the test entries showed yield superiority over the best check.

In Zone III, data from three locations (Cuttack, Pundibari and Varanasi) was considered for analysis. Grain yield was ranged from 2751 kg/ha (Rajalaxmi) to 6517 kg/ha (IET 28099) and days to 50% flowering ranged from 99 (Rajalaxmi) to 126 days (Local check). Among the checks, Gautam recorded maximum grain yield of 6365 kg/ha whereas, none of the test entries showed yield superiority over the best check.

In Zone IV, data from two locations (Lembucherra and Gerua) was considered for analysis. Grain yield was ranged from 2869 kg/ha (IET 28089) to 6298 kg/ha (Local check) and days to 50% flowering ranged from 85 (IET 28109) to 107 days (IET 28089). Among the checks, Local check recorded maximum grain yield of 6298 kg/ha whereas, none of the test entries showed yield superiority over the best check.

**Performance of checks in Advanced Variety Trial 1 - Boro during 2019-20**

Checks	Zone III (3)		Zone IV (2)		Overall (5)	
	Grain yield (kg/ha)	Days to 50% flowering	Grain yield (kg/ha)	Days to 50% flowering	Grain yield (kg/ha)	Days to 50% flowering
<b>Gautam</b>	<b>6365 (BC)</b>	113	5529	89	6030	104
<b>IR 64</b>	6013	115	4858	89	5551	105
<b>Rajalaxmi (Hybrid)</b>	2751	99	5700	97	4226	98
<b>Local Check</b>	5875	126	<b>6298 (BC)</b>	96	<b>6044 (BC)</b>	114

\*BC-Best check

**INITIAL VARIETY TRIAL -BORO (IVT - BORO) 2019-20****Locations: 07****Test Entries: 41****Checks: Gautam (National), IR 64 (Zonal), Rajalaxmi (Hybrid) and Local Check Table:1.63**

The IVT-Boro trial was constituted with 41 test entries including one hybrid entry in the first year of testing and four checks namely, IR-64 (National), Gautam (Zonal), Rajalakshmi (Hybrid) and Local Check. The trial was sent to 11 locations while data was received from seven locations in zone III (NRRI Cuttack, Chnisurah and Pundibari, Varanasi) and zone IV (Lembucherra, Arundhatinagar and Gerua). The remaining four locations namely, Chakada, Pusa, ICAR Patna and RARS Shillongoni did not provide the information. Of the seven locations tested, Arundhatinagar recorded high CV (25.25%) and no data for yield attributing traits (yield, days to 50% flowering, plant height and number of panicles) for 13 entries including hybrid check, hence the location was not considered for analysis. The data pertaining to yield, days to 50% flowering, plant height and panicles/m<sup>2</sup> are presented in tables 1.64, 1.65, 1.66 and 1.67. The remaining six locations were considered for assessing the performance of test entries and discussed below.

**Overall performance**

Overall mean grain yield was ranged from 3356 (IET 28861) to 4055 kg/ha (IET 28848) and days to 50% flowering from 99 (IET 28852) to 133 days (IET 28864). Among checks, local check recorded highest grain yield of 6044 kg/ha, whereas, hybrid check recorded 4055 kg/ha.

Among test entries, IET 28848 (Hybrid) recorded 21 % (over best varietal check) and 81% (over hybrid check), IET 28858 recorded 11% and IET 28876 recorded 7% yield advantage over the best check. Hence, **IETs 28848 (Hybrid), 28858 and 28876 were promoted to second year of testing.**

**Zone III**

Data from four locations (NRRI Cuttack, Chnisurah and Pundibari, Varanasi) was considered for assessing the performance of test entries in Zone III. The grain yield was ranged from 2965 (IET 28861) to 7607 kg/ha (IET 28850) and days to 50% flowering ranged from 102 (IET 28852) to 137 days (IET 28853). Among checks, Gautam recorded highest yield of 6140 kg/ha, whereas, hybrid check recorded 3835 kg/ha.

Among test entries, four varietal test entries, IETs 28840 (11%), 28852 (9%), 28858 (9%), 28842 (5%) and four hybrid test entries 28848H (23%, 97%), 28849H (21, 94), 28850H (24, 98), 28851H (18, 89) recorded required yield superiority over best check (varietal best check and hybrid check respectively). Hence, eight test entries, **IETs 28840, 28852, 28858, 28842, 28848(Hybrid), 28849(Hybrid), 28850(Hybrid) and 28851(Hybrid) were promoted to second year of testing.**

**Zone IV**

Data from two locations (Lembucherra and Gerua) was considered for assessing the performance of test entries in Zone IV. The grain yield was ranged from 2772 (IET 2884) to 7715 kg/ha (IET 28864) and days to 50% flowering 76 (IET 28841) to 103 days (IET 28873). Among checks, local check recorded highest grain yield of 6586 kg/ha, whereas, hybrid check recorded 4274 kg/ha.

**Performance of superior entries and checks in IVT – BORO during 2019-20**

S. No.	IET No./ Designation	Zone III		Zone IV		Overall	
		Kg/ha	%BVC/HC	Kg/ha	%BVC/HC	Kg/ha	%BVC/HC
1	IET 28840 PUR-B-190	6810	11	-	-	-	-
2	IET 28842 CR3783-2-1-1-1-7-1	6449	5	-	-	-	-
3	IET 28848 JKRH 2728 (Hybrid)	7557	23, 97	-	-	7343	21, 81
4	IET 28849 NK 5231 (Hybrid)	7445	21, 94	-	-	-	-
5	IET 28850 HRM-424 (Hybrid)	7607	24, 98	-	-	-	-
6	IET 28851 HIRO-2 (Hybrid)	7254	18, 89	-	-	-	-
7	IET 28852 CR 4311-2-2-2-1-2-2	6695	9	-	-	-	-
8	IET 28858 CR 4212-12-17-1-1-2-1-1	6693	9	-	-	6693	11
9	IET 28859 CN 2227-IR- 16F 1035	-	-	7176	9	-	-
10	IET 28864 KAUPTB- 2011- Mutant- 49-2-1-1-1	-	-	7715	17	-	-
11	IET 28867 HTW 65-IR16F 1070	-	-	7506	14	-	-
12	IET 28876 CR 4312-5-1-1-3	-	-	7349	12	6491	7
<b>Gautam -Check 1</b>		<b>6140</b>		3852		5378	
<b>IR64 -Check 2</b>		5963		3569		5165	
<b>Local check -Check 3</b>		5774		<b>6586</b>		<b>6044</b>	
<b>Rajalakshmi (Hybrid) - Check 4</b>		<b>3835</b>		<b>4274</b>		<b>4055</b>	

Among test entries, IETs 28864 (17%), 28867(14%), 28876(12%) and 28859 (9%) recorded required yield advantage over the best check, hence, they have been promoted to second year of testing.

**Table No. 1.57: Composition of entries in Advance Variety Trial 1 - Boro (AVT 1-BORO) 2019-20**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>2<sup>nd</sup> year of testing:</b>				
5001	28099	CR 3983-2-1-1-2-1	IR 64 / IET 21692 // IET 23448	LS
5002	28102	PUR-B-124	Bhog Jeera 1 / Gontra Bidhan 1	LB
5003	28109	CR 3883-3-1-5-2-1-2	Annapurna / FL 378 // Annapurna	LS
5004	<b>Gautam Check</b>			
5005	28089	KAUM 250-1-1-1-1-1	Pokkali / Thavalakkannan	MB
5006	<b>IR 64 Check</b>			
5007	28091	CR 3856-44-22-2-1-10-3-1	IR 73963-86-1-5-2-2 / CR 2324-1	MS
5008	<b>Rajalaxmi Hybrid Check</b>			
5009	28092	<i>CRHR 129 (Hybrid)</i>	-	MS
5010	<b>Local Check</b>			

**Table No.1.58: Grain yield (Kg/ha) of AVT 1-Boro, 2019-2020**

Entry No.	IET No.	ZONE III														
		OD		WB			WB(1)			UP		ZONEIII(3)				
		CTK	@ CHN	PNB		Mean	VRN		Mean							
5001	28099	5980	4	4261	1*	5917	2 #	5917	2 #	115%	7653	2	6517	1 #	137%	
5002	28102	5440	7	3759	6	6797	1* #	6797	1*	18% #	147%	6660	4	6299	3 #	129%
5003	28109	7173	1	17%	3759	6	5520	4 #	5520	4 #	101%	4627	7	5773	6 #	110%
5004	Gautam Check	6147	3		3801	5	5220	6 #	5220	6 #	90%	7727	1	6365	2 #	131%
5005	28089	6653	2	8%	3843	4	2580	10	2580	10		6180	6	5138	8 #	87%
5006	IR 64 Check	4880	8		3968	2	5760	3 #	5760	3 #	109%	7400	3	6013	4 #	119%
5007	28091	5927	5		3425	8	4980	7 #	4980	7 #	81%			5454	7 #	98%
5008	Rajalaxmi Hybrid Check						2751	9	2751	9				2751	10	
5009	28092						2933	8	2933	8				2933	9	
5010	Local Check	5650	6		3885	3	5367	5 #	5367	5 #	95%	6607	5	5875	5 #	114%
Exp. Mean		5981			3838		4782		4782			6693		5312		
CD		1103.34			274.76		605.13		605.13			2798.01		804.61		
CV%		10.53			4.09		7.38		7.38			23.5		8.83		
	D/S		01-02-2020		01-03-2020		23-01-2020					28-11-2019				
	D/P		02-04-2020		19-02-2020		18-02-2020					27-01-2020				
	Local Check Name		Tapaswini		Satabdi (IET)		MTU 1153					HUR-105				

**Table No. 1.58 contd.: Grain yield (Kg/ha) of AVT 1-Boro, 2019-2020**

Entry No.	IET No.	ZONE IV											Overall Mean(5)		
		TR			TR(1)		AS (1)		Zone IV (2)						
		@ARD	LMB		Mean	GER	Mean								
5001	28099	3333	3	6545	2	6545	2	15%	3323	6	4934	6	5884	3 #	39%
5002	28102	4250	1	4760	9	4760	9		4321	3	4541	8	5596	4 #	32%
5003	28109	2927	8	5283	8	5283	8		3206	7	4245	9	5162	7	22%
5004	Gautam Check	3546	2	5760	5	5760	5		5298	2	5529	4	6030	2 #	43%
5005	28089	3126	6	1440	10	1440	10		4298	4	2869	10	4230	9	
5006	IR 64 Check	3266	4	5795	4	5795	4		3920	5	4858	7	5551	5 #	31%
5007	28091	3227	5	5391	7	5391	7				5391	5	5433	6 #	29%
5008	Rajalaxmi Hybrid Check			5700	6	5700	6				5700	3	4226	10	
5009	28092			6081	3	6081	3				6081	2	4507	8	
5010	Local Check	3114	7	6914	1	6914	1	21%	5682	1	6298	1	6044	1 #	43%
Exp. Mean		3348		5367		5367			4293		5044		5266		
CD		1100.33		2609.8		2609.8			1777.25		2029.72		1088.37		
CV%		18.76		28.35		28.35			23.27		23.46		12.05		
	D/S		12-11-2019		03-12-2019				12-09-2019						
	D/P				18-12-2019										
	Local Check Name		Naveen						Chandrama						

**Table No. 1.59: Days to 50% flowering of AVT1-Boro, 2019-2020**

Entry No.	IET NO	Zone III					Zone III (3) Mean	Zone IV				Zone IV (2) Mean	Overall (5) Mean
		OD	WB		WB (1)	UP		TR		TR (1)	AS		
		CTK	@CHN	PNB	Mean	VRN		@ARD	LMB	Mean	GER		
5001	28099	111	112	103	103	154	122	126	98	98	85	92	110
5002	28102	101	115	107	107	162	123	129	94	94	90	92	111
5003	28109	92	113	99	99	143	112	124	93	93	76	85	101
5004	Gautam Check	94	114	101	101	145	113	126	98	98	80	89	104
5005	28089	103	130	100	100	165	123	145	111	111	103	107	117
5006	IR 64 Check	94	111	101	101	152	115	127	93	93	85	89	105
5007	28091	111	110	98	98		105	124	96	96		96	102
5008	Rajalaxmi Hybrid			99	99		99	127	97	97		97	98
5009	28092			100	100		100		95	95		95	98
5010	Local Check	112	114	103	103	162	126	126	96	96	96	96	114
	Exp Mean	102	115	101	101	155	119	128	97	97	88	92	109

**Table No. 1.60: Plant Height (cm) of AVT 1-Boro, 2019-2020**

Entry No.	IET NO	Zone III					Zone III (3) Mean	Zone IV				Zone IV (2) Mean	Overall (5) Mean
		OD	WB		WB (1)	UP		TR		TR (1)	AS		
		CTK	@CHN	PNB	Mean	VRN		@ARD	LMB	Mean	GER		
5001	28099	98	110	101	101	97	99	126	102	102	97	99	99
5002	28102	97	114	122	122	108	109	129	107	107	106	107	108
5003	28109	107	138	118	118	110	112	125	103	103	106	104	109
5004	Gautam Check	85	109	93	93	87	88	126	80	80	86	83	86
5005	28089	97	111	100	100	94	97	145	91	91	107	99	98
5006	IR 64 Check	83	104	87	87	84	85	127	87	87	87	87	85
5007	28091	98	108	110	110		104	124	97	97		97	101
5008	Rajalaxmi Hybrid			107	107		107		95	95		95	101
5009	28092			98	98		98		100	100		100	99
5010	Local Check	100	119	115	115	86	100	125	100	100	107	103	101
	Exp Mean	96	114	105	105	95	99	129	96	96	99	98	98

**Table No. 1.61: No. of Panicles/m2 of AVT1-Boro, 2019-2020**

Entry No.	IET NO	Zone III					Zone III (3) Mean	Zone IV				Zone IV Mean (2)	Overall Mean (5)
		OD	WB		WB (1)	UP		TR		TR (1)	AS		
		CTK	@CHN	PNB	Mean	VRN		@ARD	LMB	Mean	GER		
5001	28099	472	363	222	222	386	360	335	283	283	328	306	338
5002	28102	397	374	290	290	361	349	336	275	275	265	270	318
5003	28109	410	297	269	269	216	298	322	267	267	284	275	289
5004	Gautam Check	496	275	277	277	400	391	364	475	475	328	402	395
5005	28089	373	308	301	301	350	342	313	317	317	362	340	341
5006	IR 64 Check	524	407	283	283	457	421	386	408	408	348	378	404
5007	28091	369	297	278	278		323	325	358	358		358	335
5008	Rajalaxmi Hybrid			209	209		209		358	358		358	284
5009	28092			210	210		210		308	308		308	259
5010	Local Check	485	385	300	300	304	363	314	317	317	320	319	345
	Exp Mean	441	338	264	264	353	353	337	337	337	320	328	343

**Table No. 1.63: Composition of entries in Initial Variety Trial -Boro (IVT- BORO) 2019-20**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>1<sup>st</sup> year of testing:</b>				
5101	28838	CR 2829-23-1	Naveen / ARC 10075	LB
5102	28839	CRAC-3998-104-2	DH of 27P61	MB
5103	28840	PUR- B-190	Nilachal / MTU 7029	MS
5104	28841	CR 3561-3-2-1-1-1-1	Surendra / Annapurna	MS
5105	28842	CR 3783-2-1-1-1-7-1	Surendra / Abhaya	MS
5106	28843	TRC 2019-26	Gomati / Hakuchuk 2	
5107	28844	CRAC-3995-48	DH of BS6444G	LS
5108	<b>Gautam Check</b>			
5109	28845	CR 3967-11-1-1-1-1-1-1	IR 73895-33-1-3-2 / Pratikshya	MS
5110	28846	CRAC 3994-9-1	DH of CRHR32	LS
5111	28847	TRC 2019-29	Tripura Nirog / Hakuchuk 2	
5112	28848	<i>JKRH 2728 (Hybrid)</i>	-	
5113	28849	<i>NK 5231 (Hybrid)</i>	-	
5114	28850	<i>HRM-424 (Hybrid)</i>	-	
5115	<b>Rajalaxmi Check</b>			
5116	28851	<i>HIRO-2 (Hybrid)</i>	-	
5117	28852	CR 4311-2-2-2-1-2-2	CR 3580-33 / CR3580-71	MS
5118	28853	KAUM 200-2-2-3-2-1	Bhadra / Uma	MB
5119	28854	CR 3568-38-1-1-3-1	IR 36 / Lalat	MS
5120	28855	CR 3741-1-1-2-1-2-1	Pooja / Lalat	MS
5121	28856	TRC 2019-28	Naveen / Bhalum 3	
5122	28857	HTW 66-IR16F 1149	IR11F262 / PR30245-10-414	
5123	28858	CR 4212-12-17-1-1-2-1-1	Sahabhagi Dhan / IR 20	MS
5124	28859	CN 2227- IR 16F 1035	IR09F436 / IR04A115	
5125	28860	CR 3856-76-11-2-2-1-3	IR 73963-86-1-5-2-2 / CR 2324-1	MS
5126	28861	CRAC 3998-43-1	DH of 27P61	MS
5127	28862	TRC 2019-30	Pyzum / Sambha Mahsuri	
5128	<b>IR 64 Check</b>			
5129	28863	CR 3511-1-1-1-4-2-1	IR 36 / Surendra	MS
5130	28864	KAUPTB 2011-mutant 49-2-1-1-1	170 Gy mutant of PTB 18	
5131	28865	TRC 2019-25	Gomati / Naveen	
5132	28866	CR 4310-1-2-1-2-1-1	CR 3511-31 / CR355	MB
5133	28867	HTW 65-IR16F 1070	IR09F436 / IRION237	
5134	28868	CRAC 3998-77	DH of 26P61	MS
5135	28869	CR 3938-11-1-8-1-1-1-2-1	IR 78629-57-3-3-9 / Pratikshya	MS
5136	28870	KAUPTB 2011-mutant 45-3-1-2-1	170 Gy mutant of PTB 18	
5137	28871	PRR 3007 (PS 613-17-2-13-5-21-3)	IET 4786 / IR 58025B	LS
5138	28872	CR 3561-5-1-1-1-1-2	Surendra / Annapurna	MS
5139	28873	CN 2226-IR 16F 1023	IR09F436 / IR04A115	
5140	28874	CR 4116-18-2-1-1-1	IR 82489-7-2-2-2 / CR 2682-9-1	MS
5141	28875	KAUM 194-3-1-1-1-1	Kattamodan/ Bhadra	MB
5142	28876	CR 4312-5-1-1-3	CR 3856-44-22-2-1 / IR 64 MAS	SB
5143	28877	TRC 2019-27	Gomati / Tripura Nirog	
5144	28878	CR 3561-3-1-2-2-1-2	Surendra / Annapurna	MS
5145	<b>Local Check</b>			

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**Table No.1.64: Grain yield (kg/ha) of IVT-Boro, 2019-2020**

Entry No.	IET No.	Zone III							
		OR(1)				WB			
		CTK		CHN		PNB		WB(2)	
5101	28838	5620	# 47%	4660		6660	4	5660	7
5102	28839	6380	# 66%	4405		5750	9	5078	
5103	28840	6165	# 61%	6244	1	7770	3 *	7007	1 29%
5104	28841	7425	2 8% # 94%	4261		4320		4291	
5105	28842	7260	4 5.4% # 89%			5917	6	5917	4 9%
5106	28843	3525		4795		4473		4634	
5107	28844	6760	8 # 76%	4960	8	4560		4760	
5108	Gautam Check	6890	7	4194		5217		4706	
5109	28845	4760	, 24%	4727		3950		4339	
5110	28846	6090	# 59%	5592	4	4080		4836	
5111	28847	2480		4826		4140		4483	
5112	28848	5840	# 52%			4980		4980	
5113	28849	5820	# 52%	5126	6			5126	
5114	28850	7080	6 # 85%			5820	7	5820	5 7%
5115	Rajalaxmi Hybrid Check	3835							
5116	28851	6180	# 61%	4494		7790	2 *	6142	3 13%
5117	28852	6695	10 # 75%						
5118	28853	3770		4746		5820	7	5283	
5119	28854					4050		4050	
5120	28855	4280	, 12%	4894	10	4080		4487	
5121	28856	4690	, 22%	4494		3210		3852	
5122	28857	7310	3 6% # 91%			3643		3643	
5123	28858	6730	9 # 75%	4561		7800	1 *	6181	2 14%
5124	28859					4450		4450	
5125	28860	3155		5126	6	4740		4933	
5126	28861	2965							
5127	28862	5750	# 50%	4694		6077	5	5386	9
5128	IR 64 Check	3775		5938	3	4950		5444	8
5129	28863	4330	, 13%	4194		3750		3972	
5130	28864								
5131	28865	5270	, 37%	6124	2	5460	10	5792	6 6%
5132	28866					4560		4560	
5133	28867	5475	# 43%						
5134	28868	4495	, 17%	4476				4476	
5135	28869	4675	, 22%	4913	9	5460	10	5187	
5136	28870								
5137	28871	2695		4489		3600		4045	
5138	28872	5775	# 51%	4695		3840		4268	
5139	28873	5205	, 35%	4567		4000		4284	
5140	28874	5700	# 49%	4660		4110		4385	
5141	28875	7670	1 11% # 100%	4660		3750		4205	
5142	28876	4690	, 22%			4020		4020	
5143	28877	7200	5 # 88%	4696		4950		4823	
5144	28878	4965	, 29%						
5145	Local Check	5475		5312	5	5367		5340	10
<b>Exp. Mean</b>		<b>5371</b>		<b>4851</b>		<b>4920</b>		<b>4851</b>	
CD		1536.78		345.22		1429.65		1948.75	
CV%		<b>17.6</b>		<b>4.35</b>		<b>17.84</b>		<b>24.69</b>	
D/S		02-01-2020		06-12-2019		23-01-2020			
D/P		14-02-2020		28-01-2020		17-02-2020			
Local Check Name		Tapaswini		Ajit		MTU 1153			

## Annual Progress Report 2020 Volume I - Varietal Improvement

**Table No.1.64 contd.: Grain yield (kg/ha) of IVT-Boro, 2019-2020**

Entry No.	IET No.	Zone III					Zone IV		
		UP (1)		Zone III (4)			TR		
		VRN		Mean			ARD@	LMB	
5101	28838	5300		5560		45%		5312	#
5102	28839	5550		5521		44%	4216	9	3185
5103	28840	7060		6810	5	11% # 78%	5910	2	3527
5104	28841	7220		5807		51%	3690		
5105	28842	6170		6449	8	5% # 68%	3856		
5106	28843			4264		11%		4295	
5107	28844	6220		5625		47%	3605		
5108	Gautam Check	8260	9	6140			2765		3575
5109	28845	6810		5062		32%	3501		4664
5110	28846	6590		5588		46%	1904		7345
5111	28847	6710		4539		18%	6521	1	6121
5112	28848	11850	1 * 29%	7557	2	23% # 97%	4439	6	7561
5113	28849	11390	2 * 24%	7445	3	21% # 94%			3857
5114	28850	9920	4 8%	7607	1	24% # 98%	4613	4	3610
5115	Rajalaxmi Hybrid Check			3835					4274
5116	28851	10550	3 15%	7254	4	18% # 89%	3977		4039
5117	28852			6695	6	9% # 75%			3142
5118	28853	4480		4704		23%	4490	5	4291
5119	28854			4050					5563
5120	28855	7850		5276		38%	2245		6618
5121	28856	9680	5 5% #	5519		44%	3164		3700
5122	28857			5477		43%	3183		3739
5123	28858	7680		6693	7	9% # 75%			
5124	28859			4450		16%			7176
5125	28860	6780		4950		29%	4904	3	5971
5126	28861			2965					3746
5127	28862	8580	8	6275	9	# 64%	3140		4236
5128	IR 64 Check	9190	6	5963			2814		3594
5129	28863	7210		4871		27%	4367	7	7347
5130	28864	3910		3910					7715
5131	28865	8230	10	6271	10	# 64%	4342	8	4258
5132	28866			4560		19%			4205
5133	28867			5475		43%			7506
5134	28868			4486		17%	3991		3572
5135	28869			5016		31%	1836		6683
5136	28870								5907
5137	28871	7000		4446		16%	1609		4579
5138	28872			4770		24%	3712		7606
5139	28873	8980	7	5688		48%			4429
5140	28874	3710		4545		19%	3596		4965
5141	28875	5610		5423		41%	4179	10	2658
5142	28876	6720		5143		34%	4150		7349
5143	28877	7920		6192		# 61%	3620		
5144	28878			4965		29%	2103		
5145	Local Check	6940		5774			2338		7023
<b>Exp. Mean</b>		<b>7422</b>		<b>5280</b>			<b>3638</b>		<b>5101</b>
CD		2110.54		2237.44			1500.16		709.96
<b>CV%</b>		<b>17.41</b>		<b>26.11</b>			<b>25.25</b>		<b>8.56</b>
D/S		28.11.2019					17-12-2019		03-01-2019
D/P		26.01.2020					24-01-2020		18-12-2019
Local Check Name		HUR-105					Naveen		Tripura Nirog



## Annual Progress Report 2020 Volume I - Varietal Improvement

**Table No.1.64 contd.: Grain yield (kg/ha) of IVT-Boro, 2019-2020**

Entry No.	IET No.	Zone IV						Overall (6)	
		TR(1)		AS(1)	Zone IV (2)		Mean		
		Mean	GER	Mean	Mean	Mean	Mean		
5101	28838	5312	# 24%	2808		4060		5060	25%
5102	28839	3185		3954		3570		4871	20%
5103	28840	3527		5097	9	4312		5977	10 # 47%
5104	28841			3215		3215		5288	30%
5105	28842			5908	5	5908	10 38%	6314	6 # 56%
5106	28843	4295				4295		4272	
5107	28844			2772		2772		5054	25%
5108	Gautam Check	3575		4129		3852		5378	33%
5109	28845	4664				4664		4982	23%
5110	28846	7345	7 # 72%	3198		5272	23%	5483	35%
5111	28847	6121	# 43%			6121	9 # 43%	4855	20%
5112	28848	7561	3 8% # 77%	6482	1	7022	5 7% # 64%	7343	1 21% # 81%
5113	28849	3857		6058	4	4958	16%	6450	4 7% # 59%
5114	28850	3610		4490		4050		6184	8 # 53%
5115	Rajalaxmi Hybrid Check	4274				4274		4055	
5116	28851	4039		5283	6	4661		6389	5 6% # 58%
5117	28852	3142				3142		4919	21%
5118	28853	4291		3887		4089		4499	11%
5119	28854	5563	# 30%			5563	30%	4807	19%
5120	28855	6618	# 55%	3273		4946	16%	5166	27%
5121	28856	3700				3700		5155	27%
5122	28857	3739				3739		4897	21%
5123	28858							6693	2 11% # 65%
5124	28859	7176	8 # 68%			7176	4 9% # 68%	5813	# 43%
5125	28860	5971	# 40%	1866		3919		4606	14%
5126	28861	3746				3746		3356	
5127	28862	4236		5133	8	4685		5745	# 42%
5128	IR 64 Check	3594		3543		3569		5165	27%
5129	28863	7347	6 # 72%	2454		4901	15%	4881	20%
5130	28864	7715	1 10% # 81%			7715	1 17% # 81%	5813	# 43%
5131	28865	4258		2438		3348		5297	31%
5132	28866	4205				4205		4383	
5133	28867	7506	4 7% # 76%			7506	2 14% # 76%	6491	3 7% # 60%
5134	28868	3572		4185		3879		4182	
5135	28869	6683	10 # 56%	4468		5576	30%	5240	29%
5136	28870	5907	# 38%			5907	38%	5907	# 46%
5137	28871	4579		4353		4466		4453	
5138	28872	7606	2 8% # 78%	4754	10	6180	8 # 45%	5334	32%
5139	28873	4429				4429		5436	34%
5140	28874	4965	16%			4965	16%	4629	14%
5141	28875	2658		5254	7	3956		4934	22%
5142	28876	7349	5 # 72%			7349	3 12% # 72%	5695	# 40%
5143	28877			6238	2	6238	7 # 46%	6201	7 # 53%
5144	28878							4965	22%
5145	Local Check	7023	9 # 64%	6148	3	6586	6	6044	9 # 49%
<b>Exp. Mean</b>		<b>5101</b>		<b>4284</b>		<b>4934</b>		<b>5228</b>	
CD		709.96		1494.51		1760.98		1618.77	
CV%		<b>8.56</b>		<b>21.27</b>		<b>21.98</b>		<b>19.08</b>	
D/S				13-12-2019					
D/P				02-04-2020					
Local Check Name				Chandrama					

**Table No.1.65: Days to 50% flowering of IVT-Boro, 2019-2020**

Entry No.	IET No.	Zone III					
		OR(1)	WB			UP (1)	Zone III (4)
		CTK	CHN	PNB	WB(2)	VRN	Mean
5101	28838	101	129	107	118	155	123
5102	28839	111	127	102	115	154	123
5103	28840	111	134	102	118	174	130
5104	28841	101	128	109	118	148	121
5105	28842	111		108	108	166	128
5106	28843	101	140	105	123		115
5107	28844	111	137	107	122	167	130
5108	Gautam Check	102	126	102	114	144	118
5109	28845	109	132	101	117	161	126
5110	28846	104	140	109	125	149	125
5111	28847	109	135	107	121	163	128
5112	28848	113		99	99	156	122
5113	28849	104	135		135	153	130
5114	28850	114		108	108	157	126
5115	Rajalaxmi Hybrid Check	111					111
5116	28851	101	130	109	119	151	123
5117	28852	102					102
5118	28853	131	129	107	118	179	137
5119	28854			104	104		104
5120	28855	99	127	102	114	154	120
5121	28856	129	139	104	122	160	133
5122	28857	109		110	110		110
5123	28858	111	140	104	122	155	127
5124	28859			107	107		107
5125	28860	101	134	109	122	161	126
5126	28861	113					113
5127	28862	110	139	109	124	156	128
5128	IR 64 Check	91	139	105	122	148	120
5129	28863	105	136	113	125	179	133
5130	28864					171	171
5131	28865	128	139	111	125	165	136
5132	28866			103	103		103
5133	28867	122					122
5134	28868	110	143		143		126
5135	28869	131	141	107	124		126
5136	28870						
5137	28871	91	127	102	115	144	116
5138	28872	129	134	105	120		123
5139	28873	113	137	107	122	159	129
5140	28874	109	135	101	118	161	126
5141	28875	111	140	106	123	172	132
5142	28876	106		111	111	167	128
5143	28877	116	140	107	124	168	133
5144	28878	128					128
5145	Local Check	113	110	107	108	162	123
Exp. Mean		<b>110</b>	<b>134</b>	<b>106</b>	<b>118</b>	<b>160</b>	<b>124</b>

**Table No.1.65 contd.: Days to 50% flowering of IVT-Boro, 2019-2020**

Entry No.	IET No.	Zone IV					Overall (6) Mean
		TR		TR(1)	AS(1)	Zone IV (2)	
		ARD@	LMB	Mean	GER	Mean	
5101	28838		97	97	86	91	112
5102	28839	81	96	96	86	91	113
5103	28840	85	84	84	97	91	117
5104	28841	80			76	76	112
5105	28842	80			97	97	121
5106	28843		81	81		81	107
5107	28844	83			97	97	124
5108	Gautam Check	80	98	98	81	90	109
5109	28845	82	95	95		95	120
5110	28846	84	101	101	91	96	116
5111	28847	80	95	95		95	122
5112	28848	83	95	95	97	96	112
5113	28849		94	94	91	92	115
5114	28850	84	94	94	91	93	113
5115	Rajalaxmi Hybrid Check		96	96		96	104
5116	28851	81	95	95	86	91	112
5117	28852		96	96		96	99
5118	28853	83	96	96	104	100	124
5119	28854		100	100		100	102
5120	28855	79	101	101	84	92	111
5121	28856	81	97	97		97	126
5122	28857	82	96	96		96	105
5123	28858						127
5124	28859		94	94		94	101
5125	28860	80	95	95	91	93	115
5126	28861		97	97		97	105
5127	28862	87	100	100	86	93	116
5128	IR 64 Check	83	94	94	84	89	110
5129	28863	80	95	95	104	100	122
5130	28864		94	94		94	133
5131	28865	81	97	97	91	94	122
5132	28866		95	95		95	99
5133	28867		96	96		96	109
5134	28868	85	95	95	91	93	110
5135	28869	87	99	99	91	95	114
5136	28870		99	99		99	99
5137	28871	81	102	102	81	91	108
5138	28872	80	97	97	97	97	112
5139	28873		103	103		103	124
5140	28874	81	96	96		96	120
5141	28875	81	100	100	104	102	122
5142	28876	81	95	95		95	120
5143	28877	81			97	97	125
5144	28878	83					128
5145	Local Check	87	96	96	97	97	114
	Exp. Mean	<b>82</b>	<b>96</b>	<b>96</b>	<b>91</b>	<b>94</b>	<b>114</b>

**Table No.1.66: Plant Height (cm) of IVT-Boro, 2019-2020**

Entry No.	IET No.	Zone III					
		OR(1)	WB			UP (1)	Zone III (4)
		CTK	CHN	PNB	WB(2)	VRN	Mean
5101	28838	102	114	106	110	121	111
5102	28839	101	111	107	109	109	107
5103	28840	98	117	99	108	115	107
5104	28841	89	103	97	100	98	97
5105	28842	100		98	98	95	98
5106	28843	96	114	94	104		102
5107	28844	107	122	108	115	102	110
5108	Gautam Check	88	105	92	99	90	94
5109	28845	95	116	100	108	104	104
5110	28846	110	127	127	127	129	123
5111	28847	89	108	97	102	95	97
5112	28848	95		96	96	101	97
5113	28849	84	106		106	104	98
5114	28850	81		101	101	98	93
5115	Rajalaxmi Hybrid Check	109					109
5116	28851	91	112	107	109	101	103
5117	28852	102					102
5118	28853	88	113	105	109	105	103
5119	28854			89	89		89
5120	28855	75	104	94	99	82	89
5121	28856	94	114	104	109	106	105
5122	28857	92		82	82		87
5123	28858	80	106	80	93	87	88
5124	28859			105	105		105
5125	28860	102	123	104	114	103	108
5126	28861	90					90
5127	28862	89	106	101	103	90	96
5128	IR 64 Check	71	103	99	101	84	89
5129	28863	98	113	94	104	100	101
5130	28864					100	100
5131	28865	92	119	100	110	100	103
5132	28866			103	103		103
5133	28867	105					105
5134	28868	68	97		97		82
5135	28869	93	117	104	111		105
5136	28870						
5137	28871	66	104	89	97	88	87
5138	28872	91	112	88	100		97
5139	28873	100	121	83	102	106	103
5140	28874	83	110	111	110	94	100
5141	28875	99	119	106	113	111	109
5142	28876	89		97	97	110	98
5143	28877	99	108	105	107	102	103
5144	28878	95					95
5145	Local Check	101	101	115	108	101	104
	Exp. Mean	<b>92</b>	<b>112</b>	<b>100</b>	<b>104</b>	<b>101</b>	<b>100</b>

**Table No.1.66 contd.: Plant Height (cm) of IVT-Boro, 2019-2020**

Entry No.	IET No.	Zone IV				Overall (6) Mean	
		TR		TR(1)	AS(1)		Zone IV (2)
		ARD@	LMB	Mean	GER		Mean
5101	28838		123	123	104	113	111
5102	28839	101	86	86	101	93	102
5103	28840	106	80	80	104	92	102
5104	28841	92			85	85	94
5105	28842	93			93	93	97
5106	28843		72	72		72	94
5107	28844	104			102	102	108
5108	Gautam Check	86	103	103	89	96	95
5109	28845	93	114	114		114	106
5110	28846	122	118	118	113	115	120
5111	28847	98	120	120		120	102
5112	28848	95	113	113	95	104	100
5113	28849		115	115	96	106	101
5114	28850	91	130	130	90	110	100
5115	Rajalaxmi Hybrid Check		116	116		116	113
5116	28851	96	102	102	96	99	101
5117	28852		118	118		118	110
5118	28853	93	122	122	102	112	106
5119	28854		117	117		117	103
5120	28855	87	97	97	94	95	91
5121	28856	98	92	92		92	102
5122	28857	112	121	121		121	98
5123	28858						88
5124	28859		124	124		124	115
5125	28860	103	117	117	99	108	108
5126	28861		90	90		90	90
5127	28862	99	116	116	88	102	98
5128	IR 64 Check	82	131	131	86	108	95
5129	28863	106	116	116	108	112	105
5130	28864		111	111		111	106
5131	28865	96	125	125	94	109	105
5132	28866		116	116		116	110
5133	28867		115	115		115	110
5134	28868	82	107	107	78	93	87
5135	28869	104	103	103	106	105	105
5136	28870		107	107		107	107
5137	28871	83	117	117	91	104	92
5138	28872	100	99	99	94	96	97
5139	28873		123	123		123	107
5140	28874	83	123	123		123	104
5141	28875	117	123	123	118	121	113
5142	28876	108	119	119		119	104
5143	28877	111			104	104	103
5144	28878	101					95
5145	Local Check	108	102	102	108	105	105
Exp. Mean		<b>98</b>	<b>111</b>	<b>111</b>	<b>97</b>	<b>107</b>	<b>102</b>

**Table No.1.67: No. of Panicles/m<sup>2</sup> of IVT- Boro, 2019-2020**

Entry No.	IET No.	Zone III					
		OR(1)	WB			UP (1)	Zone III (4)
		CTK	CHN	PNB	WB(2)	VRN	Mean
5101	28838	393	297	208	252	414	328
5102	28839	330	286	265	276	408	322
5103	28840	413	319	213	266	407	338
5104	28841	452	286	228	257	373	335
5105	28842	420		206	206	498	375
5106	28843	501	319	192	256		337
5107	28844	377	308	246	277	448	345
5108	Gautam Check	468	264	265	265	476	368
5109	28845	360	275	176	225	378	297
5110	28846	400	319	230	275	377	331
5111	28847	259	297	182	239	445	296
5112	28848	374		236	236	309	306
5113	28849	407	308		308	312	342
5114	28850	297		229	229	373	300
5115	Rajalaxmi Hybrid Check	368					368
5116	28851	428	286	280	283	329	331
5117	28852	410					410
5118	28853	280	341	220	280	377	304
5119	28854			195	195		195
5120	28855	363	319	195	257	453	333
5121	28856	352	286	180	233	508	331
5122	28857	398		173	173		285
5123	28858	585	297	266	282	485	408
5124	28859			225	225		225
5125	28860	395	275	210	243	390	317
5126	28861	173					173
5127	28862	376	308	238	273	469	348
5128	IR 64 Check	386	253	207	230	448	323
5129	28863	343	297	206	252	361	302
5130	28864					309	309
5131	28865	404	363	292	328	463	381
5132	28866			231	231		231
5133	28867	357					357
5134	28868	496	242		242		369
5135	28869	318	286	270	278		291
5136	28870						
5137	28871	378	297	235	266	366	319
5138	28872	418	341	253	297		337
5139	28873	311	319	196	257	403	307
5140	28874	411	308	256	282	415	348
5141	28875	348	308	287	297	371	328
5142	28876	266		208	208	386	286
5143	28877	387	264	218	241	393	315
5144	28878	382					382
5145	Local Check	468	308	278	293	488	385
	Exp. Mean	<b>381</b>	<b>299</b>	<b>227</b>	<b>255</b>	<b>407</b>	<b>323</b>

**Table No.1.67 contd.: No. of Panicles/m<sup>2</sup> of IVT- Boro, 2019-2020**

Entry No.	IET No.	Zone IV					Overall (6) Mean
		TR		TR(1)	AS(1)	Zone IV (2)	
		ARD@	LMB	Mean	GER	Mean	
5101	28838		508	508	310	409	355
5102	28839	232	600	600	308	454	366
5103	28840	301	450	450	280	365	347
5104	28841	336			282	282	324
5105	28842	335			335	335	365
5106	28843		333	333		333	336
5107	28844	324			322	322	340
5108	Gautam Check	305	367	367	343	355	364
5109	28845	317	317	317		317	301
5110	28846	318	408	408	299	354	339
5111	28847	316	417	417		417	320
5112	28848	308	317	317	270	293	301
5113	28849		317	317	262	289	321
5114	28850	320	350	350	298	324	309
5115	Rajalaxmi Hybrid Check		367	367		367	367
5116	28851	334	375	375	264	320	327
5117	28852		692	692		692	551
5118	28853	303	275	275	281	278	295
5119	28854		267	267		267	231
5120	28855	333	525	525	329	427	364
5121	28856	325	525	525		525	370
5122	28857	334	483	483		483	351
5123	28858						408
5124	28859		350	350		350	287
5125	28860	319	400	400	261	331	322
5126	28861		517	517		517	345
5127	28862	308	425	425	305	365	353
5128	IR 64 Check	306	425	425	344	385	344
5129	28863	318	317	317	288	302	302
5130	28864		425	425		425	367
5131	28865	343	417	417	171	294	352
5132	28866		408	408		408	320
5133	28867		250	250		250	303
5134	28868	375	475	475	348	411	390
5135	28869	299	492	492	300	396	333
5136	28870		433	433		433	433
5137	28871	304	392	392	307	349	329
5138	28872	322	517	517	293	405	364
5139	28873		542	542		542	354
5140	28874	288	425	425		425	363
5141	28875	334	467	467	302	384	347
5142	28876	314	350	350		350	302
5143	28877	330			322	322	317
5144	28878	322					382
5145	Local Check	290	318	318	286	302	358
	Exp. Mean	<b>316</b>	<b>416</b>	<b>416</b>	<b>296</b>	<b>376</b>	<b>345</b>

## HYBRID RICE

Hybrid rice is the proven technology for increasing rice production and productivity and is playing an important role increasing the rice production in our country. As a result of concerted efforts made over the last three decades, 127 hybrids with high yield potential and better grain quality have been released for commercial cultivation in different rice growing states across the country. Among these, 38 hybrids have been developed by the public sector, while the remaining 89 are developed by the private sector. The private sector is playing a very important role in hybrid rice research and development in the country. During the year 2020, hybrid rice was planted in an area of 3.5 m.ha. and more than 80% of the total hybrid rice area is in the states of Uttar Pradesh, Jharkhand, Chhattisgarh, Madhya Pradesh, Odisha and Haryana. During this year (2020-21), 17 hybrids *viz.*, MP 3030, US 380, US 303, SAVA 134, MRP 5222, RH 9000 Plus, MRP 5626, MRP 5433, PAC 8744, Chhattisgarh Rice Hybrid-2, KPH-47, RH 150025, JKRH 2354, JKRH 2154, 28S44,27P27 and Indam 100-012 were released and notified by the CSCCSN&RV for commercial cultivation in different parts of the country. Among these, Chhattisgarh Rice Hybrid-2 is a state release and remaining were central releases, Indam 100-012 is the Basmati type aromatic rice hybrid

For identification of high yielding and widely adapted hybrids, a national level three tier system of evaluation is being adapted and in this, the hybrids developed by research network centres, including some of the voluntary centres and those developed by private sector seed companies having their own R&D are pooled together based on maturity groups into early (<120 days), mid early (121-130 days) and medium (131-140 days) trials. In addition, one more trial is also constituted aiming to develop medium slender grain type hybrids. IHRTs are conducted at 30-35 locations and these trials consist of test hybrids, national varietal / hybrid checks, zonal and local varietal checks in the respective maturity and grain type groups.

The hybrids are promoted to the next stage of testing *i.e.*, Advance Varietal Trial (AVT-1) based on criterion mentioned in the Proceedings of 51 ARGM (pp 59-60). Based on similar criteria, the hybrids are promoted from AVT-1 to AVT-2 stages. Simultaneously all hybrid entries are tested for resistance to diseases and insect pest and grain quality traits during all the three years. The quality data of IHRT's was not considered for promotion this year, in tune with the promotion criteria adapted for IVT trials. Those hybrids performing consistently well during all the three years are proposed to Varietal Identification Committee (VIC) for consideration.

As per the 52<sup>nd</sup> ARGM (p 45 of Draft Proceedings), the criteria for inclusion of data of a location for analysis "minimum experimental mean yield of 4 t/ha for inbreds and 5 t/ha for hybrid trial and CV% for trial acceptance to be ranged between 5 and 20% under irrigated system" was slightly modified this year to include the yield data upto 4 t/ha in IHRTs as many locations were getting dropped, if 5 t/ha limit is applied.

During Kharif 2020, four hybrid trials were conducted and evaluated and test locations are given in Table 1.68 and Table 1.69 respectively.



**Table 1.68: Details of Initial Hybrid Rice Trials conducted during Kharif 2020**

S. No	Name of the trial	No. of hybrids evaluated		No. of test locations
		Public	Private	
1.	Initial Hybrid Rice Trial - Early	3	15	39
2.	Initial Hybrid Rice Trial - Mid Early	9	20	38
3.	Initial Hybrid Rice Trial - Medium	2	16	37
4.	Initial Hybrid Rice Trial - Medium Slender	-	9	36

**Table 1.69: Zone wise test centres for Initial Hybrid Rice Trials, Kharif 2020**

Zone	No. of Locations	Name of Locations
Zone I (Hills)	1	<b>Public Sector:</b> Malan (MLN)
Zone II (Northern)	4	<b>Public Sector:</b> Kaul (KUL), Ludhiana (LDN), New Delhi (ICAR-IARI) and Pantnagar (PNT)
Zone III (Eastern)	15	<b>Public Sector:</b> Allahabad (ALH), Chinsurah (CHN), Chiplima (CHP), Cuttack (ICAR-NRRI), Nagina (NGN), Masodha (MSD), Pusa (PSA), Ranchi (RCI) and Varanasi (VRN) <b>Private Sector:</b> JK Agri Genetics (JKA), Nuziveedu Seeds (NUZ), Rasi Seeds (Rasi), Seed Works (SDW) Syngenta (SYN) and Trimurthi Seeds (TMT)
Zone IV (North Eastern)	2	<b>Public Sector:</b> Titabar (TTB) and Arundhatinagar (ARD)
Zone V (Central)	8	<b>Public Sector:</b> Jabalpur (JBP), Raipur (RPR), Sakoli (SKL) Sindewahi (SND) Waraseoni (WRS) <b>Private Sector:</b> Ankur Seeds (ANK), Rasi Seeds (Rasi) and VNR Seeds (VNR)
Zone VI (Western)	8	<b>Public Sector:</b> Dabhoi (DBI), Karjat (KJT), Navsari (NVS), Nawagam (NWG), Phondaghat (PDG), Radhanagari (RDN), Shirgaon (SHG) and Vadgaon Maval (VDG)
Zone VII (Southern)	13	<b>Public Sector:</b> Aduthurai (ADT), Bapatla (BPT), Brahmavar (BRM), Coimbatore (CBT), Hyderabad (ICAR-IIRR), Karaikal (KRK), Malagi (MLG), Mugad (MGD), Mandya (MND), Maruteru (MTU), Sirsi (SRS) and Warangal (WGL) <b>Private Sector:</b> Bayer Seeds (BAY)

### 1. Initial Hybrid Rice Trial - Early (IHRT-E)

Eighteen test hybrids (15 and 3 from private and public sector respectively) were evaluated in 39 locations comprising Zone II, III, IV, V, VI and VII along with national hybrid check (US 314), national varietal check (CO-51), zonal varietal checks (PR-124 - Zone II; NDR-97 - Zone III; Luit - Zone IV; Shabhadhan - Zone V & VI; MTU-1153 - Zone VII) and local varietal checks of their respective locations. The details of the composition of the trial are given in Table 1.70.

**Table 1.70: Composition of Initial Hybrid Rice Trial - Early (IHRT-E), Kharif 2020**

S. No.	IET No.	Name	Nominating Agency
1	28950	HRI-207	Bayer Bioscience, Hyderabad
2	28951	PAN-2430	PAN Seeds, Hyderabad
3	28952	NPH-X73	Nuziveedu Seeds, Hyderabad
4	28953	YPH-4009	Yaganti Seeds, Hyderabad
5	28954	KAVERI-7299	Kaveri Seeds, Hyderabad
6	28955	UPLRH-179524	UPL, Hyderabad
7	28956	JKRH-1601	JK Seeds, Hyderabad
8	28957	TMRH-2110	Trimurthi Plant Sciences, Hyderabad
9	28958	UPLRH-179510	UPL, Hyderabad
10	28959	PHI-20101	Pioneer, Hyderabad
11	28960	RRX-848	Rasi Seeds, Hyderabad
12	28961	MP-3110	Mahindra Agri, Hyderabad
13	28962	JGLH-275	RARS, Jagtial
14	28963	Pusa RH-59	ICAR-IARI, New Delhi
15	28964	VNR-227	VNR Seeds, Raipur
16	28965	Pusa RH-60	ICAR-IARI, New Delhi
17	28966	MEPH-156	MAHYCO, Hyderabad
18	28967	US-330	US Agriseeds, Hyderabad
19	-	US-314 (NCH)	National Check Hybrid
20	-	CO-51 (NCV)	National Check Variety
21	-	PR-124/Luit/NDR-97/ Sahbhagidhan/ MTU-1153 (RCV)	Regional Check Variety
22	-	Local Check Variety (LCV)	Local Check Variety

Northern: PR-124; North Eastern: Luit; Eastern: NDR-97; Central and Western: Sahbhagidhan; Southern: MTU-1153

The detailed location wise and zone wise performance for grain yield and days to 50% flowering (DFF) are given in Appendix 1&2 respectively. The overall DFF ranged from 80 to 91 days. The national varietal check (CO-51) had overall mean of 82 days, zonal checks of 90 days, local checks of 82 days and national hybrid check (US 314) of 85 days.

Based on overall mean, six hybrids *viz.*, PHI 20101, HRI-207, JKRH 1601, RRX 848, VNR 227 and YPH 4009 significantly out yielded the best varietal and hybrid check (Table 1.71). Besides these, based on zonal means, four hybrids *viz.*, KAVERI-7299 (Zone II&IV), JGLH-275 (Zone IV&VI), NPH-X73 (Zone III&VI) and Pusa RH-60 (Zone VI) were found promising. All these promising hybrids are promoted to AVT-1-E-TP.

**Table 1.71: Promising hybrids identified in IHRT-E, Kharif 2020**

S. No	Hybrid	IET No	DFF	Mean Yield (kg/ha)							Remarks
				Overall	Zone II	Zone III	Zone IV	Zone V	Zone VI	Zone VII	
1	PHI-20101	28959	88	6359 (27) [15]	7695 [28] (18)	5993 (12) [6]	4991 (13) [16]	6788 (20) [15]	6319 (34) [13]	6749 (18) [22]	Promoted to AVT-1-E-TP
2	HRI-207	28950	85	6147 (23) [11]	7203 (20) [11]	5992 (12) [5]	5072 (15) [18]	6551 (16) [11]	6659 (41) [19]	6253 [13]	Promoted to AVT-1-E-TP
3	JKRH-1601	28956	89	6110 (22) [10]	6987 (17) [8]	6243 (16) [10]	4970 (12) [16]	6591 (17) [12]	6774 (43) [22]	5978 [8]	Promoted to AVT-1-E-TP
4	RRX-848	28960	87	5923 (18) [7]	6602 (10)	6307 (18) [11]	5113 (16) [19]	6051	5921 (25) [6]	5710	Promoted to AVT-1-E-TP
5	VNR-227	28964	87	5860 (17) [6]	6640 (11)	6186 (15) [9]	4756 [11]	6010	6439 (36) [16]	5718	Promoted to AVT-1-E-TP
6	YPH-4009	28953	86	5831 (16) [5]	6963 (16) [7]	5776	4994 (13) [16]	6148	6170 (30) [11]	5682	Promoted to AVT-1-E-TP
7	KAVERI-7299	28954	85	5770 (15)	7081 (18) [9]	5883 (10)	4974 (13) [16]	5793	5478 (16)	6141 [11]	Promoted to AVT-1-E-TP
8	JGLH-275	28962	86	5610 (12)	6753 (13)	5537	4890 (11) [14]	5668	5877 (24) [5]	5779 [5]	Promoted to AVT-1-E-TP
9	NPH-X73	28952	80	5355	5858	6020 (12) [6]	4743 [11]	5422	5830 (23) [5]	5038	Promoted to AVT-1-E-TP
10	Pusa RH-60	28965	87	5490 (10)	6277	5298	4479	5698	6119 (29) [10]	5515	Promoted to AVT-1-E-TP
11	US314	NCH	85	5532	6497	5680	4290	5900	5574	5529	
12	CO-51	NCV	82	4909	5264	5363	4323	5657	4234	5173	
13		ZCV	90	4760	4815	4777	4419	4729	4634	5720	
14		LCV	82	5009	5991	4642	3983	5578	4730	5402	

( ) -Yield superiority in percent over the best varietal check; [ ] - Yield superiority in percent over the Hybrid check

## 2. Initial Hybrid Rice Trial - Mid Early (IHRT-ME)

Mid Early trial comprising of 29 hybrids and four checks viz., Gontra Bidhan-3 (national varietal check); US 312 (national hybrid check); zonal checks - PR 113 (Zone II); Lalat (Zone III); Karjat-7 (Zone V&VI); MTU 1010 (Zone VII) and respective local checks were conducted at 38 locations. Among 29 hybrids evaluated, twenty were from private sector and nine from public sector. The composition of the trial is given in Table 1.72.

**Table 1.72: Composition of Initial Hybrid Rice Trial - Mid Early (IHRT-ME), Kharif 2020**

S. No.	IET No.	Name	Nominating Agency
1	28968	HRI-208	Bayer Bioscience, Hyderabad
2	28969	GK-5003 Pro	Savannah Seeds, Hyderabad
3	28970	RALLIS-19303	Rallis (I), Ltd., Hyderabad
4	28971	NPH-X5	Nuziveedu Seeds, Hyderabad
5	28972	KAVERI-7317	Kaveri Seeds, Hyderabad
6	28973	NPH-X628	Nuziveedu Seeds, Hyderabad
7	28974	S-4003	Syngenta, Hyderabad
8	28975	YPH-4129	Yaganti Seeds, Hyderabad
9	28976	UPLRH-179520	UPL, Hyderabad
10	28977	JKRH-2709	JK Seeds, Hyderabad
11	28978	UPLRH-162122	UPL, Hyderabad
12	28979	PHI-20102	Pioneer, Hyderabad
13	28980	RRX-805	Rasi Seeds, Hyderabad
14	28981	PHI-20103	Pioneer, Hyderabad
15	28982	RRX-809	Rasi Seeds, Hyderabad
16	28983	PHI-20104	Pioneer, Hyderabad
17	28984	NS-1202	Namdhari Seeds, Bangalore
18	28985	IRH-124	IGKV, Raipur
19	28986	US-348	US Agriseeds, Hyderabad
20	28987	IIRRH-143	ICAR-IIRR, Hyderabad
21	28988	RNRH-12	RRC, PJTSAU, Hyderabad
22	28989	Pusa RH-61	ICAR-IARI, New Delhi
23	28990	IIRRH-144	ICAR-IIRR, Hyderabad
24	28991	RNRH-18	RRC, PJTSAU, Hyderabad
25	28992	MEPH-157	MAHYCO, Hyderabad
26	28993	RNRH-78	RRC, PJTSAU, Hyderabad
27	28994	US-357	US Agriseeds, Hyderabad
28	28995	IRH-126	IGKV, Raipur
29	28996	TNRH-303	TNAU, Coimbatore
30	-	US-312 (NCH)	National Check Hybrid
31	-	Gontra Bidhan-3 (NCV)	National Check Variety
32	-	PR-113/Lalat/ Karjat-7/ MTU-1010 (RCV)	Regional Check Variety
33	-	Local Check Variety (LCV)	Local Check Variety

**North Zone: PR 113; East Zone: Lalat; West Zone: Karjat-7; South Zone: MTU-1010**

Performance of the hybrids with respect to grain yield and days to 50% flowering (DDF) are given in Appendix 3 & 4 respectively.

Performance of promising hybrids identified in different zones is given in Table 1.73. In the trial, mean DDF of checks ranged from 85 to 99 days, the hybrid check US 312 had mean DDF of 94 days. The varietal checks viz., national, zonal and local checks had mean DDF of 91, 90 and 93 days respectively.

**Table 1.73: Promising hybrids identified in IHRT-ME, Kharif 2020**

S. No	Hybrid	IET No	DFD	Mean Yield (kg/ha)					Remarks	
				Overall	Zone II	Zone III	Zone V	Zone VI		Zone VII
1	PHI-20102	28979	93	7015 (13) [14]	7120 [16]	7234 (10) [9]	7442 (17) [17]	6389 [13]	7069 (16) [18]	Promoted to AVT-1-ME-TP
2	KAVERI-7317	28972	90	6733 [9]	7271 (10) [19]	7053 [7]	7068 (11) [11]	6255 [11]	6357 [6]	Promoted to AVT-1-ME-TP
3	RRX-809	28982	93	6605 [7]	6809 [11]	7309 (11) [11]	6713 [6]	5702	6575 [10]	Promoted to AVT-1-ME-TP
4	PHI-20103	28981	94	6757 [10]	6725 [10]	7137 [8]	6843 [8]	6089 [8]	6889 (13) [15]	Promoted to AVT-1-ME-TP
	US 312	NCH	94	6156	6129	6609	6348	5647	6001	
	Gontra Bidhan-3	NCV	91	6233	6636	6604	6371	5839	6105	
		ZCV	90	5117	5512	5948	5428	4252	4597	
		LCV	93	5592	5213	6396	5234	5021	5521	

( ) -Yield superiority in percent over the best varietal check; [ ] - Yield superiority in percent over the Hybrid check

Based on the overall mean, one hybrid viz., PHI 20102 was found promising and based on zonal means, three hybrids viz., KAVERI 7317 (Zone II&V); RRX-809 (Zone III); PHI 20103 (Zone VII) were found to be superior to both varietal and hybrid checks. All these promising hybrids are promoted to AVT-1-ME-TP.

### 3. Initial Hybrid Rice Trial - Medium (IHRT-M)

The IHRT-M, conducted at 37 locations with 18 hybrids along with four checks viz., HRI-174 (national hybrid check); NDR-359 (national varietal check); zonal varietal checks (RR-121 - Zone II; CR Dhan 300 - Zone III&IV; IR 64 - Zone V; Akshaydhan - Zone VI and Jaya - Zone VII) and local checks of their respective locations. Among 18 test hybrids evaluated, 16 were from private sector and two from public sector. The details about the composition of the trial are given in Table 1.74.

**Table 1.74: Composition of Initial Hybrid Rice Trial - Medium (IHRT-M), Kharif2020**

S. No.	IET No.	Name	Nominating Agency
1	28997	HRI-204	Bayer Bioscience, Hyderabad
2	28998	KAVERI-7425	Kaveri Seeds, Hyderabad
3	28999	Marshal-135 Pro	Savannah Seeds, Hyderabad
4	29000	HRI-205	Bayer Bioscience, Hyderabad
5	29001	S-7004	Syngenta, Hyderabad
6	29002	PHI-20106	Pioneer, Hyderabad
7	29003	VNR-225	VNR Seeds, Raipur
8	29004	PHI-20107	Pioneer, Hyderabad
9	29005	RRX-890	Rasi Seeds, Hyderabad
10	29006	PHI-20108	Pioneer, Hyderabad
11	29007	DLRH-9	Delta Agri-Genetics, Hyderabad
12	29008	PHI-20109	Pioneer, Hyderabad
13	29009	US-375	US Agriseeds, Hyderabad
14	29010	IIRRH-145	ICAR-IIRR, Hyderabad
15	29011	MEPH-158	MAHYCO, Hyderabad
16	29012	NRH-30	Nirmal Seeds, Hyderabad
17	29013	IIRRH-146	ICAR-IIRR, Hyderabad
18	29014	MEPH-159	MAHYCO, Hyderabad
19	-	HRI-174 (NCH)	National Check Hybrid
20	-	NDR-359 (NCV)	National Check Variety
21	-	PR-121/CR Dhan-300/ IR-64/ Akshayadhan/Jaya (RCV)	Regional Check Variety
22	-	Local Check Variety (LCV)	Local Check Variety

Northern: PR-121; Eastern and North Eastern: CR Dhan-300; Central: IR-64; Western: Akshayadhan and Southern: Jaya

The location wise mean data of grain yield and DFF are given in Appendix 5&6 respectively.

The list of promising hybrids with yield advantages over the best checks in their respective zones is given in Table 1.75.

**Table 1.75: Promising hybrids identified in IHRT-M, Kharif 2020**

S. No	Hybrid	IET No	DFF	Mean Yield (kg/ha)							Remarks
				Overall	Zone II	Zone III	Zone IV	Zone V	Zone VI	Zone VII	
1	PHI-20108	29006	95	6728 (17) [11]	7509 (18) [7]	6641	5310 [23]	6788	6571 (21) [26]	7075 (27) [15]	Promoted to AVT-1-M-TP
2	S-7004	29001	98	6419 (12) [6]	6407	6776 [6]	4427	6854 [5]	5810 [12]	6790 (22) [10]	Promoted to AVT-1-M-TP
3	HRI-204	28997	99	6337 (11) [5]	7199 (13)	6626	4142	6839 [5]	5369	6761 (22) [10]	Promoted to AVT-1-M-TP
4	KAVERI-7425	28998	98	6367 (11) [5]	6328	6540	4350	7226 (13) [11]	6216 (14) [20]	6031	Promoted to AVT-1-M-TP
5	PHI-20106	29002	95	6339 (11) [5]	7245 (14)	6522	4603 [7]	7531 (18) [15]	5534	5742	Promoted to AVT-1-M-TP

S. No	Hybrid	IET No	DFF	Mean Yield (kg/ha)							Remarks
				Overall	Zone II	Zone III	Zone IV	Zone V	Zone VI	Zone VII	
6	PHI-20107	29004	97	6311 (10)	7277 (14)	7172 (15) [12]	4582 [6]	6500	5638 [8]	6189 (12)	Promoted to AVT-1-M-TP
7	MEPH-159	29014	95	6290 (10)	6627	5893	6123 (22) [42]	7083 (11) [9]	5904 [14]	5959	Promoted to AVT-1-M-TP
8	MEPH-158	29011	95	6175	6844	5886	5680 (13) [32]	6996 (10) [7]	5662 [9]	5829	Promoted to AVT-1-M-TP
9	US-375	29009	97	6149	7003 (10)	6294	5103 [18]	6637	6068 (12) [17]	5590	Promoted to AVT-1-M-TP
10	PHI-20109	29008	98	6025	7163 (12)	6392	5515 (10) [28]	6515	5359	5495	Promoted to AVT-1-M-TP
11	NRH-30	29012	99	6023	7065 (11)	6169	6287 (26) [46]	6528	4704	5977	Promoted to AVT-1-M-TP
12	HRI-205	29000	107	5894	4875	5503	3565	6531	5518 [6]	6672 (20) [9]	Promoted to AVT-1-M-TP
	HRI-174	NCH	98	6046	7006	6409	4310	6527	5199	6149	
	NDR-359	NCV	98	5551	6239	5831	5005	5973	4965	5266	
		ZCV	97	5245	5073	6213	4712	5290	5279	4755	
		LCV	97	5728	6382	5510	4392	6385	5434	5549	

( ) -Yield superiority in percent over the best varietal check; [ ] - Yield superiority in percent over the Hybrid check

Based on overall mean, five hybrids viz., PHI 20108, S-7004, HRI 204, KAVERI 7425 and PHI 20106 and based on zonal means, seven hybrids viz., PHI 20107 (Zone III); MEPH 158 & MEPH 159 (Zone IV & V); US 375 (Zone VI); PHI 20109, NRH-30 (Zone IV); HRI 205 (Zone VII) were found to be promising with required yield advantage over the varietal and hybrid checks. All these 12 hybrids are promoted to AVT-1-M-TP trial.

#### 4. Initial Hybrid Rice Trial - Medium Slender (IHRT-MS), Kharif 2020

The trial consisting of nine hybrids (all from private sector) was conducted at 36 locations. It has five checks viz., national hybrid checks (JKRH 3333 & 27P63); national varietal checks (WGL 14 & BPT 5204); zonal checks (Improved Samba Mahsuri - Zone III & V; Ketekejoha - Zone IV; Karjat-6 - Zone VI; ADT-49 - Zone VII). The details about the composition of the trial are given in Table 1.76.

**Table 1.76: Composition of Initial Hybrid Rice Trial -Medium Slender (IHRT-MS), Kharif 2020**

S. No.	IET No.	Name	Nominating Agency
1	29015	Sava-3701	Savannah Seeds, Hyderabad
2	29016	HRI-206	Bayer Bioscience, Hyderabad
3	29017	RALLIS-19608	Rallis(I), Ltd., Hyderabad
4	29018	NPH-X63	Nuziveedu Seeds, Hyderabad
5	29019	KAVERI-7623	Kaveri Seeds, Hyderabad
6	29020	VNR-226	VNR Seeds, Hyderabad
7	29021	RRX-708	Rasi Seeds, Hyderabad
8	29022	US-310	US Agriseeds, Hyderabad
9	29023	MEPH-161	MAHYCO, Hyderabad
10	-	JKRH-3333 (NCH-1)	National Check Hybrid-1
11	-	27P63 (NCH-2)	National Check Hybrid-2
12	-	WGL-14 (NCV-1)	National Check Variety-1
13	-	BPT-5204 (NCV-2)	National Check Variety-2
14	-	Improved Samba Mahsuri/ Ketekejoha/Karjat-6/ADT-49 (RCV)	Regional Check Variety

Eastern and Central: Improved Samba Mahsuri; North East: Ketekejoha; Western: Karjat-6 and Southern: ADT-49

The location wise mean data of grain yield and DFF are given in Appendix 7&8 respectively.

**Table 1.77: Promising hybrids identified in IHRT-MS, Kharif 2020**

S. No	Hybrid	IET No	DFF	Grain Type	Mean Yield (kg/ha)					Remarks
					Overall	Zone III	Zone V	Zone VI	Zone VII	
1	RALLIS 19608	29017	97	MS	6162 (13) [12]	6729 (14) [7]	6133 (13) [6]	5859 (18) [26]	6041 [13]	Promoted to AVT-1-MS
2	KAVERI-7623	29019	97	MS	6157 (13) [12]	6311	6195 (14) [7]	5851 (18) [26]	6206 (12) [16]	Promoted to AVT-1-MS
3	RRX-708	29021	98	MS	5642	6884 (17) [9]	5799	4710	5329	Promoted to AVT-1-MS
4	NPH-X63	29018	97	MS	5984 [9]	6515 (10)	5929	5727 (16) [23]	5880 [10]	Promoted to AVT-1-MS
5	MEPH 161	29023	95	MS	5663	6807 (15) [8]	5656	4677	5582	Promoted to AVT-1-MS
6	JKRH-3333	NCH-1	97	MS	5396	6234	5614	4267	5364	
7	27P63	NCH-2	99	MS	5496	6313	5773	4640	5272	
8	WGL-14	NCV-1	102	MS	5470	5901	5425	4958	5554	
9	BPT 5204	NCV-2	106	MS	4843	4847	5099	4186	4978	
10		ZCV	100	MS	4730	5278	5078	3953	4548	

( ) -Yield superiority in percent over the best varietal check; [ ] - Yield superiority in percent over the Hybrid check

Based on overall mean, two hybrids viz., RALLIS 19608, KAVERI-7623 and on zonal mean basis, three hybrids viz., RRX-708, MEPH-161 (Zone III) and NPH-X63 (Zone VI), were found promising with recommended yield advantage over the varietal and hybrid checks (Table 1.77). All these hybrids are promoted to AVT-1 MS trial.



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Appendix-1: Grain Yield (kg/ha) of hybrids in IHRT-Early, Kharif 2020

S. No.	IET No.	Name	Zone-I					Zone-II					Zone-III (contd)					
			MLN	KUL	PNT	LDN	IARI	Northern Mean (4)	MSD	NGN	NZV	@ JKA	RASI	UP Mean (4)	@ PSA	SYN	BH Mean (1)	
1	28950	HRI-207	5470	7100 (5)	6426 (1)	8233 (7)	7051	7203	5841 (9)	6466 (2)	6056	4604	5776	6035	2118	7377 (3)	7377	
2	28951	PAN-2430	5753	6600 (8)	3941	7753	8216 (3)	6628	5549	4464	6105	4934 (6)	5524	5410	2192	3869	3869	
3	28952	NPH-X73	5041	6133	4810 (7)	6575	5913	5858	5507	4297	7624 (2)	5911 (2)	7463 (2)	6223	2081	7683 (1)	7683	
4	28953	YPH-4009	6806 (4)	6667 (6)	5063 (4)	8152 (8)	7970 (7)	6963	5882 (8)	4297	6819 (9)	4051	4765	5441	3382	7584 (2)	7584	
5	28954	KAVERI-7299	5452	6000	4816 (6)	8684 (2)	8823 (2)	7081	6258 (7)	5382 (5)	6686	4664 (10)	6414 (8)	6185	2248	7347 (4)	7347	
6	28955	UPLRH-179524	5776 (10)	6067	4115	7362	7937 (8)	6370	4631	4339	6681	4894 (7)	4993	5161	3976 (10)	6755 (9)	6755	
7	28956	JKRH-1601	4908	7233 (4)	3985	8603 (3)	8128 (6)	6987	6383 (4)	7009 (1)	7223 (5)	4830 (9)	6845 (4)	6865	4125 (8)	5307	5307	
8	28957	TMRH-2110	6008 (7)	5800	4010	7002	6868	5920	5173	4464	5963	4364	5500	5275	3846	4783	4783	
9	28958	UPLRH-179510	5776	5867	3825	8910 (1)	8180 (4)	6696	6300 (5)	3880	7266 (4)	6071 (1)	6259 (10)	5926	2620	7070 (6)	7070	
10	28959	PHI-20101	7178 (2)	7533 (1)	5297 (2)	8508 (5)	9441 (1)	7695	5757 (10)	5382 (4)	7163 (6)	4449	6837 (5)	6285	5240 (2)	6449	6449	
11	28960	RRX-848	9009 (1)	7267 (3)	4402	7443	7297	6602	6466 (2)	3421	7698 (1)	4947 (5)	7598 (1)	6296	4849 (6)	6110	6110	
12	28961	MP-3110	5832 (9)	5900	5169 (3)	6265	7862 (10)	6299	4714	4756 (6)	4945		5288	4926	5191 (3)	5766	5766	
13	28962	JGLH-275	5552	6633 (7)	4507	7739	8132 (5)	6753	6383 (3)	4339	5936	4191	6182	5710	4868 (5)	6677	6677	
14	28963	Pusa RH-59	5643	5767	4000	6818	7411	5999	5215	4464	6485	5031 (3)	6054	5554	4868 (4)	5636	5636	
15	28964	VNR-227	5864 (8)	5267	5004 (5)	8374 (6)	7916 (9)	6640	6633 (1)	3379	7363 (3)	4845 (8)	6570 (7)	5986	2657	6707 (10)	6707	
16	28965	Pusa RH-60	6616 (5)	5567	4530 (10)	7894 (10)	7116	6277	4547	3504	7140 (7)	3977	6298 (9)	5372	3486	5616	5616	
17	28966	MEPH-156	3728	6333 (10)	4537 (9)	7732	6703	6326	5757	3922	6891 (8)	4485	6787 (6)	5839	4036 (9)	4143	4143	
18	28967	US-330	6995 (3)	6167	4790 (8)	8511 (4)	7658	6781	6300 (6)	4088	6715 (10)	4617	6191	5824	2601	7028 (7)	7028	
19	US-314 (NCH)		6276 (6)	7400 (2)	3967	7340	7282	6497	5215	5507 (3)	5407	4390	6949 (3)	5769	5500 (1)	6977 (8)	6977	
20	CO-51 (NCV)		3153	4300	3969	6808	5980	5264	5507	3880	6683	4962 (4)	5274	5336	4719 (7)	6600	6600	
21	PR-124/Luit/NDR-97/Sahbhagidhan/MTU-1153(ZCV)		2991	4533	3157	5584	5984	4815	4631	4255	4946		5645	4869	2430	6435	6435	
22	Local Check Variety (LCV)		5764	6533 (9)	2885	8134 (9)	6410	5991	4047	4297	4626	4436	4177	4287		7344 (5)	7344	
Exp. Mean			5709	6212	4418	7656	7467	6438	5577	4536	6473	4733	6063	5662	3668	6330	6330	
CD(0.05)			1275	485	1548	610	865		473	371	1109	277	820		319	998		
CV			13.68	4.78	21.45	4.88	7.09		5.2	5.01	8.24	3.54	6.5		5.26	9.65		
D/S			15.06.20	30.06.20	26.06.20	23.06.20	18.06.20		21.06.20	02.07.20	22.06.20		22.06.20		17.06.20	26.06.20		
D/P			14.07.20	28.07.20	18.07.20	28.07.20	15.07.20		23.07.20	28.07.20	19.07.20		22.07.20		13.07.20	24.07.20		
Gross Plot Size (Sq.m)			4.70	10	10.125	10.4	10		10	10	11	10.5	11.25		9	10		
Net Plot Size (Sq.m)			4.70	10	10.12	9.45	10		7.99	7.99	10	10.5	10.35		8.97	10		
Zonal Check Variety			PR-124	PR-124	PR-124	PR-124	PR-124		NDR-97	NDR-97	NDR-97	NDR-97	NDR-97		NDR-97	NDR-97		
Local Check Variety			AZ 6508	HKR-48	Govind	PR-126	IR-64		NDR-97	NDR-97			NDR-97					

Note: @ Data of JKA (JK Agri genetics) not included in the analysis due to low CV and data of PSA (Pusa) not included in the analysis due to Low Grain Yield (Kg/ha)

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Appendix-1(Contd): Grain Yield (kg/ha) of hybrids in IHRT-Early, Kharif 2020

S No.	IET No.	Name	(contd) Zone-III						Zone-IV			Zone-V (contd)			
			@ CHN	@ RCI	TMT	JH Mean (1)	NRRI	Eastern Mean (7)	TTB	ARD	NE Mean (2)	JBP	RPR	VNR	CH Mean (2)
1	28950	HRI-207	6901 (8)	3671	4599	4599	5831 (7)	5992	5380 (2)	4765	5072	8503 (1)	6795 (1)	7628 (4)	7212
2	28951	PAN-2430	5672	2612	3758	3758	4834	4872	3100	3245	3173	6877	6216 (4)	5919	6067
3	28952	NPH-X73	6315	3505	4161	4161	5407 (10)	6020	4490 (10)	4996 (8)	4743	5957	5411	5304	5357
4	28953	YPH-4009	5971	4067 (8)	5231 (5)	5231	5850 (6)	5776	4653 (9)	5335 (4)	4994	6972	6709 (2)	7091 (6)	6900
5	28954	KAVERI-7299	7393 (4)	4464 (7)	4301	4301	4793	5883	4837 (8)	5111 (7)	4974	7177 (7)	5668 (9)	6239	5954
6	28955	UPLRH-179524	5710	2778	4442	4442	4676	5216	4347	5284 (5)	4815	6890	4444	5315	4880
7	28956	JKRH-1601	7514 (3)	3108	5043 (6)	5043	5894 (5)	6243	5710 (1)	4230	4970	7130 (8)	5662 (10)	8539 (1)	7100
8	28957	TMRH-2110	5892	2381	6475 (3)	6475	5336	5385	3780	5223 (6)	4501	6003	5095	4533	4814
9	28958	UPLRH-179510	6145	6250 (2)	4938 (7)	4938	4507	5746	3377	5401 (3)	4389	7327 (6)	5411	7304 (5)	6357
10	28959	PHI-20101	5786	6283 (1)	3931	3931	6435 (1)	5993	5207 (4)	4775 (9)	4991	8067 (2)	6200 (5)	8116 (3)	7158
11	28960	RRX-848	7582 (1)	4861 (5)	6486 (2)	6486	6368 (2)	6307	4400	5826 (1)	5113	6983 (10)	5678 (8)	6638 (7)	6158
12	28961	MP-3110	5778	3406	6647 (1)	6647	5079	5314	3860	4163	4011	6107	4957	6460 (8)	5708
13	28962	JGLH-275	7166 (5)	5688 (3)	3994	3994	5250	5537	5033 (5)	4747	4890	6857	4786	6281	5533
14	28963	Pusa RH-59	6353	3604	4727 (8)	4727	5956 (4)	5505	4033	4194	4114	5973	5089	6273	5681
15	28964	VNR-227	7166 (6)	3406	6427 (4)	6427	6219 (3)	6186	5297 (3)	4214	4756	7550 (4)	4773	8492 (2)	6632
16	28965	Pusa RH-60	6928 (7)	3571	4439	4439	5539 (8)	5298	4183	4775 (10)	4479	6607	5862 (6)	6356 (9)	6109
17	28966	MEPH-156	7525 (2)	2579	4102	4102	5476 (9)	5297	5027 (6)	3245	4136	6570	5475	4720	5098
18	28967	US-330	6553	4927 (4)	4306	4306	5278	5701	4150	4163	4156	7722	6293 (3)	5702	5998
19	US-314 (NCH)		6818 (9)	3704 (9)	4622	4622	5082	5680	4180	4401	4290	7097 (9)	5804 (7)	6247	6025
20	CO-51 (NCV)		5710	4729 (6)	4313	4313	5288	5363	3220	5427 (2)	4323	7463 (5)	4850	6242	5546
21	PR-124/Luit/NDR-97/ Sahbhagidhan/ MTU-1153 (ZCV)		6553 (10)	761	3086	3086	4439	4777	4840 (7)	3999	4419	4613	4670	3972	4321
22	Local Check Variety (LCV)		5835	628	3573	3573	4433	4642	3480	4487	3983	6343	5056	5888	5472
Exp. Mean			6512	3681	4709	4709	5362	5579	4390	4637	4513	6854	5496	6330	5913
CD(0.05)			353	1149	904		676		782	533		525	405	1487	
CV			3.32	19.12	11.75		7.72		10.91	7.04		4.69	4.52	14.39	
D/S			26.06.20	19.06.20	24.06.20		26.06.20		13.07.20	19.07.20		02.07.20	16.06.20	24.06.20	
D/P			21.07.20	21.07.20	17.07.20		28.07.20		10.08.20	26.08.20		22.07.20	08.07.20	17.07.20	
Gross Plot Size (Sq.m)			10.35	10.8	12.6		9.6		10	10		10	10		
Net Plot Size (Sq.m)			8.5		10.8		6.84		10	10		7.99	7.48	8.19	
Zonal Check Variety			NDR-97	NDR-97	NDR-97		NDR-97		Luit	Luit		Sahbhagidhan	Sahbhagidhan	Sahbhagidhan	
Local Check Variety			Ajit	BVD-110	BVD-107		Annada		Lachit			MTU-1010	SYE-01	MTU-1010	

Note: @ Data of CHN (Chinsurah) not included in the analysis due to low CV and data of RCI (Ranchi) not included in the analysis due to Low Grain Yield (Kg/ha)

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Appendix-1 (Contd): Grain Yield (kg/ha) of hybrids in IHRT-Early, Kharif 2020

S No.	IET No.	Name	(contd) Zone-V					Zone-VI									
			SND	SKL	ANK	MH Mean (3)	Central Mean (6)	KJT	VDG	RDN	MH Mean (3)	NWG	NVS	@ DBI	GJ Mean (2)	Western Mean (5)	
1	28950	HRI-207	5098	5582 (6)	5702 (5)	5461	6551	5681 (6)	7338 (1)	8491 (3)	7170	5813 (7)	5973 (7)	4142	5893	6659	
2	28951	PAN-2430	5223	4789	3797	4603	5470	5025	5876 (10)	6972 (6)	5958	5120	5054	4892 (5)	5087	5609	
3	28952	NPH-X73	5575	4664	5620 (7)	5286	5422	5029	6260 (6)	6123	5804	5636 (9)	6102 (4)	3284	5869	5830	
4	28953	YPH-4009	5169	5273 (8)	5676 (6)	5373	6148	5230 (8)	5076	8959 (1)	6422	6342 (3)	5242 (10)	5750 (3)	5792	6170	
5	28954	KAVERI-7299	5071	4827	5775 (4)	5224	5793	5151	5674	5981	5602	5366	5217	3172	5292	5478	
6	28955	UPLRH-179524	6756 (1)	4310	4859	5308	5429	5030	5148	4864	5014	5051	5462 (9)	3765	5256	5111	
7	28956	JKRH-1601	6132 (6)	6166 (2)	5918 (2)	6072	6591	5998 (3)	6079 (8)	7377 (5)	6485	8207 (1)	6206 (2)	4549 (6)	7207	6774	
8	28957	TMRH-2110	5530	4414	4998	4981	5096	4946	5087	7666 (4)	5900	5416	4581	4255 (10)	4999	5539	
9	28958	UPLRH-179510	5428	4577	4951	4985	5833	5990 (4)	5137	6417 (10)	5848	5619 (10)	4432	4476 (8)	5026	5519	
10	28959	PHI-20101	6319 (4)	6604 (1)	5421 (8)	6115	6788	6144 (2)	7225 (2)	6526 (9)	6632	5645 (8)	6054 (5)	6304 (1)	5849	6319	
11	28960	RRX-848	5624	5603 (5)	5782 (3)	5669	6051	4919	5830	6570 (8)	5773	6309 (4)	5975 (6)	4284 (9)	6142	5921	
12	28961	MP-3110	5027	4018	6284 (1)	5109	5475	5057	5496	5524	5359	5366	4770	3128	5068	5243	
13	28962	JGLH-275	5312	5369 (7)	5404 (9)	5362	5668	5003	6655 (3)	6841 (7)	6166	6225 (5)	4660	6201 (2)	5443	5877	
14	28963	Pusa RH-59	6542 (2)	5003	4882	5475	5627	5057	5874	5465	5466	6029 (6)	4839	5245 (4)	5434	5453	
15	28964	VNR-227	5860 (8)	4526	4860	5082	6010	5849 (5)	6465 (5)	8757 (2)	7024	4976	6146 (3)	4118	5561	6439	
16	28965	Pusa RH-60	5775 (9)	4552	5035	5121	5698	6160 (1)	6634 (4)	6077	6290	5249	6477 (1)	3885	5863	6119	
17	28966	MEPH-156	5299	4881	5097	5092	5340	5549 (7)	6115 (7)	5302	5655	2804	5478 (8)	3358	4141	5050	
18	28967	US-330	6025 (7)	4569	4746	5113	5843	4425	5771	5669	5288	5249	4826	3407	5038	5188	
19	US-314 (NCH)		5058	5846 (4)	5349	5417	5900	5037	5686	6225	5649	6488 (2)	4433	4520 (7)	5461	5574	
20	CO-51 (NCV)		5196	4802	5388 (10)	5128	5657	5052	3949	4758	4586	4251	3162	3118	3706	4234	
21	PR-124/Luit/NDR-97/ Sahbhagidhan/ MTU-1153 (ZCV)		6252 (5)	5858 (3)	3008	5039	4729	3695	6001 (9)	5574	5090	4729	3170	3186	3949	4634	
22	Local Check Variety (LCV)		6359 (3)	4657	5164	5394	5578	4466		4735	4600		4988	3716	4988	4730	
Exp. Mean			5665	5040	5169	5291	5759	5204	5875	6403	5828	5519	5148	4216	5333	5630	
CD(0.05)			830	1055	518			641	767	1206		1769	1081	346			
CV			8.98	12.81	6.14			7.54	7.91	11.54		15.37	12.86	3.94			
D/S			16.06.20	17.06.20				16.06.20	20.06.20	15.06.20		20.06.20	20.06.20	18.06.20			
D/P			08.07.20	14.07.20				11.07.20	24.07.20	19.07.20		06.08.20	10.07.20	15.07.20			
Gross Plot Size (Sq.m)			10	10				9.45	12.6	9.72		10.08	8.19	12.96			
Net Plot Size (Sq.m)			7.48	7.99				7.02	10.53	7.2		7.92	6.48	10.2			
Zonal Check Variety			Sahbhagi dhan	Sahbhagi dhan	Sahbhagi dhan			Sahbhagi dhan	Sahbhagi dhan	Sahbhagi dhan		Sahbhagi dhan	Sahbhagi dhan	Sahbhagi dhan			
Local Check Variety			SYE-01	Sakoli-6				Karjat-7		Phule Radhe		Mahisagar	GR-7	GR-7			

Note: @ Data of DBI (Dabhoi) not included in the analysis due to low CV.

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Appendix-1(Contd): Grain Yield (kg/ha) of hybrids in IHRT-Early, Kharif 2020

S No.	IET No.	Name	Zone-VII													Overall Mean (33)	
			MTU	BAY	AP Mean (2)	IIRR	WGL	TS Mean (2)	MND	@ BRM	MGD	KA Mean (2)	CBT	ADT	TN Mean (2)		Southern Mean (8)
1	28950	HRI-207	5874	4794	5334	6003 (4)	4685 (8)	5344	10601 (7)	2818	6000 (1)	8300	5818	6249 (4)	6033	6253	6147
2	28951	PAN-2430	5009 (6)	3882	4446	3274	4224	3749	7663	2606	3562	5612	5853	5381	5617	4856	5071
3	28952	NPH-X73	2576	4849	3713	5463 (9)	3922	4693	9374	3545 (7)	3450	6412	6090	4583	5336	5038	5355
4	28953	YPH-4009	3138	4809	3973	5910 (5)	5620 (3)	5765	11128 (2)	3636 (6)	3578	7353	6816 (6)	4458	5637	5682	5831
5	28954	KAVERI-7299	5417 (3)	4865	5141	6160 (2)	3749	4955	11004 (3)	2242	4912 (6)	7958	6945 (4)	6075 (8)	6510	6141	5770
6	28955	UPLRH-179524	3303	3851	3577	5236	4436	4836	9012	2242	2728	5870	5316	5242	5279	4891	5137
7	28956	JKRH-1601	4660 (9)	5401 (4)	5031	6050 (3)	4870 (5)	5460	10280 (8)	4364 (3)	3564	6922	6333 (10)	6666 (2)	6499	5978	6110
8	28957	TMRH-2110	2697	4394	3545	4603	3637	4120	9045	3333 (9)	4621 (7)	6833	6433 (9)	6180 (6)	6306	5201	5184
9	28958	UPLRH-179510	4317	4484	4401	5574 (8)	4075	4824	10848 (5)	3970 (4)	4118 (9)	7483	5954	6298 (3)	6126	5708	5583
10	28959	PHI-20101	5225 (4)	4989 (10)	5107	6538 (1)	4933 (4)	5735	14247 (1)	5515 (1)	4450 (8)	9348	7983 (1)	5624 (9)	6804	6749	6359
11	28960	RRX-848	3341	5114 (8)	4228	4731	3959	4345	10881 (4)	3182	5208 (4)	8044	7067 (2)	5381	6224	5710	5923
12	28961	MP-3110	3905	3891	3898	4284	3760	4022	9580	2152	2071	5826	5843	4235	5039	4696	5085
13	28962	JGLH-275	4478 (10)	5408 (3)	4943	4543	4454	4499	10239 (10)	2242	5722 (2)	7980	6977 (3)	4409	5693	5779	5610
14	28963	Pusa RH-59	4112	5576 (2)	4844	4358	4722 (7)	4540	9086	3455 (8)	4003 (10)	6545	6630 (8)	6214 (5)	6422	5588	5357
15	28964	VNR-227	3742	5813 (1)	4778	5363 (10)	4628 (9)	4995	10757 (6)	2697	3458	7108	5871	6110 (7)	5991	5718	5860
16	28965	Pusa RH-60	3516	5209 (7)	4363	4661	4551	4606	9284	3212	5411 (3)	7348	6143	5346	5745	5515	5490
17	28966	MEPH-156	3828	4650	4239	5029	4177	4603	10247 (9)	3636 (5)	3976	7112	5810	5416	5613	5392	5141
18	28967	US-330	4835 (7)	5238 (6)	5037	4940	4788 (6)	4864	10025	5091 (2)	2874	6450	6730 (7)	5416	6073	5606	5535
19	US-314 (NCH)		4767 (8)	5068 (9)	4918	5028	4142	4585	9695	3018	5063 (5)	7379	5431	5034	5232	5529	5532
20	CO-51 (NCV)		5054 (5)	3887	4470	5831 (6)	4253	5042	8823	2061	3119	5971	5542	4874	5208	5173	4909
21	PR-124/Luit/NDR-97/ Sahbhagidhan/ MTU-1153 (ZCV)		4291	5261 (5)	4776	5741 (7)	6829 (1)	6285	8436	2818	3251	5843	6884 (5)	5069	5976	5720	4760
22	Local Check Variety (LCV)		5630 (2)		5630	4551	5754 (2)	5153	7358	2970	2001	4680		7117 (1)	7117	5402	5009
Exp. Mean			4260	4830	4545	5176	4553	4865	9892	3218	3961	6926	6308	5517	5913	5562	5492
CD(0.05)			616	843		1222	727		1301	1109	973		895	1132			
CV			8.86	10.57		14.46	9.77		8.05	16.56	11.81		8.6	12.57			
D/S			12.07.20	15.06.20		10.07.20	06.07.20			10.06.20	24.06.20		18.06.20	08.09.20			
D/P			13.08.20	08.07.20		19.08.20	27.07.20			29.06.20			17.07.20	10.10.20			
Gross Plot Size (Sq.m)			9.9	10		6.72	10.8			10.8	8		11.25	6			
Net Plot Size (Sq.m)			7.44	10		5.445	8.58			8.25	8		9.315	4.8			
Zonal Check Variety			MTU-1153	MTU-1153		MTU-1153	MTU-1153		MTU-1153	MTU-1153	MTU-1153		MTU-1153	MTU-1153			
Local Check Variety			MTU-1153	Damini		Rasi	KNM-118		Raksha	Mahaveera	Prasanna			ADT-53			

Note: @ Data of BRM (Brahmavar) not included in the analysis due to Low Grain Yield (Kg/ha)

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Appendix-2: Days to 50% Flowering (DFF) of hybrids in IHRT-Early, Kharif 2020

S No.	IET No.	Name	Zone -I	Zone -II					Zone -III (contd)								
			MLN	KUL	PNT	LDN	IARI	Northern Mean (4)	MSD	NGN	NZV	@ JKA	RASI	UP Mean (4)	@ PSA	SYN	BH Mean (1)
1	28950	HRI-207	100	83	81	83	85	83	86	92	88	91	89	89	86	85	85
2	28951	PAN-2430	93	80	78	82	85	81	77	84	83	87	82	81	82	83	83
3	28952	NPH-X73	94	80	76	81	80	79	77	84	85	87	83	82	83	83	83
4	28953	YPH-4009	100	86	82	93	88	87	85	93	83	91	89	87	84	88	88
5	28954	KAVERI-7299	99	84	80	88	85	84	84	92	91	92	89	89	86	86	86
6	28955	UPLRH-179524	92	75	75	81	78	78	90	82	89	86	82	85	81	82	82
7	28956	JKRH-1601	101	87	84	98	91	90	86	98	92	93	91	92	83	90	90
8	28957	TMRH-2110	93	81	75	85	81	80	77	90	89	88	87	86	82	87	87
9	28958	UPLRH-179510	98	84	79	85	85	83	77	93	88	90	87	86	85	86	86
10	28959	PHI-20101	99	86	81	97	82	87	85	100	86	96	91	90	84	90	90
11	28960	RRX-848	100	86	82	96	86	88	87	102	85	96	92	92	86	89	89
12	28961	MP-3110	93	79	79	82	79	80	80	85	87	87	86	84	81	81	81
13	28962	JGLH-275	101	87	83	95	90	89	93	96	84	94	89	90	88	87	87
14	28963	Pusa RH-59	105	90	90	99	94	93	87	103	88	94	91	92	92	92	92
15	28964	VNR-227	99	86	85	95	88	88	86	98	90	92	89	91	86	87	87
16	28965	Pusa RH-60	102	85	78	95	87	86	85	98	90	98	91	91	89	83	83
17	28966	MEPH-156	93	78	80	85	85	82	81	89	88	92	84	86	82	84	84
18	28967	US-330	96	84	79	83	82	82	80	91	87	94	85	85	82	82	82
19	US-314 (NCH)		100	84	81	84	89	85	87	98	88	96	89	90	85	87	87
20	CO-51 (NCV)		91	78	74	84	82	79	76	85	86	86	83	82	82	82	82
21	PR-124/Luit/NDR-97/ Sahbhagidhan/MTU-1153 (ZCV)		91	75	74	79	83	78	86	80	86		90	85	77	75	75
22	Local Check Variety (LCV)		97	87	74	90	86	84	72	90	88	96	78	82		81	81
Exp. Mean			97	83	80	88	85	84	83	92	87	92	87	87	84	85	85

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Appendix-2 (Contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Early, Kharif 2020

S No.	IET No.	Name	(contd) Zone-III						Zone-IV			Zone -V								
			@ CHN	@ RCI	TMT	JH Mean (1)	NRR1	Eastern Mean (7)	TTB	ARD	NE Mean (2)	JBP	RPR	VNR	CH Mean (2)	SND	SKL	ANK	MH Mean (3)	Central Mean (6)
1	28950	HRI-207	79	90	92	92	87	89	79	93	86	88	87	77	82	87	78	91	86	85
2	28951	PAN-2430	80	81	74	74	88	81	87	89	88	79	84	73	79	80	76	82	80	79
3	28952	NPH-X73	81	83	79	79	86	82	86	92	89	82	83	74	79	84	76	86	82	81
4	28953	YPH-4009	84	90	86	86	90	87	87	93	90	87	89	78	84	88	73	94	85	85
5	28954	KAVERI-7299	82	89	84	84	87	88	89	94	92	85	87	75	81	87	76	91	85	83
6	28955	UPLRH-179524	75	82	80	80	85	84	82	92	87	81	82	74	78	117	71	85	91	85
7	28956	JKRH-1601	92	94	91	91	90	91	85	93	89	89	93	82	88	90	85	95	90	89
8	28957	TMRH-2110	83	91	82	82	88	86	85	93	89	82	86	78	82	84	74	86	82	82
9	28958	UPLRH-179510	81	89	82	82	86	85	90	93	92	84	87	74	80	89	77	88	85	83
10	28959	PHI-20101	87	89	90	90	90	90	83	94	89	85	92	80	86	89	84	91	88	87
11	28960	RRX-848	88	92	83	83	92	90	81	87	84	85	91	79	85	91	84	91	88	87
12	28961	MP-3110	81	89	82	82	86	84	89	89	89	81	84	75	79	85	73	85	81	81
13	28962	JGLH-275	88	89	90	90	89	90	81	94	88	87	88	80	84	88	81	94	88	86
14	28963	Pusa RH-59	90	92	93	93	89	92	86	93	90	92	96	86	91	92	88	99	93	92
15	28964	VNR-227	82	92	84	84	94	89	82	91	87	84	88	81	85	89	85	87	87	86
16	28965	Pusa RH-60	85	93	86	86	89	89	89	94	91	86	86	80	83	89	73	94	85	85
17	28966	MEPH-156	76	88	81	81	88	85	84	89	87	79	86	75	80	87	76	86	83	81
18	28967	US-330	78	89	84	84	86	85	88	89	89	83	86	75	81	87	80	87	85	83
19	US-314 (NCH)		87	87	85	85	89	89	84	94	89	84	86	75	81	87	76	90	85	83
20	CO-51 (NCV)		80	86	82	82	85	83	81	98	90	86	86	73	79	85	73	88	82	82
21	PR-124/Luit/NDR-97/ Sahbhagidhan/MTU-1153 (ZCV)		75	78	74	74	85	82	80	89	85	110	113	117	115	84	114	117	105	109
22	Local Check Variety (LCV)		86	76	81	81	85	82	82	93	88	85	89	79	84	89	80	84	84	84
Exp. Mean			83	88	84	84	88	86	85	92	88	86	89	79	84	89	80	91	86	85

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Appendix-2 (Contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Early, Kharif 2020

S No.	IET No.	Name	Zone -VI									Zone -VII (contd)					
			KJT	VDG	RDN	MH Mean (3)	NWG	NVS	@ DBI	GJ Mean(2)	Western Mean (5)	MTU	BAY	AP Mean (2)	IIRR	WGL	TS Mean (2)
1	28950	HRI-207	89	93	97	93	87	79	84	83	89	88	87	88	93	81	87
2	28951	PAN-2430	86	87	88	87	80	82	84	81	84	74	84	79	85	76	80
3	28952	NPH-X73	82	84	90	85	84	70	78	77	82	77	85	81	90	79	84
4	28953	YPH-4009	88	92	97	93	88	79	85	83	89	86	87	87	93	84	89
5	28954	KAVERI-7299	89	91	92	91	93	78	82	85	89	82	87	84	90	77	84
6	28955	UPLRH-179524	82	87	90	86	92	77	78	84	85	80	84	82	86	79	83
7	28956	JKRH-1601	91	96	101	96	101	82	89	91	94	92	92	92	100	92	96
8	28957	TMRH-2110	84	84	91	86	92	77	79	85	86	85	85	85	92	81	86
9	28958	UPLRH-179510	89	92	99	94	88	79	84	83	89	80	86	83	92	79	86
10	28959	PHI-20101	90	96	101	96	98	82	88	90	94	88	89	89	102	85	93
11	28960	RRX-848	90	95	99	95	87	83	89	85	91	88	90	89	96	85	90
12	28961	MP-3110	84	80	90	85	93	77	78	85	85	88	84	86	85	77	81
13	28962	JGLH-275	88	87	96	90	100	77	86	89	90	88	89	89	92	84	88
14	28963	Pusa RH-59	93	100	104	99	113	83	88	98	99	90	93	92	102	92	97
15	28964	VNR-227	88	92	99	93	98	84	88	91	92	89	90	89	94	81	88
16	28965	Pusa RH-60	90	92	100	94	102	79	85	90	93	85	88	87	94	86	90
17	28966	MEPH-156	91	86	93	90	90	76	81	83	87	87	87	87	88	79	84
18	28967	US-330	87	83	93	87	93	78	84	85	87	87	87	87	88	77	82
19	US-314 (NCH)		89	85	94	89	103	76	81	90	89	87	89	88	89	82	86
20	CO-51 (NCV)		82	84	88	85	96	72	77	84	85	80	84	82	91	82	86
21	PR-124/Luit/NDR-97/ Sahbhagidhan/MTU-1153 (ZCV)		112	109	110	110	98	114	103	106	108	86	90	88	94	86	90
22	Local Check Variety (LCV)		88		93	91		83	78	83	88	88		88	89	84	87
Exp. Mean			89	90	96	92	94	80	84	87	90	85	87	86	92	82	87

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Appendix-2 (Contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Early, Kharif 2020

S No.	IET No.	Name	(contd) Zone-VII								Overall Mean (33)
			MND	@ BRM	MGD	KA Mean (2)	CBT	ADT	TN Mean (2)	Southern Mean (8)	
1	28950	HRI-207	98	86	96	97	100	78	89	90	85
2	28951	PAN-2430	86	88	95	90	83	78	80	82	80
3	28952	NPH-X73	86	88	93	90	83	80	82	84	80
4	28953	YPH-4009	94	87	94	94	100	75	88	89	86
5	28954	KAVERI-7299	98	87	98	98	97	81	89	89	85
6	28955	UPLRH-179524	90	82	92	91	84	81	82	84	82
7	28956	JKRH-1601	98	94	103	101	102	82	92	95	89
8	28957	TMRH-2110	92	85	93	93	87	83	85	87	83
9	28958	UPLRH-179510	97	89	100	98	93	76	85	88	84
10	28959	PHI-20101	98	92	102	100	100	76	88	92	88
11	28960	RRX-848	98	98	97	97	100	81	91	92	87
12	28961	MP-3110	87	89	89	88	83	80	82	84	81
13	28962	JGLH-275	90	90	92	91	94	81	87	89	86
14	28963	Pusa RH-59	99	94	108	104	102	79	91	96	91
15	28964	VNR-227	98	95	103	100	99	84	91	92	87
16	28965	Pusa RH-60	98	85	102	100	99	76	88	91	87
17	28966	MEPH-156	93	87	93	93	90	82	86	87	83
18	28967	US-330	93	86	86	89	93	79	86	86	83
19	US-314 (NCH)		85	85	94	90	87	81	84	87	85
20	CO-51 (NCV)		92	81	92	92	92	82	87	87	82
21	PR-124/Luit/NDR-97/ Sahbhagidhan/MTU-1153 (ZCV)		91	88	98	94	95	79	87	90	90
22	Local Check Variety (LCV)		84	90	83	83		82	82	85	82
Exp. Mean			93	88	95	94	93	80	87	89	85



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Appendix-3: Grain Yield (kg/ha) of hybrids in IHRT- Mid Early, Kharif 2020

SNo.	IET No.	Name	Zone -II					Zone -III (contd)					
			KUL	PNT	LDN	IARI	Northern Mean (4)	MSD	@NGN	@ALH	NZV	@JKA	Rasi
1	28968	HRI-208	6600 (4)	5390 (2)	8071 (8)	8769 (10)	7207	6216	6300	9567 (1)	7963	4904	7220 (6)
2	28969	GK-5003 Pro	5300	4206	6727	7339	5893	5799	6925 (9)	9233 (5)	6593	5061	5590
3	28970	RALLIS-19303	6367 (6)	3616	8713 (3)	9676 (2)	7093	6341	6049	8897	7692	5082	6813
4	28971	NPH-X5	3600	2746	5545	5898	4447	4798	6300	9133 (8)	8150	5746	7792 (4)
5	28972	KAVERI-7317	7600 (1)	4228	8095 (7)	9159 (6)	7271	6758 (7)	7468 (3)	9200 (7)	8302 (9)	6032 (8)	6755
6	28973	NPH-X628	6000 (8)	3757	6303	7838	5974	6717 (8)	7134 (5)	8867	8953 (1)	6521 (3)	8096 (2)
7	28974	S-4003	5733 (10)	5507 (1)	7954	8450	6911	6508	5090	7900	8370 (5)	4943	6494
8	28975	YPH-4129	6367 (7)	4250 (10)	7894	8054	6641	5715	5799	9350 (4)	8718 (3)	5563	7640 (5)
9	28976	UPLRH-179520	5567	4005	7316	8709	6399	6466	5382	9500 (2)	8593 (4)	5033	6949
10	28977	JKRH-2709	5300	3942	8035 (9)	9267 (5)	6636	6800 (5)	6592	8020	7335	6014 (9)	6305
11	28978	UPLRH-162122	4633	3832	7323	8474	6066	6091	7760 (2)	9233 (6)	6735	5995	6827
12	28979	PHI-20102	6700 (2)	4951 (4)	7873	8955 (8)	7120	6925 (4)	5590	8900	7969	6004 (10)	6770
13	28980	RRX-805	5267	5362 (3)		9303 (4)	6644	7259 (1)	5423	9133 (9)	8725 (2)	5418	7966 (3)
14	28981	PHI-20103	6667 (3)	4140	7919	8174	6725	6258	5632	9033	8252 (10)	6595 (2)	7215 (7)
15	28982	RRX-809	5633	3673	8487 (4)	9444 (3)	6809	7176 (2)	6675	8750	8314 (7)	6246 (4)	8358 (1)
16	28983	PHI-20104	6533 (5)	4475 (6)	8861 (2)	8216	7021	5590	5590	8700	7686	6041 (7)	6932
17	28984	NS-1202	5833 (9)	3827	7510	8793 (9)	6491	6383	6049	8750	7036	5356	7211 (8)
18	28985	IRH-124	3233	2266	4046	3102	3162	5423	4923	9050	5282	5262	5259
19	28986	US-348	4367	4206	8141 (6)	9099 (7)	6453	6800 (6)	6466	8250	7314	4788	5470
20	28987	IIRRH-143	5167	3598	6067	8201	5758	6425	6967 (8)	8033	7275	5573	6399
21	28988	RNRH-12	4333	3686	6254	5297	4893	6633 (9)	4714	7033	6700	5640	4412
22	28989	Pusa RH-61	5433	3320	6095	8529	5844	6091	5632	9500 (3)	8305 (8)	5032	5793
23	28990	IIRRH-144	4300	4718 (5)	7975 (10)	8601	6398	6258	7217 (4)	8733	7914	5230	6321
24	28991	RNRH-18	3900	3620	6233	6781	5133	5549	7092 (6)	7100	7406	6135 (5)	6117
25	28992	MEPH-157	3733	4405 (7)	6455	8078	5668	6550 (10)	5131	8433	7251	6089 (6)	7140 (9)
26	28993	RNRH-78	3467	2937	6804	8144	5338	6550	6967 (7)	7500	7774	4930	6423
27	28994	US-357	4267	3020	7079	6910	5319	5298	5632	9033	6904	6627 (1)	6055
28	28995	IRH-126	3833	3867	5852	7550	5275	6466	8260 (1)	7433	7519	5635	6931
29	28996	TNRH-303	3367	2797	6921	4772	4464	5173	6258	8253	7524	5741	5376
30	US-312 (NCH)		5133	4277 (9)	6956	8150	6129	5549	4798	8633	7064	4987	5951
31	Gontra Bidhan-3 (NCV)		4267	4228	8187 (5)	9862 (1)	6636	7009 (3)	6800 (10)	9100 (10)	8364 (6)	5448	6159
32	PR-113/Lalat/ Karjat-7/MTU-1010 (ZCV)		4000	4400 (8)	6578	7069	5512	6425	6216	8800	7363		
33	Local Check Variety (LCV)		3033	3849	9055 (1)	4913	5213	6508		6100	5814	5807	7057 (10)
Exp. Mean			5016	3973	7229	7866	6017	6258	6213	8580	7611	5609	6619
CD (0.05)			559	1344	670	1049		541	388	525	1280	221	900
CV			6.89	20.93	5.73	8.25		5.34	3.86	3.78	8.32	2.44	6.73
D/S			30.06.20	06.07.20	24.06.20	25.06.20		22.06.20	02.07.20	20.06.20	21.06.20		22.06.20
D/P			27.07.20	25.07.20	31.07.20	15.07.20		23.07.20	27.07.20	15.07.20	18.07.20		22.07.20
Gross Plot Size (Sq.m)			10	10.125	10.4	10		10	10	10.5	11	8.5	11.25
Net Plot Size (Sq.m)			10	7.875	9.45	10		7.99	7.99	9.9	10	8.5	10.35
Zonal Check Variety			PR 113	PR 113	PR 113	PR 113		Lalat	Lalat	Lalat	Lalat	Lalat	Lalat
Local Check Variety			HSD-01	Pant Dhan 12	PR-126	Pusa 44		NDR-2065		NDR-359			NDR-359

Note: @ Data of NGN(Nagina), ALH (Allahabad) and JKA (JK Agri Genetics) was not included in the analysis due to Low CV

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Appendix-3(contd): Grain Yield (kg/ha) of hybrids in IHRT- Mid Early, Kharif 2020

S No.	IET No.	Name	(contd) Zone-III										
			@ SDW	UPMean (3)	@ PSA	SYN	BH Mean (1)	CHN	@ RCI	NRRI	CHP	ODMean (2)	EasternMean (7)
1	28968	HRI-208	7076	7133	3323	7381	7381	5587	3184 (9)	5772	6869	6321	6716
2	28969	GK-5003 Pro	6475	5994	3525 (10)	6201	6201	6762 (7)	1924	5146	5663	5404	5965
3	28970	RALLIS-19303	7439 (9)	6948	2667	7157	7157	6833 (6)	2056	7205 (1)	6230	6718	6896
4	28971	NPH-X5	7510 (6)	6913	4221 (5)	4875	4875	7211 (3)	2554	6004 (8)	5400	5702	6318
5	28972	KAVERI-7317	7673 (1)	7272	4329 (3)	7259	7259	7237 (2)	3350 (7)	6073 (7)	6989	6531	7053
6	28973	NPH-X628	7306	7922	2458	6901	6901	5593	2255	5835	6182	6009	6896
7	28974	S-4003	6458	7124	2380	7165	7165	6934 (5)	1857	5863	5478	5670	6687
8	28975	YPH-4129	6909	7358	2090	6886	6886	5976	2023	5381	6332	5856	6664
9	28976	UPLRH-179520	7155	7336	2461	7755 (8)	7755	5572	1692	4963	5501	5232	6543
10	28977	JKRH-2709	6441	6813	3167	7930 (1)	7930	6999 (4)	2322	5499	7335 (9)	6417	6886
11	28978	UPLRH-162122	6358	6551	2174	6934	6934	6717 (8)	3881 (2)	4980	4868	4924	6165
12	28979	PHI-20102	7623 (2)	7221	2019	7770 (6)	7770	6278	2421	6709 (2)	8219 (3)	7464	7234
13	28980	RRX-805	7473 (8)	7983	2245	6957	6957	5774	1758	5644	5018	5331	6763
14	28981	PHI-20103	7410 (10)	7242	3897 (6)	7289	7289	6636 (10)	1526	5989 (9)	8321 (2)	7155	7137
15	28982	RRX-809	6550	7949	2789	7757 (7)	7757	5693	3648 (4)	6176 (5)	7688 (5)	6932	7309
16	28983	PHI-20104	7389	6736	2792	7039	7039	6329	3615 (5)	5838	6523	6180	6562
17	28984	NS-1202	7527 (5)	6877	2715	7810 (3)	7810	7801 (1)	3018 (10)	5882 (10)	7353 (8)	6618	7068
18	28985	IRH-124	5961	5321	3883 (7)	4026	4026	5482	2090	4203	3972	4088	4807
19	28986	US-348	7581 (4)	6528	2495	7517 (9)	7517	6309	3416 (6)	6234 (4)	6965	6599	6658
20	28987	IIRRH-143	6408	6700	2090	6822	6822	5598	3914 (1)	5280	4516	4898	6045
21	28988	RNRH-12	5551	5915	3846 (8)	5078	5078	5638	2554	4735	5866	5300	5580
22	28989	Pusa RH-61	7590 (3)	6730	2228	7897 (2)	7897	6127	1857	5432	9766 (1)	7599	7059
23	28990	IIRRH-144	6391	6831	4957 (1)	7275	7275	5562	2255	6373 (3)	6738	6556	6634
24	28991	RNRH-18	7389	6357	4680 (2)	6417	6417	5537	2023	4442	7700 (4)	6071	6167
25	28992	MEPH-157	6136	6980	2471	7796 (5)	7796	5587	2919	5309	6774	6042	6630
26	28993	RNRH-78	6395	6915	4258 (4)	4222	4222	6178	3317 (8)	4258	5908	5083	5902
27	28994	US-357	6896	6086	3255	6012	6012	5421	2720	5168	4713	4941	5653
28	28995	IRH-126	7502 (7)	6972	3404	6820	6820	5482	2985	4651	4683	4667	6079
29	28996	TNRH-303	7018	6024	3296	4981	4981	5935	2587	4904	5561	5233	5636
30	US-312 (NCH)		7356	6188	3826 (9)	7487 (10)	7487	6677 (9)	3781 (3)	6074 (6)	7461 (7)	6767	6609
31	Gontra Bidhan-3 (NCV)		7026	7177	2282	6627	6627	5572	2852	5032	7467 (6)	6249	6604
32	PR-113/Lalat/ Karjat-7/MTU-1010 (ZCV)		6633	6894	2232	4762	4762	5951	2222	5000	6188	5594	5948
33	Local Check Variety (LCV)			6460		7807 (4)	7807	5961	2255	4619	7007 (10)	5813	6396
Exp. Mean			6956	6832	3077	6746	6746	6150	2631	5475	6402	5938	6463
CD (0.05)			316		191	740		291	932	725		828	
CV			2.81		3.83	6.79		2.93	21.92	8.19	8		
D/S			27.06.20		17.06.20	27.06.20		26.06.20	19.06.20	26.06.20	15.07.20		
D/P			22.07.20		13.07.20	21.07.20		28.07.20	27.07.20	30.07.20	14.08.20		
Gross Plot Size (Sq.m)			10.08		9.87	10		8.28	10.5	9.6	7.8		
Net Plot Size (Sq.m)			7.98		9	10		6.61		6.84	5.58		
Zonal Check Variety			Lalat		Lalat	Lalat		Lalat	Lalat	Lalat	Lalat		
Local Check Variety								Khitish	IR 64	Naveen	MTU 1156		

Note: @ Data of SDW (Seed Works) not included in the analysis due to Low CV ;Data of PSA(Pusa) not included in the analysis due to grain yield (Kg/Ha) and Low CV ; Data of RCI (Ranchi) not included in the analysis due to grain yield (Kg/Ha)

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Appendix-3(contd): Grain Yield (kg/ha) of hybrids in IHRT- Mid Early, Kharif 2020

S No.	IET No.	Name	Zone-IV			Zone-V							
			@ TTB	ARD	NE Mean (1)	JBP	SND	ANK	MH Mean (2)	RPR	VNR	CH Mean (2)	Central Mean (5)
1	28968	HRI-208	4667 (9)	4449	4449	6100	6043 (5)	5694	5868	6905 (6)	8916 (9)	7910	6731
2	28969	GK-5003 Pro	4823 (7)	3634	3634	5607	5811	4685	5248	4732	8156	6444	5798
3	28970	RALLIS-19303	4050	5395	5395	6683 (6)	5067	5888 (6)	5477	6716 (7)	9386 (6)	8051	6748
4	28971	NPH-X5	4743 (8)	5719	5719	5830	5187	4946	5066	5913	9816 (4)	7864	6338
5	28972	KAVERI-7317	4110	6449 (3)	6449	6653 (7)	5838 (10)	6679 (1)	6258	7235 (5)	8932 (8)	8084	7068
6	28973	NPH-X628	3820	5209	5209	6793 (4)	5089	5760 (8)	5424	4792	6568	5680	5800
7	28974	S-4003	2463	5093	5093	6220	6274 (2)	5492	5883	7444 (2)	8541	7992	6794
8	28975	YPH-4129	2437	6059 (7)	6059 (7)	6363	3685	5439	4562	8466 (1)	7776	8121	6346
9	28976	UPLRH-179520	3310	5165	5165	6540 (10)	4969	6010 (4)	5489	6591 (9)	7322	6956	6286
10	28977	JKRH-2709	4863 (6)	3862	3862	6617 (9)	5512	6024 (3)	5768	4917	8877 (10)	6897	6389
11	28978	UPLRH-162122	2357	4225	4225	6623 (8)	5985 (8)	5719 (9)	5852	5754	8373	7063	6491
12	28979	PHI-20102	5850 (3)	5576	5576	7347 (1)	6537 (1)	5812 (7)	6175	7275 (4)	10237 (2)	8756	7442
13	28980	RRX-805	3987	5598	5598	7057 (2)	4719	5598	5159	5886	8136	7011	6279
14	28981	PHI-20103	3207	5940 (10)	5940	7043 (3)	4978	6086 (2)	5532	5532	10574 (1)	8053	6843
15	28982	RRX-809	3567	5109	5109	5773	6007 (6)	5488	5747	6329	9969 (3)	8149	6713
16	28983	PHI-20104	6297 (2)	5427	5427	6013	5575	5708 (10)	5641	6561 (10)	9728 (5)	8144	6717
17	28984	NS-1202	4493	6405 (5)	6405	5893	5668	5557	5613	6448	7579	7014	6229
18	28985	IRH-124	1470	4137	4137	4070	5205	4314	4759	6614 (8)	3538	5076	4748
19	28986	US-348	5293 (4)	5027	5027	6160	5076	5505	5290	6035	8784	7410	6312
20	28987	IIRRH-143	2420	6574 (2)	6574	5873	4479	5045	4762	4960	6870	5915	5445
21	28988	RNRH-12	1683	6009 (8)	6009	5253	5356	5383	5370	5711	7502	6607	5841
22	28989	Pusa RH-61	3307	5070	5070	6440	5691	5081	5386	6181	8692	7436	6417
23	28990	IIRRH-144	4527 (10)	4452	4452	5047	5985 (7)	5649	5817	5086	7840	6463	5921
24	28991	RNRH-18	1767	5052	5052	5947	3779	5282	4530	4888	7249	6068	5429
25	28992	MEPH-157	3263	5747	5747	6077	6154 (3)	5988 (5)	6071	5800	7177	6489	6239
26	28993	RNRH-78	2073	5307	5307	6133	6056 (4)	5356	5706	5526	7062	6294	6027
27	28994	US-357	6977 (1)	6655 (1)	6655	5570	5548	4615	5082	4987	8102	6545	5764
28	28995	IRH-126	1863	4137	4137	5437	5236	5529	5383	7407 (3)	7332	7370	6188
29	28996	TNRH-303	3527	5027	5027	6177	4848	5270	5059	4332	7238	5785	5573
30	US-312 (NCH)		3853	6077 (6)	6077	6077	5477	5509	5493	6276	8403	7340	6348
31	Gontra Bidhan-3 (NCV)		4290	4446	4446	5783	4857	5660	5259	6422	9133 (7)	7777	6371
32	PR-113/Lalat/ Karjat-7/MTU-1010 (ZCV)		5060 (5)	5989 (9)	5989	6760 (5)	5873 (9)	5022	5448	3406	6079	4743	5428
33	Local Check Variety (LCV)		3217	6405 (4)	6405	5277	5628	5503	5566	4527		4527	5234
Exp. Mean			3746	5316	5316	6098	5400	5494	5447	5929	8121	6971	6191
CD(0.05)			772	808		584	698	845		533	1392		
CV			12.74	9.4		5.92	8	9.51		5.56	10.6		
D/S			09.07.20	20.07.20		02.07.20	16.06.20	26.06.20		23.06.20	24.06.20		
D/P			08.08.20	20.08.20		24.07.20	09.07.20	28.07.20		17.07.20	17.07.20		
Gross Plot Size (Sq.m)			10	10		10	10	10.08		10.5			
Net Plot Size (Sq.m)			10	10		7.99	7.48	8.19		10.08	8.19		
Zonal Check Variety			PR 113	PR 113		Karjat -7	Karjat -7	Karjat -7		Karjat -7	Karjat -7		
Local Check Variety			Chilarai			JR 81	PKV Ganesh	MTU 1010		Chadrasahsini	MTU 1010		

Note: @ Data of TTB (Titabar) not included in the analysis due to Low grain yield (Kg/Ha)

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Appendix-3(contd): Grain Yield (kg/ha) of hybrids in IHRT- Mid Early, Kharif 2020

S No.	IET No.	Name	Zone-VI								Zone-VII (Contd)		
			KJT	RDN	MH Mean (2)	NWG	NVS	DBI	GJ Mean (3)	Western Mean (5)	MTU	BAY	AP Mean (2)
1	28968	HRI-208	5549 (7)	8391 (1)	6970	7036 (7)	6536 (6)	4167	5913	6336	4255	5785 (6)	5020
2	28969	GK-5003 Pro	5219	7642 (4)	6431	4845	4783	3235	4288	5145	5036	5990 (2)	5513
3	28970	RALLIS-19303	5081	5650	5365	6551 (9)	4714	4755 (10)	5340	5350	2321	5084	3702
4	28971	NPH-X5	6736 (1)	7356 (6)	7046	7499 (4)	6322 (9)	3676	5832	6318	5402 (7)	5495 (9)	5449
5	28972	KAVERI-7317	5243	7620 (5)	6431	6405	7250 (2)	4755	6137	6255	3795	5370	4583
6	28973	NPH-X628	5016	5351	5183	6233	5896	3578	5236	5215	2215	3765	2990
7	28974	S-4003	5124	6712 (10)	5918	6388	6174	4843 (9)	5802	5848	5089 (10)	4006	4548
8	28975	YPH-4129	5580 (6)	6129	5855	6043	6735 (5)	3907	5561	5679	1877	5172	3525
9	28976	UPLRH-179520	5161	6491	5826	6399	6402 (8)	3642	5481	5619	4519	3684	4101
10	28977	JKRH-2709	5818 (4)	5755	5787	7342 (5)	6405 (7)	5652 (3)	6466	6194	6820 (1)	4246	5533
11	28978	UPLRH-162122	5058	7002 (7)	6030	6297	6007	5083 (7)	5796	5890	4315	3409	3862
12	28979	PHI-20102	6323 (2)	6903 (8)	6613	7568 (3)	6854 (4)	4294	6239	6389	6319 (3)	6176 (1)	6248
13	28980	RRX-805	5014	5856	5435	5910	5661	5441 (4)	5671	5577	6000 (5)	5807 (5)	5903
14	28981	PHI-20103	5131	6771 (9)	5951	7784 (2)	6315 (10)	4441	6180	6089	4586	4699	4643
15	28982	RRX-809	5170	6295	5732	8024 (1)	5156	3868	5683	5702	5110 (9)	5521 (8)	5315
16	28983	PHI-20104	6056 (3)	5248	5652	4802	5439	4240	4827	5157	6384 (2)	4214	5299
17	28984	NS-1202	5338 (10)	5688	5513	5807	7194 (3)	5926 (2)	6309	5991	2294	5159	3727
18	28985	IRH-124	3546	3305	3425	3454	3530	3186	3390	3404	2907	4241	3574
19	28986	US-348	5373 (9)	5843	5608	7065 (6)	7267 (1)	5284 (6)	6539	6167	2490	5133	3812
20	28987	IIRRH-143	4357	5584	4970	6336	4658	3196	4730	4826	2376	3782	3079
21	28988	RNRH-12	5089	7814 (3)	6451	3736	5693	4015	4481	5269		4791	4791
22	28989	Pusa RH-61	5659 (5)	4141	4900	5744	5570	5956 (1)	5756	5414		5835 (4)	5835
23	28990	IIRRH-144	5162	6598	5880	4642	5418	5392 (5)	5151	5443		4299	4299
24	28991	RNRH-18	5172	3581	4376	3196	5829	4436	4487	4443		3697	3697
25	28992	MEPH-157	5320	4611	4965	6879 (8)	5563	4975 (8)	5806	5470	3264	5855 (3)	4559
26	28993	RNRH-78	5004	4773	4888	5928	5715	3667	5103	5017	2531	3901	3216
27	28994	US-357	5077	5276	5176	5234	5636	3637	4836	4972	6312 (4)	5660 (7)	5986
28	28995	IRH-126	5015	5441	5228	4084	5620	4020	4575	4836	2668	3043	2855
29	28996	TNRH-303	5030	6490	5760	4406	4266	4500	4391	4938	2277	4070	3174
30	US-312 (NCH)		5014	6122	5568	6426 (10)	6048	4627	5700	5647	3566	4919	4242
31	Gontra Bidhan-3 (NCV)		5183	8120 (2)	6651	5360	6219	4314	5298	5839	5366 (8)	5411 (10)	5389
32	PR-113/Lalat/ Karjat-7/MTU-1010 (ZCV)		5086	4386	4736	3450	5253	3083	3929	4252	2601	4409	3505
33	Local Check Variety (LCV)		5477 (8)	5055	5266	5441	4918	4216	4858	5021	5934 (6)	3229	4582
Exp. Mean			5248	6000	5624	5828	5789	4364	5327	5446	4091	4723	4441
CD(0.05)			707	1263		1452	1336	616			416	1122	
CV			8.33	13.02		12.33	14.27	6.99			6.23	14.7	
D/S			16.06.20	15.06.20		20.06.20	28.06.20	18.06.20			12.07.20	16.06.20	
D/P			14.07.20	06.07.20		07.08.20	23.07.20	15.07.20			13.08.20	07.07.20	
Gross Plot Size (Sq.m)			9.45	7.92		9.36	8.55	12.96			9.3	10	
Net Plot Size (Sq.m)			7.02	5.67		7.26	6.885	10.2			6.96	10	
Zonal Check Variety			Karjat-7	Karjat-7		Karjat-7	Karjat-7	Karjat-7			MTU-1010	MTU-1010	
Local Check Variety			Karjat-3	Phule Samridhi		Mahisagar	NAUR-1	Gurjari			MTU 1121	Damini	

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Appendix-3(contd): Grain Yield (kg/ha) of hybrids in IHRT- Mid Early, Kharif 2020

S No.	IET No.	Name	(Contd) Zone-VII											Over all Mean (31)
			IIRR	WGL	TS Mean (2)	MND	BRM	MGD	KA Mean (3)	CBT	ADT	TNMean (2)	SouthernMean (9)	
1	28968	HRI-208	5690 (7)	4858	5274	10892 (1)	4545	7846 (3)	7761	8322 (2)	7038 (3)	7680	6581	6608
2	28969	GK-5003 Pro	4909	4419	4664	9005	4212	5215	6144	6404	5429	5916	5624	5622
3	28970	RALLIS-19303	5678 (8)	6223	5950	9300	6000 (4)	5821	7040	5099	5394	5247	5658	6240
4	28971	NPH-X5	4745	6388 (10)	5567	7689	6182 (3)	6846 (7)	6906	5043	3556	4300	5705	5883
5	28972	KAVERI-7317	5432	4961	5196	10103 (4)	6697 (2)	6004	7601	8150 (3)	6702 (7)	7426	6357	6733
6	28973	NPH-X628	5239	3875	4557	9060	3000	6639 (10)	6233	4890	4503	4696	4798	5666
7	28974	S-4003	6319 (3)	5101	5710	10542 (3)	6879 (1)	5935	7785	7440 (7)	5463 (10)	6452	6308	6437
8	28975	YPH-4129	5066	4238	4652	9040	5606 (9)	6640 (9)	7095	6966	4746	5856	5483	6089
9	28976	UPLRH-179520	5836 (6)	3518	4677	8724	4424	7238 (5)	6795	5772	5301	5537	5446	5971
10	28977	JKRH-2709	5438	4585	5011	9088	4667	6387	6714	7050	7929 (1)	7489	6245	6379
11	28978	UPLRH-162122	5165	4248	4707	9602	3879	5604	6362	5772	5246	5509	5249	5832
12	28979	PHI-20102	5369	8066 (3)	6717	9973 (7)	5970 (6)	8008 (2)	7983	8531 (1)	5209	6870	7069	7015
13	28980	RRX-805	5555	5759	5657	10000 (6)	3818	6421	6747	7101	5232	6166	6188	6261
14	28981	PHI-20103	7275 (1)	6618 (8)	6946	10089 (5)	5818 (8)	7636 (4)	7848	8141 (4)	7142 (2)	7641	6889	6757
15	28982	RRX-809	6388 (2)	9609 (1)	7998	10741 (2)	3576	6988 (6)	7102	6009	5232	5621	6575	6605
16	28983	PHI-20104	5398	7809 (4)	6604	9705 (8)	3333	8593 (1)	7210	7449 (6)	6829 (6)	7139	6635	6404
17	28984	NS-1202	5885 (5)	8389 (2)	7137	9630 (10)	3697	5467	6265	7268 (9)	5093	6180	5876	6317
18	28985	IRH-124	4787	3663	4225	5905	3485	3054	4148	6060	4098	5079	4244	4174
19	28986	US-348	5263	7018 (7)	6141	9678 (9)	4727	3698	6034	6135	4943	5539	5454	6094
20	28987	IIRRH-143	4564	3952	4258	8471	4879	5446	6265	5341	5417	5379	4914	5403
21	28988	RNRH-12	4676	4111	4393	8704	5333 (10)	6567	6868	5810	4283	5046	5534	5482
22	28989	Pusa RH-61	5642 (10)	7277 (6)	6460	6804	4788	3257	4950	5735	5672 (9)	5704	5626	6067
23	28990	IIRRH-144	5985 (4)	5360	5672	9328	4082	5478	6296	7820 (5)	4190	6005	5818	5995
24	28991	RNRH-18	5055	4179	4617	8711	4667	5886	6421	5155	4561	4858	5239	5334
25	28992	MEPH-157	5647 (9)	6171	5909	9458	4788	5632	6626	6274	2917	4595	5556	5915
26	28993	RNRH-78	5619	6138	5878	8731	3788	6015	6178	5833	3542	4687	5122	5461
27	28994	US-357	4755	5994	5375	7901	3758	5607	5755	6260	6482 (8)	6371	5859	5610
28	28995	IRH-126	5187	4665	4926	8731	4424	5814	6323	5759	4144	4951	4937	5398
29	28996	TNRH-303	4684	6409 (9)	5547	7785	3576	5928	5763	7110 (10)	3820	5465	5073	5179
30	US-312 (NCH)		5281	5119	5200	9431	5939 (7)	5394	6921	7379 (8)	6977 (4)	7178	6001	6156
31	Gontra Bidhan-3 (NCV)		5605	7414 (5)	6510	9225	6000 (5)	4985	6737	5981	4954	5468	6105	6233
32	PR-113/Lalat/ Karjat-7/MTU-1010 (ZCV)		5534	5055	5294	6214	4182	4473	4956	5108	3797	4453	4597	5117
33	Local Check Variety (LCV)		4069	6368	5219	7263	3636	6751 (8)	5884	5591	6849 (5)	6220	5521	5592
Exp. Mean			5386	5684	5535	8955	4677	5978	6537	6447	5233	5840	5706	5940
CD(0.05)			790	1538		951	956	2033		1294	1223			
CV			9.08	16.74		6.57	10.11	16.83		12.41	14.46			
D/S			12.07.20	30.06.20			10.06.20	24.06.20		23.06.20	08.09.20			
D/P			19.08.20	29.07.20			01.07.20			21.07.20	10.10.20			
Gross Plot Size (Sq.m)			6.72	6.65			10.08	5.6		9.07	9			
Net Plot Size (Sq.m)			5.445	4.86			8.25	5.6		7.18	7.2			
Zonal Check Variety			MTU-1010	MTU-1010		MTU-1010	MTU-1010	MTU-1010		MTU-1010	MTU-1010			
Local Check Variety			Varadhan	RNR-15048		IR 64	Mahaveera	MGD-101		ADT-39	ADT-53			

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Appendix-4: Days to 50% Flowering (DFF) of hybrids in IHRT-Mid Early, Kharif 2020

S No.	IET No.	Name	Zone-II					Zone-III (contd)										
			KUL	PNT	LDN	IARI	Northern Mean (4)	MSD	@ NGN	@ ALH	NZV	@ JKA	Rasi	@ SDW	UP Mean (3)	@ PSA	SYN	BH Mean (1)
1	28968	HRI-208	91	86	103	93	93	97	99	81	93	106	96	94	95	92	89	89
2	28969	GK-5003 Pro	93	93	101	90	94	82	98	82	90	104	92	91	88	91	90	90
3	28970	RALLIS-19303	88	81	98	88	89	86	91	81	92	92	90	89	89	90	87	87
4	28971	NPH-X5	96	104	99	115	104	116	121	56	100	117	102	100	106	84	93	93
5	28972	KAVERI-7317	84	79	98	84	86	86	95	84	85	102	87	87	86	88	84	84
6	28973	NPH-X628	79	74	82	82	79	86	88	77	83	89	84	84	84	87	77	77
7	28974	S-4003	86	79	100	85	87	96	96	81	92	102	91	90	93	88	85	85
8	28975	YPH-4129	85	80	97	87	87	90	94	79	88	93	89	89	89	86	82	82
9	28976	UPLRH-179520	83	76	96	82	84	85	89	77	88	101	88	88	87	87	81	81
10	28977	JKRH-2709	83	81	102	85	88	96	105	80	90	104	92	91	92	96	85	85
11	28978	UPLRH-162122	79	77	84	83	81	85	90	76	86	96	87	87	86	86	84	84
12	28979	PHI-20102	91	86	101	96	93	93	95	83	90	103	94	95	92	91	90	90
13	28980	RRX-805	87	80		86	84	86	93	81	89	93	90	89	88	86	86	86
14	28981	PHI-20103	92	86	101	99	95	92	104	82	90	102	93	93	92	84	91	91
15	28982	RRX-809	89	84	100	93	91	92	95	82	93	104	92	92	92	91	87	87
16	28983	PHI-20104	91	88	103	96	94	82	105	79	92	102	94	95	89	95	91	91
17	28984	NS-1202	89	84	100	93	92	88	96	80	89	104	95	95	90	91	83	83
18	28985	IRH-124	86	79	98	84	87	85	95	79	89	96	89	89	88	86	84	84
19	28986	US-348	89	81	95	87	88	86	94	79	91	103	92	94	89	87	83	83
20	28987	IIRRH-143	85	84	101	92	91	92	107	82	89	103	93	95	91	92	85	85
21	28988	RNRH-12	80	81	97	85	86	84	87	80	86	90	90	90	87	86	83	83
22	28989	Pusa RH-61	97	97	110	95	100	101	125	82	93	107	100	99	98	97	99	99
23	28990	IIRRH-144	90	86	105	93	94	100	101	80	89	101	95	95	94	95	88	88
24	28991	RNRH-18	84	78	99	84	86	86	91	79	88	96	91	92	88	86	82	82
25	28992	MEPH-157	88	83	101	91	91	95	92	82	89	104	94	96	93	95	85	85
26	28993	RNRH-78	91	82	103	93	92	96	98	83	91	96	94	95	94	94	88	88
27	28994	US-357	93	82	101	96	93	86	95	80	92	104	93	93	90	90	90	90
28	28995	IRH-126	84	78	98	88	87	85	92	79	87	94	87	89	86	86	83	83
29	28996	TNRH-303	88	81	98	92	90	93	92	101	90	89	92	95	92	85	84	84
30	US-312 (NCH)		91	84	101	93	93	92	94	81	87	91	94	94	91	91	88	88
31	Gontra Bidhan-3 (NCV)		84	80	96	85	87	105	91	79	88	103	88	89	94	89	85	85
32	PR-113/Lalat/ Karjat-7/ MTU-1010 (ZCV)		94	93	103	95	96	85	104	79	84			93	84	87	91	91
33	Local Check Variety (LCV)		93	78	95	107	93	95		80	94	104	96		95		81	81
Exp. Mean			88	83	99	91	90	91	97	80	89	100	92	92	91	89	86	86

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Appendix-4 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Mid Early, Kharif 2020

S No.	IET No.	Name	(contd) Zone-III					Zone-IV			Zone-V					Zone-VI (contd)						
			CHN	@ RCI	NRR1	CHP	OD Mean (2)	Eastern Mean (7)	@ TTB	ARD	NE Mean (1)	JBP	SND	ANK	MH Mean (2)	RPR	VNR	CH Mean (2)	Central Mean (5)	KJT	RDN	MH Mean (2)
1	28968	HRI-208	99	103	96	106	101	97	101	98	98	95	92	98	95	94	88	91	93	93	99	96
2	28969	GK-5003 Pro	97	103	91	106	98	93	99	84	84	97	93	99	96	99	88	93	95	94	103	99
3	28970	RALLIS-19303	96	98	94	104	99	93	98	96	96	91	87	96	92	90	79	84	89	91	96	94
4	28971	NPH-X5	103	106	94	103	98	102	99	94	94	98	88	100	94	97	99	98	96	102	102	102
5	28972	KAVERI-7317	93	96	90	102	96	89	102	90	90	89	108	92	100	88	79	83	91	87	94	91
6	28973	NPH-X628	90	93	95	101	98	88	101	95	95	83	82	86	84	82	74	78	81	86	88	87
7	28974	S-4003	95	94	95	101	98	93	93	93	93	90	88	97	93	92	81	87	90	93	97	95
8	28975	YPH-4129	91	98	87	107	97	91	99	92	92	87	87	93	90	88	81	85	87	91	93	92
9	28976	UPLRH-179520	92	94	89	101	95	89	100	95	95	89	86	92	89	89	81	85	87	90	96	93
10	28977	JKRH-2709	96	98	95	105	100	94	99	92	92	95	90	94	92	89	81	85	90	90	103	97
11	28978	UPLRH-162122	90	99	99	101	100	90	99	95	95	119	88	88	88	90	80	85	93	89	97	93
12	28979	PHI-20102	100	98	94	104	99	95	101	97	97	95	91	98	95	94	84	89	92	93	96	95
13	28980	RRX-805	92	92	91	105	98	91	101	91	91	88	88	93	91	87	81	84	87	92	90	91
14	28981	PHI-20103	98	98	95	102	99	94	100	98	98	94	91	98	94	94	83	89	92	92	98	95
15	28982	RRX-809	97	96	90	106	98	94	100	98	98	91	89	97	93	96	82	89	91	92	96	94
16	28983	PHI-20104	98	101	99	106	102	95	101	96	96	96	92	98	95	96	84	90	93	96	100	98
17	28984	NS-1202	98	92	96	105	101	93	101	93	93	89	90	98	94	86	85	86	90	92	89	91
18	28985	IRH-124	96	93	95	107	101	92	102	97	97	91	88	97	93	89	78	84	89	88	94	91
19	28986	US-348	94	96	86	102	94	90	98	94	94	88	91	94	93	90	82	86	89	90	94	92
20	28987	IIRRH-143	97	99	91	107	99	93	99	93	93	96	90	97	94	92	80	86	91	94	96	95
21	28988	RNRH-12	94	94	92	101	97	90	99	93	93	90	86	93	90	85	76	81	86	92	94	93
22	28989	Pusa RH-61	98	106	97	110	103	100	97	100	100	105	95	98	97	98	89	94	97	97	103	100
23	28990	IIRRH-144	100	100	90	106	98	95	100	93	93	95	93	98	95	91	84	87	92	91	92	91
24	28991	RNRH-18	93	92	90	101	95	90	102	93	93	89	87	94	91	88	77	83	87	90	96	93
25	28992	MEPH-157	99	96	90	100	95	93	99	94	94	91	90	97	94	91	83	87	90	92	89	90
26	28993	RNRH-78	100	98	93	106	100	95	101	80	80	94	89	99	94	93	84	89	92	94	94	94
27	28994	US-357	97	99	98	107	102	94	100	91	91	95	89	98	93	93	83	88	92	91	99	95
28	28995	IRH-126	92	94	90	102	96	89	100	97	97	95	86	94	90	88	79	83	88	90	94	92
29	28996	TNRH-303	95	93	88	105	96	92	99	94	94	92	87	94	90	93	79	86	89	89	92	91
30	US-312 (NCH)		108	97	95	106	101	96	100	97	97	94	91	99	95	94	83	88	92	94	99	97
31	Gontra Bidhan-3 (NCV)		93	103	90	105	97	93	100	95	95	95	88	98	93	93	80	86	91	91	99	95
32	PR-113/Lalat/ Karjat-7/ MTU-1010 (ZCV)		99	103	98	104	101	93	99	86	86	88	87	86	86	86	80	83	85	89	95	92
33	Local Check Variety (LCV)		92	90	95	101	98	93	100	93	93	96	95	93	94	87		87	93	96	102	99
Exp. Mean			96	97	93	104	99	93	100	93	93	93	90	95	93	91	82	87	90	92	96	94

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Appendix-4 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Mid Early, Kharif 2020

S No.	IET No.	Name	(contd) Zone-VI					Zone-VII														Over all Mean (31)
			NWG	NVS	DBI	GJ Mean (3)	Western Mean (5)	MTU	BAY	AP Mean (2)	IIRR	WGL	TS Mean (2)	MND	BRM	MGD	KA Mean (3)	CBT	ADT	TN Mean (2)	Southern Mean (9)	
1	28968	HRI-208	107	76	94	92	94	94	92	93	100	97	99	97	96	102	98	102	95	99	97	95
2	28969	GK-5003 Pro	104	79	94	92	95	94	91	92	100	96	98	100	98	105	101	103	100	102	99	95
3	28970	RALLIS-19303	100	71	85	85	89	87	87	87	96	92	94	98	97	98	97	97	95	96	94	91
4	28971	NPH-X5	107	78	98	94	97	93	96	94	92	98	95	94	99	103	99	101	89	95	96	98
5	28972	KAVERI-7317	95	71	84	83	86	83	86	85	94	88	91	99	90	97	95	98	98	98	93	90
6	28973	NPH-X628	90	68	84	80	83	85	83	84	90	85	87	94	88	90	91	89	89	89	88	85
7	28974	S-4003	95	75	86	85	89	89	87	88	92	88	90	99	93	102	98	97	89	93	93	91
8	28975	YPH-4129	91	74	86	84	87	83	85	84	90	88	89	93	85	95	91	91	86	89	89	89
9	28976	UPLRH-179520	88	71	85	81	86	83	84	83	94	84	89	100	89	98	96	96	92	94	91	88
10	28977	JKRH-2709	105	76	88	90	92	91	88	89	100	87	94	99	96	102	99	101	91	96	95	92
11	28978	UPLRH-162122	91	69	84	81	86	85	85	85	92	84	88	99	97	97	98	97	103	100	93	90
12	28979	PHI-20102	103	77	88	89	91	92	89	90	95	91	93	97	97	96	96	99	91	95	94	93
13	28980	RRX-805	85	71	84	80	84	90	86	88	91	88	90	96	90	92	92	94	90	92	91	89
14	28981	PHI-20103	102	77	92	90	92	90	89	89	95	91	93	97	94	97	96	98	90	94	93	94
15	28982	RRX-809	100	74	88	87	90	91	89	90	94	93	94	99	92	103	98	97	91	94	94	93
16	28983	PHI-20104	102	77	92	90	93	92	91	91	96	93	95	98	96	100	98	100	91	96	95	94
17	28984	NS-1202	98	72	88	86	88	90	87	89	99	92	96	94	89	92	91	99	90	95	93	91
18	28985	IRH-124	103	71	87	87	89	90	87	89	93	90	92	99	92	97	96	102	94	98	94	91
19	28986	US-348	98	73	87	86	88	86	85	86	92	88	90	94	90	97	94	92	95	94	91	90
20	28987	IIRRH-143	103	74	88	88	91	88	87	88	97	92	95	101	93	102	99	101	101	101	96	93
21	28988	RNRH-12	92	70	85	82	87	86	86	86	93	87	90	98	92	96	95	97	95	96	93	89
22	28989	Pusa RH-61	100	81	91	90	94		93	93	100	97	99	109	103	108	107	103	103	103	102	99
23	28990	IIRRH-144	107	74	93	91	91		90	90	99	96	97	94	89	96	93	100	92	96	94	94
24	28991	RNRH-18	98	71	82	84	88		84	84	92	88	90	97	90	96	94	94	84	89	91	89
25	28992	MEPH-157	105	71	88	88	89	88	91	90	91	93	92	91	89	94	91	92	88	90	91	91
26	28993	RNRH-78	111	72	93	92	93	92	91	92	98	96	97	94	89	97	93	101	87	94	94	93
27	28994	US-357	102	77	92	90	92	93	90	91	98	92	95	98	93	98	96	102	95	99	95	94
28	28995	IRH-126	99	72	89	86	89	86	84	85	93	88	91	98	93	97	96	100	105	102	94	90
29	28996	TNRH-303	102	72	90	88	89	91	86	89	93	92	93	93	93	95	94	94	94	94	92	91
30	US-312 (NCH)		105	74	88	89	92	91	91	91	100	94	97	97	95	100	97	103	87	95	95	94
31	Gontra Bidhan-3 (NCV)		91	73	83	82	87	85	86	86	95	89	92	102	92	99	98	98	97	98	94	91
32	PR-113/Lalat/ Karjat-7/ MTU-1010 (ZCV)		86	74	84	81	85	85	85	85	91	88	89	94	84	95	91	94	90	92	89	90
33	Local Check Variety (LCV)		99	70	85	84	90	103	96	100	92	96	94	94	90	89	91	107	83	95	94	93
Exp. Mean			99	74	88	87	90	89	88	89	95	91	93	97	92	98	96	98	93	95	94	92



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Appendix-5: Grain Yield (kg/ha) of hybrids in IHRT-Medium, Kharif 2020

S No.	IET No.	Name	Zone-II				Zone-III (contd)								
			KUL	@ PNT	LDN	Northern Mean (2)	MSD	NGN	@ ALH	VRN	@ SDW	UP Mean (3)	@ PSA	SYN	BH Mean (1)
1	28997	HRI-204	6967 (6)	5742 (3)	7432 (2)	7199	5632	6133 (10)	7900	6488 (3)	7293 (6)	6084	5782 (1)	8498 (3)	8498
2	28998	KAVERI-7425	6000	4201	6656	6328	6508	5757	8833	6182 (5)	5902	6149	4485 (7)	7803 (8)	7803
3	28999	Marshal-135 Pro	5933	5037 (8)	6533	6233	7134 (1)	6341 (6)	9233 (8)	5609 (8)	6211	6362	3831	8019 (5)	8019
4	29000	HRI-205		5265 (5)	4875	4875	5173	6133 (9)	9167 (10)		7076 (9)	5653	3755	4928	4928
5	29001	S-7004	6333	5123 (6)	6480	6407	6967 (4)	6717 (3)	9433 (6)	5290 (10)	6174	6324	3629	8792 (1)	8792
6	29002	PHI-20106	6867 (8)	4191	7623 (1)	7245	5590	5841	9833 (1)	6360 (4)	6132	5930	4384 (8)	7854 (6)	7854
7	29003	VNR-225	6967 (7)	5439 (4)	7333 (4)	7150	5674	4798	8900	4744	6328	5072	3522	7184	7184
8	29004	PHI-20107	7200 (3)	6015 (2)	7354 (3)	7277	6341	6425 (5)	9533 (5)	8246 (1)	6809	7004	3791	8638 (2)	8638
9	29005	RRX-890	6867 (9)	2703	6303	6585	7050 (3)	5423	7900	5209	7431 (4)	5894	4272 (10)	6801	6801
10	29006	PHI-20108	7767 (1)	7111 (1)	7252 (6)	7509	6550 (10)	6341 (7)	9200 (9)	6990 (2)	7498 (3)	6627	5022 (4)	6999	6999
11	29007	DLRH-9	6433	4319	6776	6605	6383	5465	9767 (3)	5209	6642	5686	3705	6984	6984
12	29008	PHI-20109	7133 (4)	5080 (7)	7192 (8)	7163	6300	6633 (4)	9300 (7)	5939 (6)	6642	6291	4748 (6)	6753	6753
13	29009	US-375	7033 (5)	4385	6974 (10)	7003	7092 (2)	5799	9767 (4)	4670	7001 (10)	5854	5154 (3)	7809 (7)	7809
14	29010	IIRRH-145	6267	4751 (9)	6198	6232	6884 (7)	7885 (1)	6183	4468	7118 (7)	6412	5437 (2)	5488	5488
15	29011	MEPH-158	6700	4685 (10)	6988 (9)	6844	6383	6300 (8)	9000	4020	7515 (2)	5568	3365	6648	6648
16	29012	NRH-30	7267 (2)	4573	6864	7065	6675 (9)	5632	8667	5451 (9)	7348 (5)	5919	3806	7276 (10)	7276
17	29013	IIRRH-146	5467	3006	6346	5906	6925 (5)	5382	7800	825	6370	4377	3710	4120	4120
18	29014	MEPH-159	6833 (10)	3999	6420	6627	6091	4547	8000	5249	7114 (8)	5296	4318 (9)	7520 (9)	7520
19	HRI-174 (NCH)		6767	3793	7245 (7)	7006	6550	5340	8967	5667 (8)	7661 (1)	5852	4794 (5)	8285 (4)	8285
20	NDR-359 (NCV)		5533	3361	6945	6239	6341	6091	9767 (2)	4158	5906	5530	4070	6824	6824
21	PR-121/CR Dhan-300/ IR-64/ Akshayadhan/Jaya (ZCV)		3500	4043	6646	5073	6842 (8)	7176 (2)	9100		6988	7009	4065	5803	5803
22	Local Check Variety (LCV)		5433	3220	7330 (5)	6382	6925 (6)		4533	3976		5451		6694	6694
Exp. Mean			6441	4547	6807	6589	6455	6008	8672	5238	6817	5925	4269	7078	7078
CD (0.05)			655	1833	614		515	443	268	800	234		162	848	
CV			6.16	24.69	5.52		4.88	4.47	1.89	9.26	2.08		2.3	7.34	
D/S			30.06.20	26.06.20	24.06.20		22.06.20	02.07.20	20.06.20	20.06.20	27.06.20		17.06.20	27.06.20	
D/P			29.07.20	21.07.20	31.07.20		23.07.20	27.07.20	15.07.20	04.07.20	22.07.20		14.07.20	25.07.20	
Gross Plot Size (Sq.m)			10	10.125	10.4		10	10	7.25	10	10.08		9.9	10	
Net Plot Size (Sq.m)			10	10.12	9.45		7.99	7.99	6.9	9.9	7.98		9.87	10	
Zonal Check Variety			PR-121	PR-121	PR-121		CR Dhan-300	CR Dhan-300	CR Dhan-300	CR Dhan-300	CR Dhan-300		CR Dhan-300	CR Dhan-300	
Local Check Variety			HKR-128	Pant Dhan 4	PR-121		NDR-359		NDR-359	HUR-105					

Note: @ Data of the following centers not included in the analysis ALH (Allahabad), SDW(Seed Works) and PSA (Pusa) because of low CV ; PNT (Pantnagar) because of high CV

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Appendix-5 (Contd): Grain Yield (kg/ha) of hybrids in IHRT-Medium, Kharif 2020

S No.	IET No.	Name	(Contd) Zone-III				Zone-IV			Zone-V (Contd)					
			@ CHN	@ RCI	NRRI	Eastern Mean (5)	TTB	ARD	NE Mean(2)	JBP	WRS	MP Mean(2)	SND	ANK	MH Mean(2)
1	28997	HRI-204	6735	3737 (1)	6377 (5)	6626	4750	3533	4142	6643	8193 (1)	7418	4670	6022 (7)	5346
2	28998	KAVERI-7425	7271 (4)	2503	6449 (3)	6540	5063	3637	4350	8387 (2)	7132 (4)	7759	5637 (10)	5283	5460
3	28999	Marshal-135 Pro	7192 (5)	2402	6377 (4)	6696	4683	3077	3880	6877 (10)	5409	6143	5744 (8)	5236	5490
4	29000	HRI-205	7736 (2)	3370 (2)	5780	5503	4293	2837	3565	5300	6323 (10)	5811	5673 (9)	6127 (5)	5900
5	29001	S-7004	7918 (1)	2669 (5)	6114	6776	5220 (9)	3633	4427	6330	7577 (3)	6953	5321	6118 (6)	5719
6	29002	PHI-20106	6935 (10)	2202	6964 (2)	6522	4357	4850 (9)	4603	8597 (1)	7094 (5)	7846	6863 (1)	6373 (2)	6618
7	29003	VNR-225	6557	1201	5870	5654	6570 (1)	3950	5260	5797	5082	5439	5539	5599	5569
8	29004	PHI-20107	6791	3103 (3)	6210 (8)	7172	4323	4840 (10)	4582	7487 (4)	5686	6586	5463	5437	5450
9	29005	RRX-890	4800	2536 (9)	5677	6032	5760 (5)	4193	4977	4323	4155	4239	5089	6412 (1)	5750
10	29006	PHI-20108	6519	3070 (4)	6324 (7)	6641	5067	5553 (7)	5310	6293	6423 (8)	6358	6248 (4)	5775 (8)	6011
11	29007	DLRH-9	7052 (8)	2102	6134 (10)	6035	3733	4127	3930	5893	5652	5773	6243 (5)	5439	5841
12	29008	PHI-20109	7048 (9)	1602	6333 (6)	6392	5183 (10)	5847 (6)	5515	6940 (8)	5891	6415	4951	5562	5257
13	29009	US-375	7086 (7)	2569 (8)	6100	6294	4347	5860 (5)	5103	5973	6574 (7)	6274	5267	5594	5431
14	29010	IIRRH-145	6765	2603 (7)	7355 (1)	6416	5563 (6)	4723	5143	6147	6340 (9)	6243	4906	5289	5098
15	29011	MEPH-158	6519	2135	6081	5886	5893 (4)	5467 (8)	5680	7293 (5)	7736 (2)	7515	5619	6235 (4)	5927
16	29012	NRH-30	7475 (3)	2302	5809	6169	6097 (2)	6477 (1)	6287	7113 (6)	5887	6500	6101 (6)	5260	5680
17	29013	IIRRH-146	5983	1802	4379	4326	3160	6453 (2)	4807	5807	3468	4637	4799	4848	4824
18	29014	MEPH-159	7143 (6)	2135	6059	5893	6047 (3)	6200 (4)	6123	7597 (3)	7090 (6)	7343	5958 (7)	6245 (3)	6102
19		HRI-174 (NCH)	6784	2503 (10)	6201 (9)	6409	4253	4367	4310	6933 (9)	6059	6496	6667 (3)	5121	5894
20		NDR-359 (NCV)	5714	2169	5741	5831	3667	6343 (3)	5005	6733	5929	6331	5169	4908	5039
21		PR-121/CR Dhan-300/ IR-64/ Akshayadhan/Jaya (ZCV)	6500	1134	5032	6213	5530 (7)	3893	4712	5107	4818	4962	5004	5501	5253
22		Local Check Variety (LCV)	5495	2669 (6)	4443	5510	5287 (8)	3497	4392	6987 (7)	6071	6529	6684 (2)	5647 (9)	6166
Exp. Mean			6728	2387	5991	6161	4948	4698	4823	6571	6118	6344	5619	5638	5628
CD(0.05)			315	768	665		1362	487		596	771		738	849	
CV			2.87	19.7	6.8		16.86	6.34		5.55	7.71		8.04	9.22	
D/S			26.06.20	19.06.20	26.06.20		04.07.20	01.08.20		02.07.20	22.06.20		16.06.20	26.06.20	
D/P			21.07.20	17.07.20	28.07.20		31.07.20	20.08.20		22.07.20	24.07.20		08.07.20	28.07.20	
Gross Plot Size (Sq.m)			10.35	9.9	10.8		10	10		10	10		10	10.08	
Net Plot Size (Sq.m)			8.5		7.98		10	10		7.99	7.95		7.48	8.19	
Zonal Check Variety			CR Dhan-300	CR Dhan-300	CR Dhan-300		CR Dhan-300	CR Dhan-300		IR-64	IR-64		IR-64	IR-64	
Local Check Variety			Pratikshya	BPT 5204	Tapaswaini		Shraboni	MTU-1001		JR 206	JR 81		SYE-2001	IR 64	

Note: @ Data of the following centers not included in the analysis : CHN (Chinsuarah) because of Low CV ; RCI (Ranchi) because of low Grain Yield (Kg/Ha)

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Appendix-5 (Contd): Grain Yield (kg/ha) of hybrids in IHRT-Medium, Kharif 2020

S No.	IET No.	Name	(contd) Zone-V					Zone-VI									
			RPR	VNR	Rasi	CH Mean (3)	Central Mean(7)	KJT	SHR	PDG	MH Mean(3)	NWG	NVS	@ DBI	GJ Mean (2)	Western Mean (5)	
1	28997	HRI-204	5797 (2)	8553 (6)	7996	7449	6839	5942 (7)	4255	5259	5152	6014	5374	4534 (8)	5694	5369	
2	28998	KAVERI-7425	5478 (9)	9446 (1)	9221 (6)	8049	7226	6316 (2)	5760 (1)	6265 (6)	6114	7030 (6)	5707	4559 (6)	6368	6216	
3	28999	Marshal-135 Pro	4058	8253 (10)	9488 (5)	7266	6438	5222	4960 (7)	5189	5124	3785	6051 (4)	4681 (5)	4918	5042	
4	29000	HRI-205	5523 (7)	7921	8847 (8)	7430	6531	6424 (1)	4504	5085	5338	5633	5943 (6)	3431	5788	5518	
5	29001	S-7004	5340 (10)	8858 (3)	8434	7544	6854	5216	4599	7115 (2)	5643	6228	5892 (9)	5475 (1)	6060	5810	
6	29002	PHI-20106	5707 (3)	8388 (7)	9694 (2)	7930	7531	5394	3319	4556	4423	9050 (1)	5353	3809	7202	5534	
7	29003	VNR-225	5643 (4)	8255 (9)	8577	7491	6356	5000	5547 (3)	6309 (5)	5619	7073 (5)	5490	4054	6282	5884	
8	29004	PHI-20107	5816 (1)	8977 (2)	6632	7142	6500	6167 (4)	5144 (5)	5033	5448	5623	6225 (2)	4544 (7)	5924	5638	
9	29005	RRX-890	5539 (6)	7608	7620	6922	5821	5061	4729 (10)	4708	4833	6261	5292	3662	5776	5210	
10	29006	PHI-20108	5111	8683 (5)	8985 (7)	7593	6788	5003	5754 (2)	7838 (1)	6198	8524 (2)	5734 (10)	3725	7129	6571	
11	29007	DLRH-9	4187	8120	8610	6972	6306	6000 (6)	3384	4325	4570	6725 (8)	5903 (8)	4250	6314	5267	
12	29008	PHI-20109	5069	7655	9537 (3)	7420	6515	6185 (3)	4616	4938	5246	4770	6284 (1)	3686	5527	5359	
13	29009	US-375	5156	8359 (8)	9532 (4)	7683	6637	5043	5037 (6)	6333 (4)	5471	7773 (3)	6152 (3)	3971	6963	6068	
14	29010	IIRRH-145	5520 (8)	6459	6659	6213	5903	5129	4196	4613	4646	6477 (9)	5732	4363	6105	5229	
15	29011	MEPH-158	5585 (5)	7761	8745 (9)	7363	6996	6100 (5)	4753 (9)	5438 (9)	5430	6926 (7)	5093	4515 (9)	6009	5662	
16	29012	NRH-30	4947	7714	8675 (10)	7112	6528	5497 (9)	4415	4992	4968	5213	3403	4397 (10)	4308	4704	
17	29013	IIRRH-146	3288	3560	7551	4800	4760	3259	3496	3086	3281	3695	4590	4167	4143	3626	
18	29014	MEPH-159	4412	7735	10547 (1)	7565	7083	5263	4836 (8)	6078 (7)	5392	7323 (4)	6018 (5)	4706 (4)	6671	5904	
19	HRI-174 (NCH)		4348	8777 (4)	7784	6970	6527	5565 (8)	4604	6597 (3)	5589	4094	5136	4397	4615	5199	
20	NDR-359 (NCV)		4821	6325	7926	6357	5973	5004	5541 (4)	4423	4989	5972	3887	3858	4929	4965	
21	PR-121/CR Dhan-300/ IR-64 /Akshayadhan/Jaya (ZCV)		4026	5087	7487	5533	5290	5371	4190	5765 (8)	5109	5717	5353	4877 (3)	5535	5279	
22	Local Check Variety (LCV)		4767	7514	7026	6436	6385	5429	4670	4753	4951	6392 (10)	5928 (7)	5294 (2)	6160	5434	
Exp. Mean			5006	7728	8435	7056	6445	5436	4650	5395	5161	6195	5479	4316	5837	5431	
CD(0.05)			648	1249	1136			700	983	529		1744	1076	330			
CV			7.92	9.89	6.47			7.89	12.94	6.01		13.53	12.02	3.68			
D/S			23.06.20	24.06.20	30.06.20			16.06.20	17.06.20	19.06.20		20.06.20	15.06.20	18.06.20			
D/P			16.07.20	18.07.20	21.07.20			15.07.20	09.07.20	12.07.20		07.08.20	23.07.20	17.07.20			
Gross Plot Size (Sq.m)			10.85		11.25			9.45	7.83	10.71		8.64	11.475	12.96			
Net Plot Size (Sq.m)			10.35	9.45	10.35			7.02	5.625	8.1		6.6	9.36	10.2			
Zonal Check Variety			IR-64	IR-64	IR-64			Akshaya dhan	Akshaya dhan	Akshaya dhan		Akshaya dhan	Akshaya dhan	Akshaya dhan			
Local Check Variety			Rajeshwari	Mahamaya	Kaveri 828			Karjat 5	Ratnagiri 4	KJT 9		Mahisagar	GNR-3	Gar-3			

Note: @ Data of DBI (Dabhoi) center not included in the analysis because of Low CV

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Appendix-5 (Contd): Grain Yield (kg/ha) of hybrids in IHRT-Medium, Kharif 2020

S No.	IET No.	Name	Zone-VII (contd)													Southern Mean (6)	Overall Mean (27)
			MTU	BAY	AP Mean (2)	IIRR	WGL	TS Mean (2)	MND	@ BRM	@ SRS	KA Mean (1)	CBT	@ KRK			
1	28997	HRI-204	4677 (7)	4816 (10)	4747	7036 (2)	7456 (2)	7246	10266 (2)	5061 (3)	3597 (8)	10266	6317	10557 (9)	6761	6337	
2	28998	KAVERI-7425	3418	4513	3966	5694 (7)	6158 (8)	5926	9842 (6)	3945 (10)	2557	9842	6560 (10)	5717	6031	6367	
3	28999	Marshal-135 Pro	3784	4768	4276	5503	4835	5169	9053 (10)	4727 (5)	2754	9053	6491	4783	5739	5867	
4	29000	HRI-205	5911 (3)	4808	5360	7479 (1)	6246 (7)	6862	9053	5273 (2)	3690 (6)	9053	6533	5863	6672	5894	
5	29001	S-7004	6142 (1)	5326 (5)	5734	6283 (3)	4242	5262	10435 (1)	5606 (1)	3907 (3)	10435	8315 (2)	5117	6790	6419	
6	29002	PHI-20106	4642 (8)	5070 (7)	4856	5177	3739	4458	9890 (5)	3879	4339 (1)	9890	5935	9587	5742	6339	
7	29003	VNR-225	3029	5243 (6)	4136	5629 (10)	5366 (10)	5498	9292 (8)	4061 (9)	3468 (9)	9292	7062 (8)	6250	5937	6023	
8	29004	PHI-20107	6087 (2)	5628 (3)	5858	6105 (5)	3277	4691	9760 (7)	3909	3600 (7)	9760	6277	7620	6189	6311	
9	29005	RRX-890	5668 (5)	3773	4720	5638 (9)	6625 (4)	6132	8590	3758	4054 (2)	8590	6999 (9)	13543 (4)	6215	5829	
10	29006	PHI-20108	5771 (4)	6122 (1)	5946	4933	8136 (1)	6535	9015	4139 (8)	2886	9015	8471 (1)	12867 (5)	7075	6728	
11	29007	DLRH-9	3181	6057 (2)	4619	5362	3741	4551	8941	3818	3722 (5)	8941	7080 (7)	10247 (10)	5727	5781	
12	29008	PHI-20109	2245	3893	3069	4273	5970 (9)	5122	10106 (3)	3545	3304 (10)	10106	6485	14197 (2)	5495	6025	
13	29009	US-375	3403	4538	3970	6243 (4)	4023	5133	9274 (9)	3636	2629	9274	6061	14577 (1)	5590	6149	
14	29010	IIRRH-145	3289	4085	3687	2867	3659	3263	8811	2182	2536	8811	6256	9840	4828	5602	
15	29011	MEPH-158	3607	4204	3905	5542	4427	4985	9946 (4)	4424 (7)	2657	9946	7248 (5)	10720 (8)	5829	6175	
16	29012	NRH-30	3844	5330 (4)	4587	5719 (6)	3875	4797	8919	4606 (6)	1747	8919	8174 (3)	5633	5977	6023	
17	29013	IIRRH-146	3347	2251	2799	3462	3922	3692	7451	1079	1636	7451	5947	13723 (3)	4397	4477	
18	29014	MEPH-159	2872	4958 (9)	3915	5234	6590 (5)	5912	8963	3836	1232	8963	7137	6807	5959	6290	
19		HRI-174 (NCH)	3609	5033 (8)	4321	5647 (8)	6578 (6)	6112	8763	3818	3733 (4)	8763	7263 (4)	4257	6149	6046	
20		NDR-359 (NCV)	4117	4195	4156	5105	4986	5046	7065	2061	3229	7065	6127	12767 (6)	5266	5551	
21		PR-121/CR Dhan-300/ IR-64 Akshayadhan/Jaya (ZCV)	3539	4170	3854	3841	3617	3729	7221	2848	2779	7221	6142	7830	4755	5245	
22		Local Check Variety (LCV)	5542 (6)	4240	4891	3567	6945 (3)	5256	7451	5061 (4)	2589	7451		10747 (7)	5549	5728	
Exp. Mean			4169	4683	4426	5288	5201	5244	9005	3876	3029	9005	6804	9238	5849	5964	
CD(0.05)			559	652		1205	897		923	811	1115		787	123			
CV			8.2	8.53		13.96	10.57		6.28	10.06	17.69		7.01	0.81			
D/S			12.07.20	15.06.20		10.07.20	24.06.20			11.06.20	12.06.20		20.08.20	31.08.20			
D/P			13.08.20	11.07.20		19.08.20	22.07.20			02.07.20	04.07.20		23.09.20	05.10.20			
Gross Plot Size (Sq.m)			9.9	10		6.72	10.56			10.08	7		13.2525	13.5			
Net Plot Size (Sq.m)			7.44	10		5.445	9.03			8.25	4.65		11.09	10			
Zonal Check Variety			Jaya	Jaya		Jaya	Jaya		Jaya	Jaya	Jaya		Jaya	Jaya			
Local Check Variety			MTU-1075	Damini		DRR Dhan 38	WGL 14		Thanu	MO-4				TKM 13			

Note: @ Data of following centres not included in the analysis: BRM (Brahmavar) and SRS (Sirsi) because of low Grain Yield (Kg/ha); KRK (Karaikal) because of low CV.

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Appendix-6: Days to 50% Flowering (DFF) of hybrids in IHRT-Medium, Kharif 2020

S No.	IET No.	Name	Zone-II				Zone-III													
			KUL	@ PNT	LDN	Northern Mean (2)	MSD	NGN	@ ALH	VRN	@ SDW	UP Mean (3)	@ PSA	SYN	BH Mean (1)	@ CHN	@ RCI	NRRI	Eastern Mean (5)	
1	28997	HRI-204	102	96	108	105	97	106	86	96	104	99	100	95	95	107	103	101	99	
2	28998	KAVERI-7425	99	93	105	102	94	105	85	87	102	95	100	94	94	103	102	102	96	
3	28999	Marshal-135 Pro	103	95	107	105	95	104	86	91	100	97	101	95	95	105	105	102	98	
4	29000	HRI-205		111	117	117	109	115	90		101	112	110	99	99	106	114	106	107	
5	29001	S-7004	97	95	106	102	95	104	84	93	100	98	99	95	95	103	100	100	98	
6	29002	PHI-20106	92	90	102	97	91	100	84	94	101	95	93	94	94	102	95	101	96	
7	29003	VNR-225	97	73	102	100	95	102	87	89	101	95	98	93	93	103	104	99	96	
8	29004	PHI-20107	96	93	105	101	95	101	85	92	102	96	98	94	94	104	103	102	97	
9	29005	RRX-890	95	92	102	98	94	98	83	90	99	94	97	92	92	98	103	101	95	
10	29006	PHI-20108	96	92	101	99	96	93	73	87	99	92	85	94	94	98	96	104	95	
11	29007	DLRH-9	101	96	105	103	96	103	83	92	99	97	91	95	95	103	103	105	98	
12	29008	PHI-20109	97	95	103	100	96	102	90	97	100	98	98	94	94	103	103	104	99	
13	29009	US-375	98	91	105	102	95	103	87	87	102	95	94	93	93	103	96	105	97	
14	29010	IIRRH-145	95	94	103	99	97	105	84	93	101	98	103	96	96	106	92	102	98	
15	29011	MEPH-158	91	90	101	96	94	100	83	83	105	92	91	91	91	108	97	103	94	
16	29012	NRH-30	100	101	107	104	90	104	84	91	100	95	99	96	96	100	104	105	97	
17	29013	IIRRH-146	90	89	101	96	91	103	84	79	99	91	94	92	92	99	94	104	94	
18	29014	MEPH-159	96	92	102	99	94	99	83	87	101	93	99	91	91	101	99	100	94	
19	HRI-174 (NCH)		101	95	105	103	95	103	83	89	100	96	100	96	96	102	103	100	96	
20	NDR-359 (NCV)		103	92	104	104	91	103	83	92	102	95	99	92	92	101	100	105	97	
21	PR-121/CR Dhan-300/ IR-64 Akshayadhan/Jaya (ZCV)		101	96	106	104	110	119	93		99	114	117	83	83	102	108	113	106	
22	Local Check Variety (LCV)		92	89	107	99	96		100	94		95		96	96	109	110	100	96	
Exp. Mean			97	93	105	101	96	103	85	90	101	97	98	94	94	103	102	103	97	

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Appendix-6 (Contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Medium, Kharif 2020

S No.	IET No.	Name	Zone-IV			Zone-V										Zone-VI (contd)				
			TTB	ARD	NE Mean (2)	JBP	WRS	MP Mean (2)	SND	ANK	MH Mean (2)	RPR	VNR	Rasi	CH Mean (3)	Central Mean (7)	KJT	SHR	PDG	MH Mean (3)
1	28997	HRI-204	101	86	93	98	102	100	97	105	101	98	92	96	95	98	92	95	96	94
2	28998	KAVERI-7425	104	92	98	95	101	98	93	104	99	95	89	96	93	96	93	102	93	96
3	28999	Marshal-135 Pro	103	81	92	96	102	99	95	106	100	99	93	97	96	98	103	99	95	99
4	29000	HRI-205	102	91	96	106	110	108	105	119	112	109	104	110	108	109	108	102	101	
5	29001	S-7004	104	91	98	98	102	100	95	106	100	97	88	96	94	97	93	93	96	94
6	29002	PHI-20106	102	92	97	94	95	95	91	101	96	94	84	91	90	93	90	98	92	93
7	29003	VNR-225	101	91	96	96	99	97	94	105	99	94	89	97	93	96	91	99	95	95
8	29004	PHI-20107	102	93	97	94	101	97	95	105	100	98	89	96	94	97	94	95	94	94
9	29005	RRX-890	103	91	97	97	99	98	95	104	99	96	87	95	93	96	91	90	93	91
10	29006	PHI-20108	103	93	98	94	95	95	94	103	98	94	86	94	91	94	96	81	94	90
11	29007	DLRH-9	103	91	97	97	102	100	96	105	101	98	89	95	94	98	94	100	96	97
12	29008	PHI-20109	101	94	98	97	100	99	96	104	100	97	89	96	94	97	92	91	95	93
13	29009	US-375	101	92	96	97	101	99	93	105	99	95	87	96	93	96	94	94	93	94
14	29010	IIRRH-145	103	93	98	98	100	99	97	103	100	96	85	95	92	96	92	99	92	94
15	29011	MEPH-158	101	93	97	94	97	95	92	102	97	94	84	94	91	94	92	99	93	95
16	29012	NRH-30	101	93	97	98	98	98	96	105	101	99	92	98	96	98	94	88	98	93
17	29013	IIRRH-146	102	93	97	90	91	90	90	102	96	93	84	89	89	91	92	99	85	92
18	29014	MEPH-159	102	91	97	97	100	99	92	103	98	96	87	94	92	96	91	90	91	91
19	HRI-174 (NCH)		102	88	95	97	100	99	96	107	101	98	91	97	95	98	98	93	95	95
20	NDR-359 (NCV)		103	94	99	98	102	100	95	105	100	99	92	97	96	98	93	104	93	97
21	PR-121/CR Dhan-300/ IR-64 Akshayadhan/Jaya (ZCV)		102	92	97	89	88	88	86	98	92	83	79	86	83	87	94	100	97	97
22	Local Check Variety (LCV)		101	95	98	90	90	90	100	103	102	92	84	106	94	95	100	95	101	99
Exp. Mean			102	91	97	96	99	97	95	105	100	96	88	96	93	96	94	95	95	95

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Appendix-6 (Contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Medium, Kharif 2020

S No.	IET No.	Name	(Contd) Zone-VI					Zone-VII														Overall Mean (27)
			NWG	NVS	@ DBI	GJ Mean (2)	Western Mean (5)	MTU	BAY	AP Mean (2)	IIRR	WGL	TS Mean (2)	MND	@ BRM	@ SRS	KA Mean (1)	CBT	@ KRK	Southern Mean (6)		
1	28997	HRI-204	106	104	108	105	99	100	96	98	107	102	105	101	101	110	101	98	85	101	99	
2	28998	KAVERI-7425	104	99	100	101	98	96	94	95	102	98	100	100	100	108	100	97	89	98	98	
3	28999	Marshal-135 Pro	108	101	104	105	101	97	96	97	107	104	106	101	98	109	101	104	86	102	99	
4	29000	HRI-205	113	108	116	111	105	109	106	108	108	117	113	104	106	114	104	107	90	108	107	
5	29001	S-7004	106	99	99	102	97	96	93	95	107	100	104	102	100	109	102	105	92	101	98	
6	29002	PHI-20106	106	96	94	101	97	95	91	93	95	93	94	94	97	104	94	93	90	93	95	
7	29003	VNR-225	108	96	99	102	98	98	93	96	106	100	103	100	97	115	100	98	82	99	97	
8	29004	PHI-20107	102	98	100	100	97	94	93	94	102	99	100	100	102	114	100	96	89	97	97	
9	29005	RRX-890	103	95	99	99	94	93	95	94	102	96	99	101	99	108	101	96	88	97	96	
10	29006	PHI-20108	105	96	93	101	94	98	91	95	102	96	99	97	97	139	97	95	87	97	95	
11	29007	DLRH-9	104	98	104	101	98	99	94	97	102	100	101	103	99	104	103	98	89	100	99	
12	29008	PHI-20109	108	99	107	103	97	95	92	94	101	99	100	99	97	94	99	96	84	97	98	
13	29009	US-375	107	98	104	102	97	94	94	94	103	108	106	96	99	101	96	95	87	98	97	
14	29010	IIRRH-145	110	94	99	102	97	94	92	93	98	96	97	96	100	103	96	88	90	94	97	
15	29011	MEPH-158	97	91	100	94	95	95	91	93	103	101	102	93	100	101	93	97	85	96	95	
16	29012	NRH-30	104	102	111	103	97	98	97	97	106	103	105	99	100	114	99	98	79	100	99	
17	29013	IIRRH-146	101	92	100	97	94	89	91	90	90	96	93	88	84	105	88	89	81	90	93	
18	29014	MEPH-159	103	91	100	97	93	92	94	93	102	99	100	94	98	109	94	90	80	95	95	
19	HRI-174 (NCH)		102	98	101	100	97	98	96	97	104	101	103	99	99	106	99	105	88	101	98	
20	NDR-359 (NCV)		103	98	111	100	98	95	94	95	103	97	100	100	98	108	100	97	90	98	98	
21	PR-121/CR Dhan-300/ IR-64 Akshayadhan/Jaya (ZCV)		102	102	109	102	99	93	92	93	100	91	96	104	101	109	104	104	85	97	97	
22	Local Check Variety (LCV)		99	90	101	94	97	108	93	100	103	106	105	94	112	105	94		83	101	97	
Exp. Mean			105	98	102	101	97	97	94	95	103	100	101	98	99	108	98	97	86	98	98	

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Appendix-7: Grain Yield (kg/ha) of hybrids in IHRT-Medium Slender, Kharif 2020

S No.	IET No.	Name	Zone-III													Zone-IV
			MSD	NZV	@ SDW	UP Mean (2)	@ PSA	SYN	BH Mean (1)	@ CHN	@ RCI	TMT	JH Mean (1)	NRRI	Eastern Mean (5)	@ TTB
1	29015	Sava-3701	5632	8344 (2)	5084 (6)	6988	2444	6384 (3)	6384	5668	1157	5345	5345	5681	6277	2207
2	29016	HRI-206	6174 (5)	6345	4812	6259	2934	4692	4692	6601 (6)	1852 (7)	6263 (8)	6263	5979	5891	3660 (5)
3	29017	RALLIS-19608	6675 (4)	7914 (7)	4595	7294	5554 (1)	6068 (4)	6068	7332 (2)	2480 (3)	6768 (3)	6768	6219 (7)	6729	3367
4	29018	NPH-X63	5465	8143 (5)	4515	6804	2791	5484	5484	6929 (5)	2546 (2)	6831 (2)	6831	6652 (4)	6515	4190 (3)
5	29019	KAVERI-7623	4464	8065 (6)	5894 (1)	6264	3476	6012 (5)	6012	6525 (7)	2414 (4)	6636 (4)	6636	6379 (5)	6311	3347
6	29020	VNR-226	6717 (3)	6582	5806 (2)	6649	3162	5170	5170	6979 (3)	1190	6370 (6)	6370	5909	6149	2670
7	29021	RRX-708	6925 (1)	8443 (1)	5556 (3)	7684	5468 (2)	6588 (2)	6588	7358 (1)	2017 (5)	6228 (9)	6228	6234 (6)	6884	3173
8	29022	US-310	6008 (7)	6999	4528	6503	3899 (5)	5122	5122	5971	1984 (6)	5023	5023	6724 (3)	5975	5447 (1)
9	29023	MEPH-161	6049 (6)	8153 (4)	4866	7101	3219	6779 (1)	6779	6097	1720	6984 (1)	6984	6068	6807	2303
10	JKRH-3333 (NCH-1)		4839	8340 (3)	4908	6590	4327 (4)	4845	4845	5265	1653	6216 (10)	6216	6932 (1)	6234	3477
11	27P63 (NCH-2)		6758 (2)	6951	4695	6854	5411 (3)	5563	5563	6979 (4)	3274 (1)	6311 (7)	6311	5983	6313	3553 (6)
12	WGL-14 (NCV-1)		5653	5865	4490	5759	3505	5702 (6)	5702	6046	1025	6612 (5)	6612	5675	5901	3493
13	BPT-5204 (NCV-2)		5882 (8)	4751	5301 (5)	5316	2363	2992	2992	5340	827	5279	5279	5331	4847	3787 (4)
14	Improved Samba Mahsuri/ Ketekejoha/Karjat-6/ADT-49 (ZCV)		4547	4575	5330 (4)	4561	2378	5238	5238	5870	661	5132	5132	6896 (2)	5278	4450 (2)
Exp. Mean			5842	7105	5027	6473	3638	5474	5474	6354	1772	6143	6143	6190	6151	3509
CD(0.05)			671	1547	270		147.5	820		414	686	1027		711		798
CV			6.85	10.08	3.2		2.42	8.92		3.88	23.05	9.96		6.84		13.55
D/S			22.06.20	25.06.20	27.06.20		17.06.20	26.06.20		26.06.20	19.06.20	23.06.20		26.06.20		22.06.20
D/P			23.07.20	21.07.20	22.07.20		14.07.20	24.07.20		28.07.20	22.07.20	17.07.20		28.07.20		25.07.20
Gross Plot Size (Sq.m)			10		10.08		7.04	10		8.28	10.08	12.6		9.6		10
Net Plot Size (Sq.m)			7.99	10	7.98		7.01	10		6.61		10.8		6.84		
Zonal Check Variety			Improved Samba Mahsuri	Improved Samba Mahsuri	Improved Samba Mahsuri		Improved Samba Mahsuri	Improved Samba Mahsuri		Improved Samba Mahsuri	Improved Samba Mahsuri	Improved Samba Mahsuri		Improved Samba Mahsuri		Ketekejoha

Note: @ Data of the following centres not included in the analysis - SDW(Seed Works) and CHN (Chinsurah) because of low CV; PSA(Pusa) and TTB (Titabar) because of low Grain Yield (kg/ha) and low CV; and RCI(Ranchi) because of low Grain Yield (kg/ha);



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Appendix-7 (Contd): Grain Yield (kg/ha) of hybrids in IHRT-Medium Slender, Kharif 2020

S No.	IET No.	Name	Zone-V											
			JBP	WRS	MP Mean (2)	SND	SKL	ANK	MH Mean (3)	RPR	VNR	Rasi	CH Mean (3)	Central Mean (8)
1	29015	Sava-3701	6723 (2)	5463	6093	4447	5110 (7)	5312 (7)	4956	3287	7532	8366 (1)	6395	5780
2	29016	HRI-206	5983 (4)	5862	5922	5183 (6)	5816 (2)	5185	5395	3693	7388	6416	5832	5691
3	29017	RALLIS-19608	5727 (5)	6751 (4)	6239	6217 (1)	5060	5408 (6)	5562	5367 (1)	8461 (3)	6075	6634	6133
4	29018	NPH-X63	5510 (8)	5941	5726	5058 (7)	5721 (3)	6049 (2)	5609	4923 (2)	8807 (1)	5424	6385	5929
5	29019	KAVERI-7623	7050 (1)	7589 (1)	7320	5013	4302	5424 (5)	4913	4167 (7)	8711 (2)	7305 (3)	6728	6195
6	29020	VNR-226	4847	4948	4897	5031 (8)	4580	4681	4764	4243 (6)	8443 (4)	6318	6335	5386
7	29021	RRX-708	5217	5618	5418	5468 (4)	4963	4869	5100	4557 (4)	7526	8178 (2)	6754	5799
8	29022	US-310	5723 (6)	5338	5530	5401 (5)	6605 (1)	4733	5580	3690	8062 (6)	6227	5993	5722
9	29023	MEPH-161	5550 (7)	5535	5542	4434	5123 (6)	6203 (1)	5253	4333 (5)	7240	6828 (4)	6134	5656
10	JKRH-3333 (NCH-1)		6097 (3)	7157 (2)	6627	4006	5098 (8)	5605 (3)	4903	3673	7953 (7)	5326	5651	5614
11	27P63 (NCH-2)		4873	6931 (3)	5902	5566 (2)	5156 (5)	5438 (4)	5387	3767	8219 (5)	6233	6073	5773
12	WGL-14 (NCV-1)		4417	5631	5024	5517 (3)	5195 (4)	4793	5168	4580 (3)	7025	6244	5950	5425
13	BPT-5204 (NCV-2)		3420	6000	4710	4964	4414	4308	4562	3577	7437	6669 (5)	5894	5099
14	Improved Samba Mahsuri/ Ketekejoha/Karjat-6/ADT-49 (ZCV)		4643	6671 (5)	5657	4100	4126	4585	4270	3453	7241	5808	5501	5078
Exp. Mean			5413	6102	5758	5029	5091	5185	5102	4094	7860	6530	6161	5663
CD(0.05)			715	1011		746	906	802		413	687	869		
CV			7.87	9.87		8.83	10.61	9.22		6.01	5.21	6.16		
D/S			02.07.20	22.06.20		16.06.20	17.06.20	26.06.20		24.06.20	24.06.20	30.06.20		
D/P			24.07.20	25.07.20		08.07.20	15.07.20	28.07.20		16.07.20	18.07.20	21.07.20		
Gross Plot Size (Sq.m)			10	10		10	10	10.08		10.5		11.25		
Net Plot Size (Sq.m)			7.99	7.93		7.48	7.99	8.19		10	12.15	10.35		
Zonal Check Variety			Improved Samba Mahsuri	Improved Samba Mahsuri		Improved Samba Mahsuri	Improved Samba Mahsuri	Improved Samba Mahsuri		Improved Samba Mahsuri	Improved Samba Mahsuri	Improved Samba Mahsuri		

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Appendix-7 (Contd): Grain Yield (kg/ha) of hybrids in IHRT-Medium Slender, Kharif 2020

S No.	IET No.	Name	Zone-VI									Zone-VII (contd)			
			KJT	SHR	PDG	MH Mean (3)	NWG	NVS	@ DBI	GJ Mean (2)	Western Mean (5)	MTU	BAY	BPT	AP Mean (3)
1	29015	Sava-3701	5037 (9)	4278 (6)	2556	3957	5457	4528 (8)	4804 (2)	4993	4371	3454	3374	4081	3636
2	29016	HRI-206	5088 (6)	3722	5531 (7)	4780	5882	5607 (2)	3431	5745	5166	4220 (5)	5077 (6)	4702 (5)	4667
3	29017	RALLIS-19608	5273 (4)	5901 (2)	6453 (2)	5876	6713 (2)	4955 (5)	5005 (1)	5834	5859	6111 (2)	5631 (1)	4772 (4)	5505
4	29018	NPH-X63	5383 (3)	6031 (1)	6000 (4)	5805	6525 (3)	4699 (7)	3578	5612	5727	4238 (4)	5150 (5)	4544	4644
5	29019	KAVERI-7623	5858 (1)	4148	6099 (3)	5368	7976 (1)	5174 (3)	4657 (3)	6575	5851	6192 (1)	5534 (2)	4933 (3)	5553
6	29020	VNR-226	5165 (5)	3883	5704 (6)	4917	6235 (5)	5000 (4)	3029	5618	5197	3943 (7)	4441	4239	4208
7	29021	RRX-708	4810	4006	6469 (1)	5095	4955	3309	2941	4132	4710	3414	4906 (7)	4197	4172
8	29022	US-310	5473 (2)	4494 (3)	5815 (5)	5261	5092	4926 (6)	3088	5009	5160	4022 (6)	5235 (4)	4539	4598
9	29023	MEPH-161	4561	4352 (5)	4218	4377	6098 (7)	4155	3873 (5)	5127	4677	3553	4666	4697 (6)	4305
10	JKRH-3333 (NCH-1)		4246	2815	5432 (8)	4164	5458	3385	3078	4421	4267	3821 (9)	3791	4122	3911
11	27P63 (NCH-2)		5057 (7)	4358 (4)	4840	4752	5471	3473	3922 (4)	4472	4640	3889 (8)	5445 (3)	4523	4619
12	WGL-14 (NCV-1)		5057 (8)	3944	4029	4344	6126 (6)	5635 (1)	3123	5880	4958	5820 (3)	4871 (8)	5723 (1)	5471
13	BPT-5204 (NCV-2)		3608	2932	3795	3445	6310 (4)	4287	3039	5298	4186	3790 (10)	4195	5055 (2)	4347
14	Improved Samba Mahsuri/ Ketekejoha/Karjat-6/ADT-49 (ZCV)		3546	3302	4411	3753	4609	3898	3284	4254	3953	3320	4401	4582	4101
Exp. Mean			4869	4155	5096	4707	5922	4502	3632	5212	4909	4271	4765	4622	4553
CD(0.05)			742	941	687		1372	1235	404			456	967	823	
CV			9.08	13.49	8.03		10.72	16.34	5.15			6.38	12.09	10.61	
D/S			16.06.20	17.06.21	19.06.20		20.06.20	22.06.20	18.06.20			12.07.20	16.06.20	05.08.20	
D/P			14.07.20	09.07.21	14.07.20		07.08.20	10.07.20	17.07.20			13.08.20	11.07.20	04.09.20	
Gross Plot Size (Sq.m)			9.45	7.65	10.71		6.48	13.545	12.96			9.9	10	7.92	
Net Plot Size (Sq.m)			7.02	5.4	8.1		4.62	11.07	10.2			7.44	10	6	
Zonal Check Variety			Karjat-6	Karjat-6	Karjat-6		Karjat-6	Karjat-6	Karjat-6			9	ADT-49	ADT-49	

Note: @ Data of the DBI (Dabhoi) not included in the analysis because of low Grain Yield (kg/ha).

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Appendix-7 (Contd): Grain Yield (kg/ha) of hybrids in IHRT-Medium Slender, Kharif 2020

S No.	IET No.	Name	(contd) Zone-VII											Overall Mean (27)	
			IIRR	WGL	TS Mean (2)	MND	@ BRM	MLG	@ SRS	MGD	KA Mean (3)	CBT	@ KRK		Southern Mean (9)
1	29015	Sava-3701	6233 (3)	3758	4996	7724	1455	4570	1443	6946 (8)	6413	5867	6737	5112	5388
2	29016	HRI-206	6052 (4)	6587 (2)	6319	7186	2788	4820 (6)	1834	7056 (7)	6354	6702 (5)	8167	5823	5675
3	29017	RALLIS-19608	6999 (1)	4973 (5)	5986	8230 (5)	3970 (2)	4920 (3)	2127	6568	6573	6162	6617	6041	6162
4	29018	NPH-X63	5813 (5)	4035	4924	9404 (1)	4364 (1)	5040 (1)	3339 (2)	8063 (2)	7502	6631 (6)	8590	5880	5984
5	29019	KAVERI-7623	6734 (2)	5379 (4)	6057	8222 (6)	3515 (4)	4900 (4)	2357	7940 (4)	7021	6023	10130 (7)	6206	6157
6	29020	VNR-226	4793	4342	4567	8131 (7)	2364	5020 (2)	2250	4928	6026	7331 (1)	9487 (8)	5241	5444
7	29021	RRX-708	5360	3335	4347	7797	3848 (3)	4640	2141	8246 (1)	6894	6069	5663	5329	5642
8	29022	US-310	4981	4749 (6)	4865	9092 (2)	1473	4720 (8)	2891 (3)	7969 (3)	7260	6057	11650 (2)	5707	5660
9	29023	MEPH-161	5668 (6)	3186	4427	8807 (3)	2758	4840 (5)	2214	7700 (5)	7116	7120 (2)	10307 (6)	5582	5663
10	JKRH-3333 (NCH-1)		5271	3609	4440	8668 (4)	3424 (5)	4560	2392 (5)	7533 (6)	6920	6901 (4)	10503 (4)	5364	5396
11	27P63 (NCH-2)		4897	3859	4378	7498	1455	4760 (7)	3675 (1)	6163	6141	6411	10467 (5)	5272	5496
12	WGL-14 (NCV-1)		4514	6781 (1)	5648	6402	2455	4120	2327	4742	5088	7011 (3)	14787 (1)	5554	5470
13	BPT-5204 (NCV-2)		4848	5932 (3)	5390	5575	2909 (6)	4100	2009	4706	4794	6601 (7)	7660	4978	4843
14	Improved Samba Mahsuri/ Ketekejoaha/Karjat-6/ADT-49 (ZCV)		4602	3125	3863	6701	2424	4540	2410 (4)	4255	5166	5402	10750 (3)	4548	4730
Exp. Mean			5483	4546	5015	7817	2800	4682	2386	6630	6376	6449	9394	5474	5551
CD(0.05)			1286	968		604	923	1188	768	1159		938	84.49		
CV			13.97	12.68		4.6	15.25	11.75	14.89	8.1		8.66	0.54		
D/S			17.07.20	24.06.20			11.06.20	23.07.20	12.06.20	24.06.20		20.08.20	31.08.20		
D/P			26.08.20	22.07.20			03.07.20	17.08.20	04.07.20			19.09.20	30.09.20		
Gross Plot Size (Sq.m)			6.72	10.56			10.08	5	11	5.6		9.79	13.5		
Net Plot Size (Sq.m)			5.445	9.03			8.25	5	9	5.6		7.9	10		
Zonal Check Variety			ADT-49	ADT-49		ADT-49	ADT-49	ADT-49	ADT-49	ADT-49		ADT-49	ADT-49		

Note: @ Data of the BRM (Brahmavar) and SRS (Sirsi) not included in the analysis because of low Grain Yield (kg/ha); Data of the KRK (Karaikal) not included in the analysis because of low CV.

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Appendix-8: Days to 50% Flowering (DFF) of hybrids in IHRT-Medium Slender, Kharif 2020

S No.	IET No.	Name	Zone-III													Zone-IV	Zone-V (contd)		
			MSD	NZV	@ SDW	UP Mean(2)	@ PSA	SYN	BH Mean(1)	@ CHN	@ RCI	TMT	JH Mean(1)	NRRI	Eastern Mean (5)	@ TTB	JBP	WRS	MP Mean(2)
1	29015	Sava-3701	95	101	100	98	99	100	100	101	103	79	79	100	95	99	95	98	97
2	29016	HRI-206	105	104	105	104	105	110	110	104	105	86	86	104	102	103	99	102	100
3	29017	RALLIS-19608	97	99	112	98	101	99	99	99	108	89	89	101	97	98	101	100	100
4	29018	NPH-X63	96	103	105	99	102	103	103	102	105	86	86	101	98	100	100	101	100
5	29019	KAVERI-7623	113	98	107	105	99	98	98	103	108	87	87	100	99	98	99	72	85
6	29020	VNR-226	102	99	105	100	108	103	103	107	113	91	91	104	100	100	106	107	106
7	29021	RRX-708	102	102	105	102	103	95	95	108	105	86	86	106	98	98	98	104	101
8	29022	US-310	106	96	107	101	108	109	109	105	116	92	92	107	102	103	106	108	107
9	29023	MEPH-161	96	98	104	97	99	96	96	101	103	83	83	100	95	100	95	100	98
10	JKRH-3333 (NCH-1)		102	104	104	103	101	107	107	103	104	87	87	104	101	102	99	102	101
11	27P63 (NCH-2)		105	95	107	100	103	102	102	106	106	90	90	104	99	102	100	102	101
12	WGL-14 (NCV-1)		110	99	100	104	109	103	103	109	115	89	89	108	102	103	108	105	107
13	BPT-5204 (NCV-2)		103	98	109	101	114	109	109	111	119	97	97	109	103	100	110	111	110
14	Improved Samba Mahsuri/ Ketekejoha/Karjat-6/ADT-49 (ZCV)		108	96	106	102	111	101	101	114	115	96	96	107	102	101	102	109	105
Exp. Mean			103	99	105	101	105	103	103	105	109	88	88	104	99	101	101	102	101

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Appendix-8 (Contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Medium Slender, Kharif 2020

S No.	IET No.	Name	(contd) Zone-V									Zone-VI								
			SND	SKL	ANK	MH Mean(3)	RPR	VNR	Rasi	CH Mean(3)	Central Mean (8)	KJT	SHR	PDG	MH Mean(3)	NWG	NVS	@ DBI	GJ Mean(2)	Western Mean (5)
1	29015	Sava-3701	91	85	103	93	87	85	95	89	92	92	78	89	87	102	90	97	96	90
2	29016	HRI-206	97	94	106	99	93	92	98	94	98	93	92	98	94	111	95	114	103	98
3	29017	RALLIS-19608	97	93	104	98	94	89	99	94	97	92	91	98	94	104	90	97	97	95
4	29018	NPH-X63	98	94	105	99	96	88	96	93	97	93	91	97	94	102	91	100	97	95
5	29019	KAVERI-7623	101	95	105	100	92	90	97	93	94	91	90	97	93	101	92	99	96	94
6	29020	VNR-226	100	96	107	101	95	95	102	97	101	92	93	99	94	113	96	114	105	99
7	29021	RRX-708	99	95	107	100	94	94	97	95	98	93	94	98	95	110	91	111	101	97
8	29022	US-310	101	96	106	101	96	96	108	100	102	97	95	106	100	103	93	115	98	99
9	29023	MEPH-161	92	86	105	94	90	89	96	92	94	91	88	94	91	105	94	111	100	94
10	JKRH-3333 (NCH-1)		92	91	105	96	91	88	95	91	95	96	90	97	95	105	90	99	98	96
11	27P63 (NCH-2)		100	93	106	100	95	90	99	95	98	91	92	104	96	107	93	110	100	98
12	WGL-14 (NCV-1)		104	97	109	104	101	96	101	99	103	93	95	106	98	107	95	114	101	99
13	BPT-5204 (NCV-2)		105	101	115	107	104	102	110	106	107	108	103	106	105	118	96	115	107	106
14	Improved Samba Mahsuri/ Ketekejoaha/Karjat-6/ADT-49 (ZCV)		103	101	118	107	100	98	110	103	105	109	93	111	104	105	92	119	98	102
Exp. Mean			99	94	107	100	95	92	100	96	99	95	92	100	96	107	93	108	100	97

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Appendix-8 (Contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Medium Slender, Kharif 2020

S No.	IET No.	Name	Zone- VII																Over all Mean (27)
			MTU	BAY	BPT	AP Mean(3)	IIRR	WGL	TS Mean(2)	MND	@ BRM	MLG	@ SRS	MGD	KA Mean(3)	CBT	@ KRK	Southern Mean (9)	
1	29015	Sava-3701	91	90	105	95	93	96	95	88	94	86	95	89	88	86	88	92	92
2	29016	HRI-206	94	93	87	91	99	102	101	97	103	94	110	102	98	99	85	96	98
3	29017	RALLIS-19608	93	93	94	93	103	102	103	103	103	102	113	106	104	99	87	99	97
4	29018	NPH-X63	94	93	91	93	99	99	99	103	103	100	112	103	102	104	87	98	97
5	29019	KAVERI-7623	95	93	106	98	100	99	99	103	103	102	112	104	103	99	88	100	97
6	29020	VNR-226	99	96	99	98	111	104	107	104	102	107	118	111	107	103	86	104	101
7	29021	RRX-708	101	93	98	97	103	103	103	96	101	99	109	103	99	96	73	99	98
8	29022	US-310	102	98	97	99	112	103	108	101	104	103	115	108	104	100	85	103	102
9	29023	MEPH-161	92	91	95	93	101	97	99	97	100	92	103	103	97	93	85	96	95
10	JKRH-3333 (NCH-1)		93	91	94	93	101	97	99	97	102	100	108	103	100	100	88	97	97
11	27P63 (NCH-2)		95	94	93	94	105	98	101	100	102	102	115	103	102	103	84	99	99
12	WGL-14 (NCV-1)		103	99	104	102	106	106	106	103	110	103	117	109	105	105	84	104	102
13	BPT-5204 (NCV-2)		108	111	102	107	106	99	102	104	100	107	120	111	107	105	87	106	106
14	Improved Samba Mahsuri/ Ketekejoha/Karjat-6/ADT-49 (ZCV)		82	109	92	95	110	87	99	83	112	97	111	106	95	82	85	94	100
Exp. Mean			96	96	97	96	103	99	101	99	103	99	111	104	101	98	85	99	99

## SALINE ALKALINE TRIALS

Salt stress namely salinity/alkalinity/inland salinity is one of the major abiotic stresses limiting rice yield. The complex and polygenic nature of salt tolerance is impeding the development of salt tolerant varieties. The salt stress tolerant variety trials are categorized into 5 trials namely (1) Advance Variety Trial 1- Alkaline & Inland Saline Tolerant Variety Trial (AVT1-AL& ISTVT), (2) Initial Variety Trial - Alkaline & Inland Saline Tolerant Variety Trial (IVT-AL & ISTVT), (3) Advance Variety Trial 1- Coastal Saline Tolerant Variety Trial (AVT1-CSTVT), (4) Initial Variety Trial - Coastal Saline Tolerant Variety Trial (IVT-CSTVT) and (5) Advance Variety Trial 1- NIL (Coastal Salinity) with specific checks CSR 36 (Alkaline), CSR 23 (Inland saline), Bhuthnath (Coastal saline) CSR 10 (Early), Pusa 44 (Sensitive), FL 478 (Check with *Saltol*) and Local check. AVT-1-AL& ISTVT trial was conducted at 6 alkaline locations 3 inland saline locations with 10 test entries. IVT-AL & ISTVT trial was conducted at 4 alkaline locations, 3 inland saline locations with 14 test entries. AVT-1-CSTVT trial was conducted at 4 coastal saline locations with 12 test entries. IVT-CSTVT trial was conducted at 3 coastal saline locations with 40 test entries. AVT-1- NIL (CS) was conducted at 4 coastal saline locations with 8 entries.

### ADVANCE VARIETY TRIAL 1 - ALKALINE AND INLAND SALINE TOLERANT VARIETY TRIAL (AVT 1 - AL & ISTVT)

**Locations: 14** **Test Entries: 10**

**Checks: CSR 36 (Alkaline), CSR 10 (Early), FL 478 (Saline Tolerant), CSR 23 (Inland Saline), Pusa 44 (Sensitive) and local check** **Table:2.1**

AVT 1 - AL & ISTVT was constituted with 10 entries and six checks namely CSR 36 (Alkaline check), CSR 10 (Early Saline check), FL 478 (Saline Tolerant check), CSR 23 (Inland Saline check), Pusa 44 (Sensitive check), and local check. Among the ten test entries, four entries (IET Nos. 27823, 27809, 27807, and 27804) were in second year of testing, tested in AVT1 AL&ISTV, kharif, 2019 and are repeat entries during kharif 2020. One entry (IET 27077) was in third year of testing, kharif 2019 and is repeated entry during kharif 2020. The remaining five entries (IET 28598, IET28606, IET 28591, IET 28601 and IET 28608) were promoted from IVT-AL&ISTVT and are in the second year of testing.

The trial was sent to 21 locations and data was received from 14 locations except Chinsurah, Rhotak, Jind, Gautam Budha Nagar, Navsari, Trichy and Vyttila. The data pertaining to yield, days to 50% flowering, plant height, panicles/m<sup>2</sup> and quality are presented in tables 2.2, 2.3, 2.4, 2.5 and 2.6. The details of EC and pH of different locations is given in the following table.

**General information about soil stress parameters and yield performance of entries under alkalinity and inland salinity in AVT 1-AL & ISTVT, Kharif, 2020**

Location/State	Soil pH	Soil EC (dSm-1)	Exptl mean (kg/ha)	Grain Yield Range (Kg/ha)	CV %	Remarks
<b>Alkalinity</b>						
Karnal (Haryana) (sodic Microplots)	9.8	1.2	3531	1872-4153	13.06	Data considered for analysis
Kurukshetra (Haryana)	9.6	1.2	3401	1538-4319	16.97	Data considered for analysis
Kampasagar (Telangana)	8.8	4.0	3346	2296-4111	17.23	Data considered for analysis
Lucknow	9.7	1.1	1907	518-3604	17.0	Low experimental mean and data excluded from final analysis
Kanpur (Uttar Pradesh)	10.2	0.5	1748	1215-2749	3.66	Low experimental mean and low CV. Data excluded from final analysis
Masodha (Uttar Pradesh)	9.8	2.35	3178	2467-3722	4.13	Low CV. Data excluded from final analysis
<b>Inland Saline</b>						
Karnal (Haryana) (Inland Saline Microplots)	7.5	8	2984	1492-3602	18.18	Data included in analysis
Panipat (Haryana)	8.5	8.0	3245	1877-4257	12.79	Data considered for analysis
Danti, Gujarat	8.3	5.8	2997	1806-3932	18.92	Data included in analysis
<b>Normal</b>						
Annamalainagar (Tamil Nadu)	7.9	2.8	7178	4585-8750	2.55	Low CV, low stress level due to heavy rains and floods. Sensitive check recorded anyeild of 7965 kg/ha
Karaikal (Puducherry)	<8.5	<1.0	2663	1839-3911	14.64	Low stress level due to heavy rains and floods
Nawagam	8.37	0.475	6677	5721-8381	10.07	Low or no stress. Hence the sensitive check recorded 6534kg/ha.
Gangavati (Karnataka)	8.1	1.8	3199	2610-4389	17.85	Low stress level due to heavy rains and floods. Missing data for test entries.
Brahmavar (Karnataka)	7.23	NA	187	7.0-767	33.52	Low stress level due to heavy rains and floods. Many missing entries. High CV.
Kapurthala (Punjab)	7.7	NA	2808	1933-3616	20.64	Many entries including checks did not flower and hence data not considered for analysis

### 1. Alkaline Stress: Overall mean performance

Under alkalinity, the trial data was received from Karnal, Kurukshetra, Kanpur, Lucknow, Masodha, Kampasagar, Kapurthala, Karaikal and Annamalainagar. Trial data from six locations (Kanpur, Lucknow, Masodha, Kapurthala, Karaikal and Annamalainagar) was not appropriate due low stress levels, low experimental mean, low CV and heavy rains and floods during the crop growth stage. Hence, the data from three locations viz., Karnal, Kurukshetra, and Kampasagar were only found fit for final analysis. On overall basis, the



mean grain yield ranged from 2260 kg/ha (IET 27809) to 4089 kg/ha (IET 28606), days to 50% flowering varied from 81 days (IET 28606) – 108 days (IET 28598). Plant height of the entries ranged from 58.07cm (Pusa 44) to 86.43cm (IET 28608) and the panicles/m<sup>2</sup> varied from 166 (IET 27809) to 312 (IET 27807).

Among the checks, CSR 23 (3852 kg/ha) recorded highest yield followed by alkaline check, CSR 36 (3732 kg/ha), Local check (3514 kg/ha), CSR 10 (3323 kg/ha), Pusa 44 (3302 kg/ha) and FL 478 (2525 kg/ha). Interestingly, the saline check (CSR 23) performed better than alkaline check (CSR 36) under alkaline conditions. For the identification and promotion of best performing entries under alkalinity, percent improvement over alkaline check is only considered.

Among the test entries, IET 28606 (CSRM1-7) derived from cross IR 71730-51-2/NSIC Rc106 exhibited 9.5 % and 6.1% yield superiority over alkaline check CSR36 and best check-CSR 23 respectively. **On overall basis, IET 28606 merit promotion to next level of testing under alkaline conditions.**

#### Performance of entries in AVT 1- AL & ISTVT under alkalinity during Kharif 2020

IET No / Designation/ Cross combination	Alkalinity								
	Overall (3)			Zone II(2)		Zone III	Zone VII (1)		
	Yield/ DFP	% Yield gain over Alkaline check	% Yield gain over BC (CSR 23)	Yield/ DFP	% Yield gain over Alkaline check		Yield/ DFP	% Yield gain over Alkaline check	% Yield gain over BC (CSR 23)
<b>IET 28606</b> CSRM1-7 IR 71730-51-2/ NSIC Rc106	4089 81	9.5	6.1	4078 76	6.74	--	4111 93	15.6	2.7
<b>IET 28608</b> CSR 449S-13 CSR 30 / CSR 36				4030 81	5.4	--			
CSR 36 (Alkaline check)	3732 84			3821 78			3556 97		
CSR 23 (Inland Saline check)	<b>3852</b> <b>90</b>			<b>4075</b> <b>81</b>			3407 110		
CSR 10 (Early duration saline check)	3323 84			3411 80			3148 94		
FL 478 (Saline Tolerant check)	2525 88			2235 80			3105 105		
Pusa 44 (Sensitive check)	3302 100			3641 95			2623 112		
Local check	3514 98			3271 100			<b>4000</b> <b>95</b>		

## **Zone II (Alkalinity)**

In Zone II, the trial was conducted at Karnal, Kurukshetra and Kanpur. The data from Kanpur was excluded from analysis due to low experimental mean and low CV. Hence the data from Karnal and Kurukshetra were only considered in the final analysis. The mean grain yield ranged from 1705 kg/ha (IET 27809) to 4078 kg/ha (IET 28606), days to 50% flowering varied from 76 days (IET 28606) – 104 days (IET 28598). Plant height of the entries ranged from 52.83 cm (Pusa 44) to 89.25 cm (IET 28608) and the panicles/m<sup>2</sup> varied from 123 (IET 27809) to 350 (IET 28606). Among the checks, CSR 23 (4075 kg/ha) recorded highest yield followed by CSR 36 (3821 kg/ha), Pusa 44 (3641 kg/ha), CSR 10 (3411 kg/ha), local check (3271 kg/ha), and FL 478 (2235 kg/ha). The test entries, IET 28606 (CSRM1-7) derived from cross IR 71730-51-2/NSIC Rc106 with 4078 kg/ha and 76 days to 50% flowering exhibited 6.7% yield superiority over alkaline check-CSR36. IET 28608 CSR 449S-13) derived from the cross CSR 30 / CSR 36 with mean grain yield of 4030 kg/ha and 81 days to 50% flowering recorded 5.4% yield superiority over alkaline check (CSR36) respectively. IET 28606 and IET 28608 with required yield advantage merit promotion to next level of testing.

## **Zone III (Alkalinity)**

In Zone III, the trial was conducted at Masodha and Lucknow. The data from Masodha and Lucknow were excluded from analysis due to low CV and low experimental mean respectively. **None of the test entries merit promotion to next level of testing in Zone III under alkalinity stress.**

## **Zone VII (Alkalinity)**

In Zone VII, the trial data was received from Kampasagar, Karaikal and Annamalainagar. The data from Annamalainagar and Karaikal was excluded from analysis due to low stress levels due to heavy rains and floods and low CV. Hence the data from Kampasagar was only considered in the final analysis. The mean grain yield ranged from 2296 kg/ha (IET 27804) to 4111 kg/ha (IET 28606), days to 50% flowering varied from 93 days (IET 28606) – 115 days (IET 28598). Plant height of the entries ranged from 54.44 cm (CSR 10) to 93.11cm (CSR 23) and the panicles/m<sup>2</sup> varied from 192 (IET 28606) to 352 (IET 27807). Among the checks, local check (4000kg/ha), recorded highest yield followed by CSR 36 (3556 kg/ha), CSR 23 (3407 kg/ha), CSR 10 (3148 kg/ha), FL 478 (3105 kg/ha) and Pusa 44 (2623kg/ha). Based on single location data, IET 28606 (CSRM1-7) derived from cross IR 71730-51-2/NSIC Rc106 with 4111 kg/ha and 93 days to 50% flowering recorded 15.6% yield advantage over alkaline check-CSR 36 and is promoted to next level of testing for 3<sup>rd</sup> year performance.

## **2. Inland Saline Stress**

### **Overall performance**

The inland saline stress trial data was received from Karnal, Panipat, Danti, Brahmavar and Gangavati. At Brahmavar and Gangavati, the test entries experienced low stress level due to heavy rains and floods. Hence the data from Karnal, Panipat and Danti were only found suitable for inclusion in the final analysis. The mean grain yield on overall basis ranged from 1940 kg/ha (IET 27809) to 3870 kg/ha (IET 28608), days to 50%

flowering varied from 82 days (IET 28606) to 106 days (IET 28598). Plant height of the entries ranged from 67.2 cm (FL 478) to 103.38 cm (IET 28608) and the panicles/m<sup>2</sup> varied from 197 (FL 478) to 315 (IET 27823). Among the checks, CSR 23 (best check- 3466 kg/ha) recorded highest yield followed by CSR 36 (3346 kg/ha), local check (3040 kg/ha), Pusa 44 (2828 kg/ha), CSR 10 (2742 kg/ha), and FL 478 (2177 kg/ha). **IET 28608** (CSR 449S-13) derived from the cross CSR 30 / CSR 36 with mean grain yield of 3870 kg/ha and 87 days to 50% flowering recorded 12% yield superiority over best Inland saline check-CSR23. **IET 28608 merit promotion to next level of testing under inland saline stress conditions on overall basis.**

### Performance of entries in AVT 1- AL & ISTVT under Inland Salinity during Kharif 2020

IET No / Designation/ Cross combination	Inland salinity							
	Overall (3)		Zone II (2)			Zone VI (1)		
	Yield/ DFP	% Yield gain BC: CSR23	Yield/ DFP	% Yield gain Inland Saline check (CSR 23)	% Yld gain over BC (CSR 36)	Yield/ DFP	% Yield gain over BC (CSR10)	% Yld gain over Inland Saline check (CSR23)
<b>IET 28608</b> CSR 449S-13 CSR 30/CSR 36	3870 87	12	3930 78	12	7.1	3750 104	9	11
<b>IET 27823</b> CSR MAGIC 157			3706 92	5.0	1.0			
<b>IET 27807</b> KR 15066 (224-4- 3-1-1) ADT 45 / FL478						3932 90	15	16.6
<b>IET 27077</b> RNR 11718 MTU 1010/ NLR 34449						3717 102	8	10.2
CSR 36 (Alkaline check)	3346 85		<b>3667</b> <b>79</b>			2706 97		
CSR 23 (Inland Saline check)	<b>3466</b> <b>90</b>		3513 84			3372 103		
CSR 10 (Early duration saline check)	2742 83		2398 81			<b>3431</b> <b>88</b>		
FL 478 (Saline Tolerant check)	2177 86		2287 80			1958 99		
Pusa 44 (Sensitive check)	2828 99		2641 99			3204 99		
Local check	3040 88		3043 81			3034 102		

### Performance in Zone II

In zone II, the trial data was received from Karnal and Panipat only was found suitable for inclusion in the final analysis. The mean grain yield in Zone II ranged from 1685 kg/ha (IET 27809) to 3930 kg/ha (IET 28608), days to 50% flowering varied from 77 days

(IET 28606) to 106 days (IET 28598). Plant height of the entries ranged from 59.33cm (Pusa 44) to 90.5cm (IET 28608) and the panicles/m<sup>2</sup> varied from 140 (IET 27809) to 280 (IET 27823). Among the checks, CSR 36 (best check- 3667 kg/ha) recorded highest yield followed by CSR 23 (3513 kg/ha), local check (3043 kg/ha), Pusa 44 (2641 kg/ha), CSR 10 (2398 kg/ha), and FL 478 (2287 kg/ha). Among the test entries, IET 28608 (CSR 449S-13) derived from the cross CSR 30 / CSR 36 with mean grain yield of 3930 kg/ha and 78 days to 50% flowering recorded 12% yield superiority over best Inland saline check-CSR23 and 7.1% over the best check-CSR 36. IET 27823 (CSR MAGIC 157) with a pedigree of Fedearroz 50 / SHZ-2 // PSBRc 82 / PSBRc 158 //// IR 77298-14-1-2-10 / IR 4630-22-2-5-1-3 // IR 45427-2B-2-2B-1-1 / Samba Mahsuri + Sub 1 recorded 3706 kg/ha and 92 days to 50% flowering exhibited 5.0% yield superiority over the best Inland saline check-CSR23. **IET 28608 and IET 27823 found promising in Zone II and merit promotion to third year of testing under Inland saline stress conditions.**

### **Performance in Zone VI**

In zone VI, the trial data was received from Danti location only and was found suitable for inclusion in the final analysis. The mean grain yield in Zone VI ranged from 1806 kg/ha (IET 28606) to 3932 kg/ha (IET 27807), days to 50% flowering varied from 87 days (IET 27804) to 110 days (IET 28591). Plant height of the entries ranged from 79.87cm (CSR10) to 129cm (IET 28608) and the panicles/m<sup>2</sup> varied from 252 (FL478) to 384 (IET 27823). Among the checks, the early duration check- CSR 10 (best check- 3431 kg/ha) recorded highest yield followed by CSR 23 (3372 kg/ha), Pusa 44 (3204 kg/ha), local check (3034 kg/ha), CSR 36 (2706 kg/ha), and FL 478 (1958 kg/ha). The flowering duration of IET 28608 (104 days) and IET 27077 (102 days) was higher than that of early duration saline check-CSR10 (88 days). Hence these entries were compared with the similar duration Inland saline check - CSR 23. IET 28608 with 104 DFF and IET 27077 with 102 DFF exhibited 11% and 10.2% yield advantage respectively over Inland saline check-CSR23. Based on single location data, IET 27807 (KR 15066 (224-4-3-1-1)) derived from the cross ADT 45 / FL478 with a mean grain yield of 3932 kg/ha and 90 days to 50% flowering recorded 15% yield gain over with early duration (88 DFF) saline check-CSR 10. **IET 28608 and IET 27807 based on yield superiority as compared with similar duration check merit promotion to next level of testing.**

### **Performance of entries in micro-plots (Sodic/ Inland Saline stress conditions) at CSSRI, Karnal:**

The AVT1-AL&ISTVT trial was conducted at Karnal inland saline as well as alkaline microplots. Interestingly, under alkaline conditions, the inland saline check – CSR 23 (3916 kg/ha) recorded highest yield followed by alkaline check-CSR 36 (3838 kg/ha). Similarly, under inland saline conditions, the alkaline check- CSR 36 (3399 kg/ha) recorded highest yield followed by inland saline check CSR 23 (3285 kg/ha). IET 27823 exhibited tolerance under both alkalinity (8.2%) and inland salinity (9.3%) with an average SES score of 4.0. IET 28598 (7.6%) and IET 27077 (5.2%) under alkalinity stress only with an average SES score of 4.0, while IET 28608 (9.6%) performed under inland saline conditions only with an average SES score of 4.0. None of the entries exhibited the required >10% yield superiority over alkaline or inland saline check in the respective microplots.

**Performance of entries in micro-plots (Sodic/ Inland Saline stress conditions) at CSSRI, Karnal**

IET No / Designation/ Cross combination	Alkalinity				Inland Salinity			
	Vigor/ SES	Yield/ DFF	% Yield gain over alkaline check (CSR 36)	% Yield gain over BC (CSR 23)	Vigor/ SES	Yield/DFF	% Yield gain Inland Saline check (CSR 23)	% Yield gain over BC (CSR 36)
IET 27823 (CSR MAGIC 157)	4	4153	8.2	6.1	4	3590	9.3	5.6
IET 28598 (CSRM1-45)	4	4131	7.6	5.5	5	--	--	--
IET 27077 (RNR 11718)	4	4037	5.2	3.1	6	--	--	--
IET 28608 (CSR 449S-13)	4	3871	--	--	3	3602	9.6	5.9
IET 28606 (CSRM1-7)	4	3837	--	--	4	3344	--	--
IET 27807 KR 15066 (224-4-3- 1-1)	4	3848	--	--	5	3204	--	--
CSR 36 (Alkaline check)	4	<b>3838</b>			4	<b>3399</b>		
CSR 23 (Inland Saline check)	4	<b>3916</b>			4	<b>3285</b>		
CSR 10 (Early duration saline check)	6	3486			6	2456		
FL 478 (Saline Tolerant check)	7	2664			6	2367		
Pusa 44 (Sensitive check)	5	3500			5	2563		
Local check	5	3249			5	2927		

**Performance of IET 27077(RNR 11718) under Alkalinity & Inland Salinity during three years of testing (2016-2018)**

IET No / Designation/ Cross combination	GT	Year	Alkalinity/ Salinity	Overall		Zone			State			
				yield (kg/ha)	% gain over BC	Zone/ Rank	Yield (kg/h)	% gain over BC	State/ Rank	Yield (kg/ha)	% gain over BC	
IET 27077 RNR 11718 MTU 1010 / NLR 34449	SB	2017	Slight Alkaline stress (EC <4 dSm <sup>-1</sup> ; pH 8.5-9.0)	3915	6	VII-5 (1L)	3722	23	PO-5	3722 (1L)	23	
	SB	2018	Inland Salinity	--	--	VII-1	5192 (1L)	16	KA-1	5192 (1L)	16	
	MS	2019	Alkalinity	2619	--	--	--	--	--	--	--	--
			Inland Salinity	3499	--	--	--	--	--	--	--	--
		2020	Inland Salinity	2996	--	VI-3	3717 (1L)	8	GU-3	3717 (1L)	8	

### **Performance of IET 27077 (RNR 11718) under Alkalinity & Inland Salinity during three years of testing (2016-2018)**

IET 27077 (RNR 11718) derived from MTU 1010 / NLR 34449 entered the multilocation testing under inland saline and alkaline stress conditions in IVT AL&ISTVT, 2017. During 2017, under alkaline stress conditions, IET 27077 with mean grain yield of 3915 recorded 6% yield superiority over the best check, ranked 5 in Zone VI with 3722 kg/ha mean grain yield and 23% yield advantage over best check and based on single location data found promising in Puducherry. In 2018, IET 27077 performed in Zone VI with 5192 kg/ha found promising in Karnataka. In 2019, IET 27077 did not exhibit any yield superiority and repeated for one more year. In 2020, IET 27077 based on single location data in Zone VI with 3717 kg/ha recorded 8 % yield superiority over best check and found promising in Gujarat. IET 27077 failed not perform consecutively at least for two years and in the final year of testing. Based on three-year performance with additional year of repeat testing, IET 27077 exhibited inconsistent performance across and locations, zones and states.

#### **Summary**

**The following entries were promoted to third year of testing in AL& ISTVT**

##### **1. Alkalinity**

- **Overall: IET 28606**
- **Zone II: IET Nos. 28606 and 28608**
- **Zine VII: IET 28606**

##### **2. Inland Salinity**

- **Overall Inland Salinity: IET 28608**
- **Zone II under Inland Salinity: IET Nos. 28608 and 27823**
- **Zone VI under Inland Salinity: IET Nos. 28608 and 27807**

## INITIAL VARIETY TRIAL - ALKALINE AND INLAND SALINE TOLERANT VARIETY TRIAL (IVT - AL & ISTVT)

Locations: 14

Test Entries: 14

Checks: CSR 36 (Alkaline), CSR 10 (Early), FL 478 (Saline Tolerant), CSR 23 (Inland Saline), Pusa 44 (Sensitive) and local check Table:2.7

IVT-AL & ISTVT was constituted with 14 entries including one hybrid entry and six checks namely CSR 36 (Alkaline check), CSR 10 (Early Saline check), FL 478 (Saline Tolerant check), CSR 23 (Inland Saline check), Pusa 44 (Sensitive check), and local check. The trial was sent to 21 locations and data was received from 14 locations except Rhotak, Jind, Gautam Budha Nagar, Chinsurah, Navsari, Trichy and Vytilla. The data pertaining to yield, days to 50% flowering, plant height and panicles/m<sup>2</sup> are presented in tables 2.8, 2.9, 2.10 and 2.11. The details of EC and pH of different locations is given in the following table.

### General information about soil stress parameters and yield performance of entries IVT-AL & ISTVT, Kharif, 2020

Location/State	Soil pH	Soil EC (dSm-1)	Expt. mean (kg/ha)	Grain Yield Range (Kg/ha)	CV %	Remarks
<b>Alkalinity</b>						
Karnal (Haryana) (sodic Microplots)	9.8	1.2	3723	1680-4139	15.9	Data considered for analysis
Kurukshetra (Haryana)	9.6	1.2	2990	1627-4087	15.7	Data considered for analysis
Lucknow	9.4	0.58	904.5	349-2576	14.1	Low experimental mean. data excluded from final analysis
Kanpur (Uttar Pradesh)	10.23	0.5	1524	1094-2319	4.3	Low experimental mean and low CV. Data excluded from final analysis
Masodha (Uttar Pradesh)	9.8	2.35	2444	1300-3700	6.7	Sensitive check recorded highest yield than tolerant checks. Data excluded from final analysis
<b>Inland Saline</b>						
Karnal (Haryana) (Inland Saline Microplots)	7.5	8	2958	1590-3737	16.5	Data included in analysis
Danti, Gujarat	8.2	5.9	3366	1230-6984	15.2	Data included in analysis
Panipat (Haryana)	8.5	8.0	3370	1921-4170	17.2	Data considered for analysis
<b>Normal</b>						
Annamalainagar (Tamil Nadu)	7.9	2.8	7526	4203-6463	3.52	Low stress level due to heavy rains and floods. Low CV. Sensitive check

Location/State	Soil pH	Soil EC (dSm-1)	Expt. mean (kg/ha)	Grain Yield Range (Kg/ha)	CV %	Remarks
						recorded highest yield (9463 kg/ha)
Karaikal (Puducherry)	<8.5	<1.0	2324	1456-3378	25.8	Low stress level due to heavy rains and floods
Nawagam	7.08	0.53	4401	1501-6833	12.1	Low or no stress. Hence the sensitive check recorded 6550kg/ha
Gangavati (Karnataka)	8.1	1.8	3481	1690-4668	17.3	Low stress level due to heavy rains and floods
Brahmavar (Karnataka)	7.23	NA	39.23	13-125	39.2	Low stress level due to heavy rains and floods. Many missing entries
Kapurthala (Punjab)	7.7	NA	1310	--	--	Many entries including checks did not flower and hence data not considered for analysis
Kampasagar (Telangana)	8.8	4.0	3243	2407-4117	14.8	Sensitive recorded high yield and low stress level

## 1. Alkaline Stress

### Overall mean performance and in Zone II

Under alkalinity, the trial data was received from Karnal, Kapurthala, Kurukshetra, Kanpur, Masodha, Lucknow, Kampasagar and Annamalainagar. However, data from Kapurthala, Kanpur, Masodha, Lucknow, Kampasagar Annamalainagar was not included in the analysis due low stress levels, low experimental mean and low CV. Hence the data from locations namely, Karnal and Kurukshetra were found suitable for analysis. On overall basis, the mean grain yield ranged from 1676 kg/ha (Pusa 44) to 4113 kg/ha (IET 29358), days to 50% flowering varied from 76 days (IET 29357)–108 days (IET 29359). Plant height of the entries ranged from 40.33 cm (Pusa 44) to 67.83 cm (IET 29364) and the panicles/m<sup>2</sup> varied from 114 (Pusa 44) to 309 (IET 29358). Among the checks, local check (3529 kg/ha), recorded highest yield followed by FL 478 (3064 kg/ha), CSR 10 (2633 kg/ha), CSR 23 (2371 kg/ha), CSR 36 (1814 kg/ha) and Pusa 44 (1676 kg/ha). Among the test entries, IET 29358 (CSR YET 55) derived from cross CSR27/CSR36 with mean grain yield of 4113 kg/ha and 80 days to 50% flowering ranked first with 26% yield superiority over the best check. Another sister culture from the cross CSR27/CSR36, IET 29366 (CSR YET 8) with mean yield of 4033 kg/ha and 85 days to 50% flowering ranked second with 24 % yield advantage over the best check. IET 29365 (CSR TPB 159) derived from Trichy 1 / PB1 with 3963 kg/ha yield and 78 days to 50% flowering exhibited 21% yield superiority over the best check. The hybrid culture, IET 29364 (IIRRH-147) with mean grain yield of 3960 kg/ha and 84 days to flowering exhibited 21 % yield superiority over the best check. In addition, two cultures IET 29354 (CSR YET 59) and IET 29361(CSR CPB 69) also recorded the required yield advantage over the best check. **On overall basis and in Zone II, IET Nos. 29358 (26%), 29366 (24%), 29365 (21%), 29364 (21%), 29354 (20%) and 29361 (15%) are promoted to second year of testing under alkalinity stress condition.**



**Performance of entries in IVT - AL & ISTVT under alkalinity, Kharif 2020**

IET No /Designation/ Cross combination	Alkalinity				
	Overall (2)		Zone II (2)		
	Yield/ DFF	% Yield gain over BC-LC	Yield/ DFF	% Yield Gain over BC-LC	Yield gain over early saline check (CSR 10)
IET 29358 CSR YET 55 CSR27 / CSR36	4113 80	26	4113 80	26	56
IET 29366 CSR YET 8 CSR 27 / CSR 36	4033 85	24	4033 85	24	53
IET 29365 CSR TPB 159 Trichy 1 / PB1	3963 78	21	3963 78	21	50.5
IET 29364 <i>IIRRH-147 (Hybrid)</i>	3960 84	21	3960 84	21	50.3
IET 29354 CSR YET 59 CSR27 / CSR36	3902 79	20	3902 79	20	48.1
IET 29361 CSR CPB 69 CSR 89IR15 / PB1	3763 107	15	3763 107	15	42.9
CSR 36 (Alkaline check)	1814 81		1814 81		
CSR 23 (Inland Saline check)	2371 103		2371 103		
CSR 10 (Early duration saline check)	2633 84		2633 84		
FL 478 (Saline Tolerant check)	3064 90		3064 90		
Pusa 44 (Sensitive check)	1676 107		1676 107		
Local check	<b>3529</b> <b>96</b>		<b>3529</b> <b>96</b>		

**2. Inland Saline Stress****Overall Performance**

For inland saline stress, the data from three locations namely Karnal, Panipat and Danti were only suitable for final analysis. The mean grain yield on overall basis ranged from 1580 kg/ha (Pusa 44) to 6984 kg/ha (IET 29362), days to 50% flowering varied from 78 days (IET 29365) to 114 days (IET 29355). Plant height of the entries ranged from 58 cm (CSR 23) to 112.6 cm (IET 29362) and the panicles/m<sup>2</sup> varied from 148 (Pusa 44) to 327 (IET 29362). Among the checks, CSR 10 (3457 kg/ha) recorded highest yield followed by local check (2877 kg/ha), CSR 23 (2747 kg/ha), CSR 36 (2694 kg/ha), FL 478 (2514 kg/ha) and Pusa 44 (1580 kg/ha). Among the test entries, IET 29362 (NVS 6236) derived from IET 15429 / IR-72046-B-R-8-3-1-2 recorded mean grain yield of 6984 kg/ha and 100 days to 50% flowering exhibited yield superiority of 102% over best check at single location only which needs to be tested over locations. Hence for the entry IET 29362, it is suggested for repeat in IVT-AL&ISTVT. The second-best entry, IET 29365 (CSR TPB 159) derived from cross Trichy 1/PB1 recorded mean grain yield of 4477 kg/ha and 78 days to 50% flowering exhibited 29.5% yield superiority over the best check-CSR10. Other two cultures, IET 29358

(CSR YET 55) derived from cross CSR27/CSR36 with mean grain yield of 4148 kg/ha, 84 days to 50% flowering and IET 29356 (CSAR-7-9-2020, a selection from BC-3-7-9) with mean grain yield of 3817 kg/ha and 88 days to 50% flowering exhibited 19.9% and 10.4% yield superiority respectively over the best check-CSR10. **Based on required yield superiority, IET nos.29365, 29358 and IET 29356 merit promotion to next level testing in AVT1-AL&ISTVT on overall basis.**

#### Performance of entries in IVT- AL & ISTVT under Inland Salinity, Kharif 2020

IET No /Designation/ Cross combination	Inland salinity						
	Overall (3)		Zone II (2)		Zone VI (1)		
	Yield/ DFP	% Yield gain over BC-Local	Yield/ DFP	% Yield gain over BC-Local	Yield/ DFP	% Yield Gain over best saline check-CSR10	% Yield gain over best check (CSR36)
29362 NVSr 6236 IET 15429 / IR-72046- B-R-8-3-1-2	6984 100	102	--	--	6984 100	65	61.1
29365 CSR TPB 159 Trichy 1 / PB1	4477 78	29.5	3954 71	25	5524 91	31	27.5
29358 CSR YET 55 CSR27 / CSR36	4148 84	19.9	3877 75	22	4690 102	11	8.2
29356 CSAR-7-9-2020 Selection from BC-3-7-9	3817 88	10.4	3155 83	--	5143 99	22	18.7
29364 <b>IIRRH-147 (Hybrid)</b>	3951 93	14.2	3658 84	16	4538 113	7	4.7
29354 CSR YET 59 CSR27 / CSR36			3805 73	20			
29366 CSR YET 8 CSR27 / CSR36			3725 83	18			
29361 CSR CPB 69 CSR 89IR15 / PB1			3604 95	14			
29360 CSAR 12-10-2020 Selection from BC-12- 12-10			3358 76	6			
29353 GNV 18-64 GNV 1109 / CSR 22			3389 76	7			
CSR 36 (Alkaline check)	2694 87		1875 75		<b>4334</b> <b>111</b>		
CSR 23 (Inland Saline check)	2747 102		2910 104		2422 97		
CSR 10 (Early duration saline check)	<b>3457</b> <b>90</b>		3073 82		<b>4224</b> <b>107</b>		
FL 478 (Saline Tolerant check)	2514 93		2490 85		2564 110		
Pusa 44 (Sensitive check)	1580 98		1756 100		1230 95		
Local check	2877 86		<b>3162</b> <b>80</b>		2308 96		

## Performance in Zone II

The inland saline stress trial in Zone II, the data from Karnal and Panipat were found suitable in the final analysis. The mean grain yield on zone II ranged from 1756 kg/ha (Pusa 44) to 3954 kg/ha (IET 29365), days to 50% flowering varied from 73 days (IET 29354) to 104 days (CSR 23). Plant height of the entries ranged from 45.86 cm (IET 29359) to 69.98cm (IET 29364) and the panicles/m<sup>2</sup> varied from 88 (Pusa 44) to 216 (IET 29365). Among the checks, local check (3162 kg/ha) recorded highest yield followed by CSR 10 (3073 kg/ha), CSR 23 (2910 kg/ha), FL 478 (2490 kg/ha), CSR 36 (1875 kg/ha) and Pusa 44 (1756 kg/ha). Among the test entries, IET 29365 (CSR TPB 159) derived from cross Trichy 1/PB1 recorded mean grain yield of 3954 kg/ha and 71 days to 50% flowering exhibited 25% yield superiority over the best check-local, followed by IET 29358 (CSR YET 55) derived from cross CSR27/CSR36 with mean grain yield of 3877 kg/ha, 75 days to 50% flowering recorded 22% yield advantage over the best check. The hybrid culture, IET 29364 (IIRRH-147) with mean grain yield of 3658 kg/ha and 84 days to flowering exhibited 16 % yield superiority over the best check - Local. In addition, four other cultures, IETnos.29354, 29366, 29361, 29360 and 29353 also recorded the required yield superiority over the best check and found promising in Zone II. **IET nos. 29365, 29358, 29364, 29354, 29366, 29361, 29360 and 29353 merit promotion in Zone II under inland salinity for second year of testing in AVT1-AL&ISTVT.**

## Performance in Zone VI

In Zone VI, data from single location- Danti was only found suitable for analysis. The mean grain yield in zone VI ranged from 1230 kg/ha (Pusa 44) to 6984 kg/ha (IET 29362), days to 50% flowering varied from 87 days (IET 29366) to 131 days (IET 29359). Plant height of the entries ranged from 69.1cm (CSR 23) to 128.5cm (IET 29364) and the panicles/m<sup>2</sup> varied from 270 (Pusa 44) to 420 (CSR 23). Among the checks, CSR 36 (43344 kg/ha) recorded highest yield followed by CSR 10 (4224 kg/ha), FL 478 (2564 kg/ha), CSR 23 (2422 kg/ha), Local (2308 kg/ha) and Pusa 44 (1230 kg/ha). Among the test entries, IET 29365 (CSR TPB 159) derived from cross Trichy 1/PB1 recorded mean grain yield of 5524 kg/ha and 91 days to 50% flowering exhibited 31% yield superiority over the best saline check-CSR10 in Zone VI. In addition, IET 29356 (CSAR-7-9-2020, a selection from BC-3-7-9) with mean grain yield of 5143 kg/ha and 99 days to 50% flowering exhibited 22% yield advantage over best check; IET 29358 (CSR YET 55) derived from cross CSR27/CSR36 with mean grain yield of 4690 kg/ha, 102 days to 50% flowering with 11% yield superiority over BC found promising in zone VI for inland saline stress situation. **Three entries namely IET 29365, IET 29356 and IET 29358 with required yield superiority over the best check were promoted to second year of testing under inland saline stress condition in zone VI.**

## Performance of entries in micro-plots (Sodic/ Inland Saline stress conditions) at CSSRI, Karnal

The IVT1-AL&ISTVT trial was conducted at Karnal Inland saline as well as alkaline microplots. Local check is the best check under alkaline and Inland saline microplots. IET nos. 29358 (24.4%), 29366(21.8%), 29365 (20.3%), 29364 (17.2%), 29354(15.7%) and 29361(12.5%) exhibited tolerances for both alkaline and Inland saline stress conditions with an average SES of 4.0 and >10% yield superiority over the best check. IET 29353 (20.5%) exhibited tolerance to inland saline stress conditions only with SES of 4.0 and >10% yield

advantage, while IET 29356 (11.8%) and 29360 (6.9%) with a mean SES of 4.0 and >10% yield superiority exhibited tolerance to alkaline stress conditions only.

**Performance of entries in micro-plots (Sodic/ Inland Saline stress conditions) in IVT-AL&ISTVT at CSSRI, Karnal**

IET No /Designation/ Cross combination	Alkalinity			Inland Salinity		
	Vigor/ SES	Yield/ DFE	% Yield gain over BC-LC	Vigor/ SES	Yield/ DFE	% Yield gain over BC-LC
29358 (CSR YET 55)	4	4139	24.4	4	3721	21.4
29366 (CSR YET 8)	4	4050	21.8	4	3567	16.3
29365 (CSR TPB 159)	4	4003	20.3	4	3737	21.9
29364 <i>IIRRH-147 (Hybrid)</i>	4	3898	17.2	4	3451	12.6
29354 (CSR YET 59)	4	3850	15.7	4	3560	16.1
29353 (GNV 18-64)	6	3756	12.9	4	3694	20.5
29361 (CSR CPB 69)	4	3741	12.5	4	3434	12.0
29356 (CSAR-7-9-2020)	5	3718	11.8		--	--
29360 (CSAR 12-10-2020)	5	3556	6.9		--	--
CSR 36 (Alkaline check)	5	2000		6	1716	
CSR 23 (Inland Saline check)	5	2364		6	2892	
CSR 10 (Early saline check)	6	2481		5	2846	
FL 478 (Saline Tolerant check)	6	3176		7	1810	
Pusa 44 (Sensitive check)	7	1680		7	1590	
Local check	5	<b>3325</b> (CSR 36)		5	<b>3066</b> (CSR 27)	

The following entries were promoted to second year of testing in AL& ISTVT

**1. Alkalinity**

- Overall and in Zone II: IET Nos. 29358, 29366, 29365, 29364, 29354 and 29361

**2. Inland Salinity**

- Overall Inland Salinity: IET nos.29365, 29358 and IET 29356
- Zone II under Inland Salinity: IET nos. 29365, 29358, 29364, 29354, 29366, 29361, 29360 and 29353
- Zone VI under Inland Salinity: IET 29365, IET 29356 and IET 29358.

**Table No. 2.1: Composition of entries in Advance Variety Trial 1 – Alkaline and Inland Saline Tolerant Variety Trial (AVT 1- AL&ISTVT), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>2<sup>nd</sup> Year of testing:</b>				
4501	27823	CSR MAGIC 157	Fedearroz 50 / SHZ-2 // PSBRc 82 / PSBRc 158 //// IR 77298-14-1-2-10 / IR 4630-22-2-5-1-3 // IR 45427-2B-2-2B-1-1 / Samba Mahsuri + Sub 1	SB
4502	27809	JGL 24423	MTU 1010 / NLR 34449 / MTU 1010	LB
4503	28598	CSRM1-45	BG94-1 / Pokkali	LS
4504	<b>CSR 36 (Alkaline Check)</b>			
4505	28606	CSRM1-7	IR 71730-51-2 / NSIC RC 106	
4506	27807	KR 15066 (224-4-3-1-1)	ADT 45 / FL478	LB
4507	<b>CSR 23 (Inland Saline Check)</b>			
4508	28591	CSR-RIL-06-178	IR4630 / CSR11	LB
<b>3<sup>rd</sup> Year of testing:</b>				
4509	27077	RNR 11718	MTU 1010 / NLR 34449	MS
<b>2<sup>nd</sup> Year of testing:</b>				
4510	28601	CSR 89-IR 15	KDML 105 / IR 4630-22-2-5-1-3 / IR 20925-33- 3-1-28	LS
4511	<b>CSR 10 (Early duration saline check)</b>			
4512	28608	CSR 449S-13	CSR 30 / CSR 36	LS
4513	<b>FL 478 (Saline tolerant check)</b>			
4514	27804	CSR MAGIC 167	Fedearroz 50 / SHZ-2 // PSBRc 82 / PSBRc 158 //// IR 77298-14-1-2-10 / IR 4630-22-2-5-1-3 // IR 45427-2B-2-2B-1-1 / Samba Mahsuri + Sub 1	MS
4515	<b>Pusa 44 (Sensitive Check)</b>			
4516	<b>Local Check</b>			

**Table No.2.2: Grain Yield (kg/ha) of entries in AVT1- AL & ISTVT (Alkalinity), Kharif 2020**

Entry	IET NO.	ZONE II											
		HA				HA (2)		UP1		Zone II (2)			
		KRL		KUK		Mean		@KNP		Mean			
4501	27823	4153	1	3735	9	3944	5	1215		3944	5		
4502	27809	1872		1538		1705		1317		1705			
4503	28598	4131	2	3764	8	3948	4	1293		3948	4		
4504	CSR 36 (Alkaline Check)	3838	7	3803	5	3821	6	1302		3821	6		
4505	28606	3837	8	4319	1	4078	1	6.74%	1478		4078	1	6.74%
4506	27807	3848	6	3778	7	3813	7	1721	7	3813	7		
4507	CSR 23 (Inland Saline Check)	3916	4	4233	2	4075	2	6.75%	1524	10	4075	2	6.75%
4508	28591	3022		3929	4	3476	10	1936	5	3476	10		
4509	27077	4037	3	2653		3345		1616	9	3345			
4510	28601	3574	9	3488	10	3531	9	2405	3	3531	9		
4511	CSR 10 (Early duration saline check)	3486		3336		3411		2042	4	3411			
4512	28608	3871	5	4188	3	4030	3	5.47%	1503		4030	3	5.47%
4513	FL 478 (Saline tolerant check)	2664		1806		2235		2749	1	2235			
4514	27804	3502	10	2776		3139		2433	2	3139			
4515	Pusa 44 (Sensitive Check)	3500		3782	6	3641	8	1657	8	3641	8		
4516	Local Check	3249		3293		3271		1790	6	3271			
<b>Exp. Mean</b>		<b>3531</b>		<b>3401</b>		<b>3466</b>		<b>1749</b>		<b>3466</b>			
CD		768.82		962.54		682.19		106.77		682.19			
CV%		<b>13.06</b>		<b>16.97</b>		<b>11.8</b>		<b>3.66</b>		<b>11.8</b>			
D/S		07-07-2020		07-07-2020				09-07-2020					
D/P		06-08-2020		05-08-2020				17-08-2020					
Local Check Name		CSR 36		CSR 36				CSR 27					

**Table No. 2.2 contd.: Grain Yield (kg/ha) of entries in AVT1- AL & ISTVT (Alkalinity), Kharif 2020**

Entry	IET NO.	ZONE III				ZONE VII (1)		Overall (3)	
		UP2				TE (1)			
		@LCK		@MSD		KMP		Mean	
4501	27823	2689	4	2611		3642	4	3843	3
4502	27809	1517		3278	8	3370	8	2260	
4503	28598	518		2467		3265	10	3720	6
4504	CSR 36 (Alkaline Check)	1810	9	3722	1	3556	5	3732	4
4505	28606	1642	10	3311	6	4111	1	4089	1 9.55%
4506	27807	2887	3	3267	9	3352	9	3659	7
4507	CSR 23 (Inland Saline Check)	991		3678	2	3407	7	3852	2
4508	28591	798		3656	3	3210		3387	
4509	27077	2487	5	2567		3870	3	3520	8
4510	28601	3604	1	3289	7	3463	6	3508	10
4511	CSR 10 (Early duration saline check)	3184	2	3189		3148		3323	
4512	28608	2103	7	2600		3130		3730	5
4513	FL 478 (Saline tolerant check)	1172		2778		3105		2525	
4514	27804	2137	6	3644	4	2296		2858	
4515	Pusa 44 (Sensitive Check)	951		3256	10	2623		3302	
4516	Local Check	2025	8	3544	5	4000	2	3514	9
<b>Exp. Mean</b>		<b>1907</b>		<b>3178</b>		<b>3347</b>		<b>3426</b>	
CD		453.41		218.88		961.81		532.65	
CV%		<b>16.69</b>		<b>4.13</b>		<b>17.23</b>		<b>9.32</b>	
D/S		07-07-2020		06-07-2020		01-08-2020			
D/P		07-08-2020		19-07-2020		04-09-2020			
Local Check Name		Bio Seed 501		NDRK 2008		RNR-11718			

**Table No. 2.2 contd.: Grain Yield (Kg/ha) of entries in AVT1 AL & ISTVT (Inland Salinity), Kharif 2020**

Entry No.	IET NO.	ZONE II						ZONE VI (1)			Overall (3)	
		HA			Zone II (2)			GU (1)				
		KRL		PPT		HA (2)		DNT			Mean	
4501	27823	3590	2 9%	3821	4	3706	3 5%	2572			3328	6
4502	27809	1492		1877		1685		2450			1940	
4503	28598	3310	6	3267	9	3289	9	3033	9		3203	8
4504	CSR 36 (Alkaline Check)	3399	3	3934	3	3667	4	2706			3346	5
4505	28606	3344	4	4201	2	3773	2 7%	1806			3117	9
4506	27807	3201	9	3413	8	3307	8	3932	1 15%		3515	2
4507	CSR 23 (Inland Saline Check)	3285	8	3740	6	3513	6	3372	5		3466	3
4508	28591	3294	7	3748	5	3521	5	2943	10		3328	6
4509	27077	2652		2619		2636		3717	3 8%		2996	
4510	28601	2961	10	3102		3032		2771			2945	
4511	CSR 10 (Early duration saline check)	2456		2339		2398		3431	4		2742	
4512	28608	3602	1 10%	4257	1	3930	1 12%	3750	2 9%		3870	1 12%
4513	FL 478 (Saline tolerant check)	2367		2207		2287		1958			2177	
4514	27804	3313	5	3520	7	3417	7	3280	6		3371	4
4515	Pusa 44 (Sensitive Check)	2563		2718		2641		3204	7		2828	
4516	Local Check	2927		3159	10	3043	10	3034	8		3040	10
<b>Exp. Mean</b>		<b>2985</b>		<b>3245</b>		<b>3115</b>		<b>2997</b>			<b>3076</b>	
CD		904.82		692.12		556.18		945.78			417.9	
CV%		<b>18.18</b>		<b>12.79</b>		<b>10.71</b>		<b>18.92</b>			<b>8.15</b>	
D/S		07-07-2020						01-07-2020				
D/P		06-08-2020						31-07-2020				
Local Check Name		CSR 27						GMR-5				

**Table No. 2.2 contd.: Grain Yield (kg/ha) of entries in AVT1 AL & ISTVT, Kharif 2020 (Normal)**

Entry No.	IET NO.	ZONE II (1)		ZONE VI (1)		ZONE VII			
		PU (1)		GU (1)		TA		PUD (1)	
		KPT		NWG		@AML		KRK	
4501	27823	2987	8	6539	8	7750	6	3911	1
4502	27809	3294	4	7367	3	5645		2733	6
4503	28598	2328		5853		7805	5	1842	
4504	CSR 36 (Alkaline Check)	2302		6309		6693		2389	
4505	28606	2275		6723	6	7738	7	2394	10
4506	27807	2741	10	5775		7145	10	2833	5
4507	CSR 23 (Inland Saline Check)	2754	9	6707	7	4585		2222	
4508	28591	2454		6518	10	6993		2256	
4509	27077	3383	3	8198	2	8173	2	2489	7
4510	28601	3505	2	5718	7%	7433	8	3256	4
4511	CSR 10 (Early duration saline check)	3291	5	8381	1	6388		2422	9
4512	28608	3616	1	7188	10%	6553		1839	
4513	FL 478 (Saline tolerant check)	1933		5721		8750	1	3556	3
4514	27804	3078	6	6463		7275	9	2233	
4515	Pusa 44 (Sensitive Check)	1982		6534	9	7965	4	2467	8
4516	Local Check	3016	7	6848	5	7970	3	3767	2
<b>Exp. Mean</b>		<b>2809</b>		<b>6678</b>		<b>7179</b>		<b>2663</b>	
CD		825.67		1433.5		260.29		650	
CV%		<b>20.64</b>		<b>10.07</b>		<b>2.55</b>		<b>14.64</b>	
D/S		07-07-2020		23-07-2020		31-07-2020		17-08-2020	
D/P		05-08-2020		27-08-2020		24-08-2020		16-09-2020	
Local Check Name		PR 121		Name Dandi		Trichy-3		TRY 2	

**Table No. 2.2 contd.: Grain Yield (kg/ha) of entries in AVT1 AL & ISTVT, Kharif 2020 (Normal)**

Entry No.	IET NO.	ZONE VII							Overall (4)		
		KA			KA (1)		Zone VII (2)		Mean		
		GNV	@BRM		Mean		Mean				
4501	27823	2610	132	6	2610		3261	5	4012	6	
4502	27809	3820	4	207	5	3820	4	3277	4	4304	3
4503	28598		87	8				1842		3341	
4504	CSR 36 (Alkaline Check)	3429	5	436	2	3429	5	2909	8	3607	
4505	28606	4389	1	767	1*	4389	1	3392	2	3945	7
4506	27807	2630	9.5	7		2630	9	2732	9	3495	
4507	CSR 23 (Inland Saline Check)			38				2222		3894	10
4508	28591	2189		257	3	2189		2223		3354	
4509	27077			63	10			2489		4690	1
4510	28601			64	9			3256	6	4160	5
4511	CSR 10 (Early duration saline check)	2630	9.5			2630	9	2526		4181	4
4512	28608	2949	7			2949	7	2394		3898	9
4513	FL 478 (Saline tolerant check)	3018	6	58		3018	6	3287	3	3557	
4514	27804	3843	3	97	7	3843	3	3038	7	3904	8
4515	Pusa 44 (Sensitive Check)	2830	8	222	4	2830	8	2649	10	3453	
4516	Local Check	4063	2			4063	2	3915	1	4424	2
<b>Exp. Mean</b>		<b>3200</b>		<b>187</b>		<b>3200</b>		<b>2769</b>		<b>3392</b>	
CD		1257.9		136.78		745.12		660.75		601.78	
CV%		<b>17.85</b>		<b>33.52</b>		<b>16.19</b>		<b>16.76</b>		<b>12.46</b>	
D/S		31-07-2020		14-07-2020							
D/P		07-09-2020		13-08-2020							
Local Check Name		CSR-22		MO-4							

**Table No. 2.3: Days to 50% flowering of entries in AVT1 AL & ISTVT (Alkalinity), Kharif 2020**

Entry	IET NO.	ZONE II					ZONE III		ZONE VII (1)	Overall (3)	
		HA		HA (2)	UP1	Zone II (2)		UP2			TE (1)
		KRL	KUK	Mean	@KNP	Mean	@LCK	@MSD	KMP		Mean
4501	27823	95	96	96	82	96	98	110	110	101	
4502	27809	88	85	87	79	87	96	105	105	93	
4503	28598	105	102	104	82	104	108	111	115	108	
4504	CSR 36 (Alkaline Check)	82	74	78	79	78	82	101	97	84	
4505	28606	78	74	76	77	76	92	105	93	81	
4506	27807	82	92	87	84	87	91	103	110	94	
4507	CSR 23 (Inland Saline Check)	79	83	81	74	81	98	105	110	90	
4508	28591	88	77	83	75	83	90	102	98	88	
4509	27077	93	95	94	74	94	105	108	116	101	
4510	28601	95	79	87	77	87	99	107	109	94	
4511	CSR 10 (Early duration saline check)	85	74	80	70	80	89	104	94	84	
4512	28608	87	74	81	78	81	90	107	105	89	
4513	FL 478 (Saline tolerant check)	85	74	80	72	80	88	108	105	88	
4514	27804	82	79	80	87	80	96	101	108	90	
4515	Pusa 44 (Sensitive Check)	107	82	95	87	95	101	103	112	100	
4516	Local Check	104	95	100	90	100	97	105	95	98	
Exp. Mean		90	83	87	79	87	95	105	105	93	

**Table No. 2.3 contd.: Days to 50% flowering of entries in AVT1 AL & ISTVT (Inland Salinity), Kharif 2020**

Entry No.	IET NO.	ZONE II			ZONE VI (1)	Overall (3)
		HA		Zone II (2)	GU (1)	
		KRL	PPT	HA (2)	DNT	
4501	27823	92	91	92	96	93
4502	27809	85	87	86	101	91
4503	28598	105	107	106	105	106
4504	CSR 36 (Alkaline Check)	78	81	79	97	85
4505	28606	74	81	77	90	82
4506	27807	92	93	92	90	92
4507	CSR 23 (Inland Saline Check)	85	84	84	103	90
4508	28591	78	85	82	110	91
4509	27077	93	96	95	102	97
4510	28601	82	89	86	109	93
4511	CSR 10 (Early duration saline check)	79	83	81	88	83
4512	28608	77	80	78	104	87
4513	FL 478 (Saline tolerant check)	78	82	80	99	86
4514	27804	84	84	84	87	85
4515	Pusa 44 (Sensitive Check)	93	105	99	99	99
4516	Local Check	80	82	81	102	88
Exp. Mean		85	88	86	99	91

**Table No. 2.3 contd.: Days to 50% flowering of entries in AVT1 AL & ISTVT, Kharif 2020 (Normal)**

Entry No.	IET NO.	ZONE II (1)	ZONE VI (1)	ZONE VII						Overall (4)
		PU (1)	GU (1)	TA	PUD (1)	KA		KA (1)	Zone VII (2)	
		KPT	NWG	@AML	KRK	GNV	@BRM	Mean	Mean	
4501	27823	96	87	89	87	120	106	120	103	97
4502	27809	85	85	101	86	106	105	106	96	90
4503	28598	100	90	105	92		110		92	94
4504	CSR 36 (Alkaline Check)	77	79	106	81	94	93	94	87	83
4505	28606	74	74	94	77	99	98	99	88	81
4506	27807	90	89	85	92	117	102	117	105	97
4507	CSR 23 (Inland Saline Check)	106	87	87	86		101		86	93
4508	28591	89	77	82	71	92	99	92	82	82
4509	27077	85	100	83	91		113		91	92
4510	28601	83	79	93	88		109		88	83
4511	CSR 10 (Early duration saline check)	87	73	90	70	94	104	94	82	81
4512	28608	88	85	89	81	108		108	94	90
4513	FL 478 (Saline tolerant check)	89	76	88	83	96	113	96	90	86
4514	27804	99	88	81	85	104	109	104	95	94
4515	Pusa 44 (Sensitive Check)	87	96	102	91	110	103	110	100	96
4516	Local Check	95	97	122	85	111	110	111	98	97
Exp. Mean		89	85	93	84	104	105	104	92	90



**Table No. 2.4: Plant Height (cm) of entries in AVT1- AL & ISTVT (Alkalinity), Kharif 2020**

Entry	IET NO.	ZONE II				ZONE III		ZONE VII (1)		Overall (3)	
		HA		HA (2)	UP1	Zone II (2)		UP2			TE (1)
		KRL	KUK	Mean	@KNP	Mean	@LCK	@MSD	KMP		Mean
4501	27823	61.50	62.00	61.75	67.00	61.75	34.83	98.00	80.11	67.87	
4502	27809	47.00	76.33	61.67	69.00	61.67	54.20	106.00	75.56	66.30	
4503	28598	52.00	69.67	60.83	68.00	60.83	51.75	99.00	84.00	68.56	
4504	CSR 36 (Alkaline Check)	46.00	77.67	61.83	69.00	61.83	55.40	114.00	60.11	61.26	
4505	28606	58.00	86.67	72.33	70.00	72.33	41.30	109.00	60.44	68.37	
4506	27807	48.00	78.00	63.00	72.00	63.00	57.00	111.00	70.89	65.63	
4507	CSR 23 (Inland Saline Check)	52.00	96.67	74.33	71.00	74.33	53.50	125.00	93.11	80.59	
4508	28591	49.00	79.67	64.33	75.00	64.33	57.10	90.00	58.22	62.30	
4509	27077	49.50	85.00	67.25	74.00	67.25	77.25	96.00	75.89	70.13	
4510	28601	46.00	82.33	64.17	79.00	64.17	71.80	98.00	72.44	66.93	
4511	CSR 10 (Early duration saline check)	45.50	79.67	62.58	78.00	62.58	37.10	111.00	54.44	59.87	
4512	28608	66.50	112.00	89.25	84.00	89.25	53.60	83.00	80.78	86.43	
4513	FL 478 (Saline tolerant check)	46.50	68.33	57.42	69.00	57.42	70.40	103.00	65.67	60.17	
4514	27804	55.50	78.00	66.75	71.00	66.75	48.10	89.00	64.33	65.94	
4515	Pusa 44 (Sensitive Check)	42.00	63.67	52.83	68.00	52.83	66.10	112.00	68.56	58.07	
4516	Local Check	73.50	80.00	76.75	83.00	76.75	87.00	100.00	55.00	69.50	
<b>Exp. Mean</b>		<b>52.41</b>	<b>79.73</b>	<b>66.07</b>	<b>72.94</b>	<b>66.07</b>	<b>57.28</b>	<b>102.75</b>	<b>69.97</b>	<b>67.37</b>	

**Table No. 2.4 contd.: Plant Height (cm) of entries in AVT1 AL & ISTVT (Inland Salinity), Kharif 2020**

Entry No.	IET NO.	ZONE II			ZONE VI (1)		Overall (3)
		HA		Zone II (2)	GU (1)		
		KRL	PPT	HA (2)	DNT	Mean	
4501	27823	62.00	66.33	64.17	98.80	75.71	
4502	27809	81.00	61.67	71.33	99.80	80.82	
4503	28598	72.67	61.00	66.83	108.93	80.87	
4504	CSR 36 (Alkaline Check)	73.67	52.33	63.00	99.33	75.11	
4505	28606	85.33	63.00	74.17	106.13	84.82	
4506	27807	77.33	48.67	63.00	109.93	78.64	
4507	CSR 23 (Inland Saline Check)	94.00	65.33	79.67	126.20	95.18	
4508	28591	73.33	69.00	71.17	93.13	78.49	
4509	27077	81.67	58.00	69.83	113.87	84.51	
4510	28601	77.33	55.67	66.50	94.73	75.91	
4511	CSR 10 (Early duration saline check)	68.67	58.33	63.50	79.87	68.96	
4512	28608	106.00	75.00	90.50	129.13	103.38	
4513	FL 478 (Saline tolerant check)	70.33	49.33	59.83	81.93	67.20	
4514	27804	76.33	57.67	67.00	97.87	77.29	
4515	Pusa 44 (Sensitive Check)	63.67	55.00	59.33	88.67	69.11	
4516	Local Check	84.67	69.00	76.83	115.13	89.60	
<b>Exp. Mean</b>		<b>78.00</b>	<b>60.33</b>	<b>69.17</b>	<b>102.72</b>	<b>80.35</b>	

**Table No. 2.4 contd.: Plant Height (cm) of entries in AVT1 AL & ISTVT, Kharif 2020 (Normal)**

Entry No.	IET NO.	ZONE II (1)	ZONE VI (1)	ZONE VII						Overall (4)
		PU (1)	GU (1)	TA	PUD (1)	KA	KA (1)	Zone VII (2)		
		KPT	NWG	@AML	KRK	GNV	@BRM	Mean	Mean	
4501	27823	96.00	91.80	76.50	83.50	90.00	55.00	90.00	86.75	90.33
4502	27809	85.56	94.80	85.75	123.43	77.50	59.50	77.50	100.47	95.32
4503	28598	100.06	109.90	97.75	131.93		63.00		131.93	113.97
4504	CSR 36 (Alkaline Check)	77.00	89.60	83.76	127.47	80.00	59.50	80.00	103.73	93.52
4505	28606	74.00	95.50	80.26	120.37	84.50	58.50	84.50	102.43	93.59
4506	27807	90.81	103.10	73.56	111.60	89.50	62.00	89.50	100.55	98.75
4507	CSR 23 (Inland Saline Check)	105.44	119.70	78.56	131.50		66.50		131.50	118.88
4508	28591	89.13	88.20	70.24	79.33	61.00	51.00	61.00	70.17	79.41
4509	27077	84.75	100.70	71.56	73.00		55.00		73.00	86.15
4510	28601	82.75	95.00	85.75	117.23		58.00		117.23	98.33
4511	CSR 10 (Early duration saline check)	87.00	77.10	83.45	76.67	49.50	37.00	49.50	63.08	72.57
4512	28608	86.94	125.40	79.25	131.10	109.00		109.00	120.05	113.11
4513	FL 478 (Saline tolerant check)	88.81	94.30	88.24	106.57	67.50	48.50	67.50	87.03	89.29
4514	27804	98.94	94.10	79.45	108.10	76.00	40.50	76.00	92.05	94.28
4515	Pusa 44 (Sensitive Check)	86.31	89.10	86.75	136.47	71.50	38.00	71.50	103.98	95.84
4516	Local Check	95.19	100.40	126.00	111.40	100.00	43.00	100.00	105.70	101.75
<b>Exp. Mean</b>		<b>89.29</b>	<b>98.04</b>	<b>84.18</b>	<b>110.60</b>	<b>79.67</b>	<b>53.00</b>	<b>79.67</b>	<b>99.35</b>	<b>95.94</b>

**Table No. 2.5: Panicles/m<sup>2</sup> of entries in AVT1 AL & ISTVT (Alkalinity), Kharif 2020**

Entry	IET NO.	ZONE II					ZONE III		ZONE VII (1)	Overall (3)
		HA		HA (2)	UP1	Zone II (2)	UP2		TE (1)	
		KRL	KUK	Mean	@KNP	Mean	@LCK	@MSD	KMP	
4501	27823	315	210	263	289	263	330	233	344	290
4502	27809	140	105	123	258	123	323	285	252	166
4503	28598	350	245	298	231	298	343	225	259	285
4504	CSR 36 (Alkaline Check)	327	280	303	232	303	388	279	278	295
4505	28606	327	373	350	298	350	450	277	192	297
4506	27807	327	257	292	301	292	418	263	352	312
4507	CSR 23 (Inland Saline Check)	315	303	309	252	309	406	280	252	290
4508	28591	233	280	257	306	257	464	289	289	267
4509	27077	350	117	233	253	233	487	227	326	264
4510	28601	268	315	292	316	292	485	241	318	301
4511	CSR 10 (Early duration saline check)	245	257	251	302	251	408	237	263	255
4512	28608	280	327	303	276	303	342	213	315	307
4513	FL 478 (Saline tolerant check)	198	175	187	323	187	361	243	200	191
4514	27804	268	210	239	312	239	383	284	270	249
4515	Pusa 44 (Sensitive Check)	198	268	233	273	233	430	252	281	249
4516	Local Check	245	257	251	302	251	436	285	307	270
<b>Exp. Mean</b>		<b>274</b>	<b>249</b>	<b>261</b>	<b>283</b>	<b>261</b>	<b>404</b>	<b>257</b>	<b>281</b>	<b>268</b>

**Table No.2.5 contd.: Panicles/m<sup>2</sup> of entries in AVT1 AL & ISTVT (Inland Salinity), Kharif 2020**

Entry No.	IET NO.	ZONE II				ZONE VI (1)	Overall (3)
		HA		Zone II (2)	GU (1)		
		KRL	PPT	HA (2)	DNT	Mean	
4501	27823	280	280	280	384	315	
4502	27809	140	140	140	336	205	
4503	28598	257	233	245	312	267	
4504	CSR 36 (Alkaline Check)	268	257	263	315	280	
4505	28606	257	268	263	303	276	
4506	27807	210	233	222	339	261	
4507	CSR 23 (Inland Saline Check)	280	245	263	303	276	
4508	28591	222	268	245	285	258	
4509	27077	175	210	193	318	234	
4510	28601	233	233	233	339	269	
4511	CSR 10 (Early duration saline check)	233	210	222	318	254	
4512	28608	257	292	274	303	284	
4513	FL 478 (Saline tolerant check)	175	163	169	252	197	
4514	27804	245	245	245	345	278	
4515	Pusa 44 (Sensitive Check)	198	222	210	357	259	
4516	Local Check	210	210	210	285	235	
<b>Exp. Mean</b>		<b>228</b>	<b>232</b>	<b>230</b>	<b>318</b>	<b>259</b>	

**Table No. 2.5 contd.: Panicles/m<sup>2</sup> of entries in AVT1 AL & ISTVT, Kharif 2020 (Normal)**

Entry No.	IET NO.	ZONE II (1)	ZONE VI (1)	ZONE VII						Overall (4)
		PU (1)	GU (1)	TA	PUD (1)	KA		KA (1)	Zone VII (2)	
		KPT	NWG	@AML	KRK	GNV	@BRM	Mean	Mean	
4501	27823	635	284	436	580	348	90	348	464	462
4502	27809	564	289	239	551	379	110	379	465	446
4503	28598	659	279	321	449	379	78	379	449	462
4504	CSR 36 (Alkaline Check)	508	284	293	494	355	163	355	425	410
4505	28606	488	286	351	687	360	175	360	523	455
4506	27807	599	280	336	616	364	58	364	490	464
4507	CSR 23 (Inland Saline Check)	693	285	282	522	364	58	364	522	500
4508	28591	585	284	344	690	343	100	343	516	475
4509	27077	557	295	375	744	364	66	364	744	532
4510	28601	549	280	336	420	364	72	364	420	416
4511	CSR 10 (Early duration saline check)	574	295	246	640	300	45	300	470	452
4512	28608	577	287	282	549	357	357	357	453	442
4513	FL 478 (Saline tolerant check)	581	281	392	486	347	68	347	416	423
4514	27804	655	284	340	418	364	92	364	391	430
4515	Pusa 44 (Sensitive Check)	570	283	440	591	332	103	332	462	444
4516	Local Check	624	287	341	708	333	46	333	520	488
<b>Exp. Mean</b>		<b>589</b>	<b>285</b>	<b>335</b>	<b>572</b>	<b>348</b>	<b>88</b>	<b>348</b>	<b>483</b>	<b>456</b>

**Table No. 2.6: Grain quality characteristics of entries in AVT 1-AL & ISTVT, kharif 2020**

Entry No.	IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
4501	27823	79.3	70.5	63.4	5.47	2.26	2.42	SB	VOC	5.0	25.78	22
4502	27809	76.8	65.5	37.1	6.33	2.17	2.91	LB	VOC	4.0	27.51	55
4503	28598	80.0	67.6	52.7	6.96	2.04	3.41	LS	OC	4.0	28.78	43
4504	CSR-36	75.7	63.3	56.3	6.48	2.12	3.05	LS	VOC	4.0	25.90	45
4505	28606											
4506	27807	75.8	64.1	34.3	6.08	2.26	2.69	LB	VOC	4.0	27.07	40
4507	CSR-23	78.9	68.3	57.1	5.27	2.26	2.33	SB	VOC	4.0	22.85	54
4508	28591	77.6	67.1	45.1	6.08	2.30	2.64	LB	VOC	4.0	23.52	22
4509	27077	78.0	67.7	54.1	5.27	2.00	2.63	MS	VOC	7.0	23.90	47
4510	28601	78.0	65.8	43.9	6.60	2.12	3.11	LS	VOC	4.0	25.72	39
4511	CSR-10	75.0	63.0	56.1	4.98	2.48	2.00	SB	OC	5.0	23.76	42
4512	28608	76.7	65.2	43.8	6.65	2.09	3.18	LS	VOC	4.0	26.95	22
4513	FL-478	74.1	63.1	56.0	6.25	2.23	2.80	LB	VOC	5.0	24.66	22
4514	27804	78.9	66.4	33.7	5.01	1.84	2.72	MS	A	5.0	24.37	22
4515	Pusa-44	78.0	68.3	62.1	5.64	2.21	2.55	MS	VOC	7.0	23.78	32
4516	Local Check	78.0	66.5	35.7	6.54	1.99	2.38	LB	VOC	4.0	27.60	34

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB:Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

**Table No. 2.7: Composition of entries in Initial Variety Trial – Alkaline and Inland Saline Tolerant Variety Trial (IVT- AL&ISTVT), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>1<sup>st</sup> Year of testing:</b>				
4601	29353	GNV 18-64	GNV 1109 / CSR 22	LS
4602	29354	CSR YET 59	CSR27 / CSR36	LS
4603	29355	NVSR-6177	GNR-2 / IET-18710	LS
4604	29356	CSAR-7-9-2020	Selection from BC-3-7-9	LS
4605	29357	RP 6112-MS-M-8-2-9-3-4-6-8	BPT 5204 Mutant	LS
4606	<b>CSR 36 (Alkaline Check)</b>			
4607	29358	CSR YET 55	CSR27 / CSR36	LS
4608	29359	GNV 1801-9	BPT 5204 Mutant	MS
4609	<b>CSR 23 (Inland Saline Check)</b>			
4610	29360	CSAR 12-10-2020	Selection from BC-12-12-10	LB
4611	29361	CSR CPB 69	CSR 89IR15 / PB1	LS
4612	<b>CSR 10 (Early duration saline check)</b>			
4613	29362	NVSR 6236	IET 15429 / IR-72046-B-R-8-3-1-2	LS
4614	29363	RP 6112- MS-M-98-2-5-7-23-6-1	BPT 5204 Mutant	MS
4615	<b>FL 478 (Saline tolerant check)</b>			
4616	29364	<i>IIRRH-147 (Hybrid)</i>	-	LB
4617	29365	CSR TPB 159	Trichy 1 / PB1	LS
4618	<b>Pusa 44 (Sensitive Check)</b>			
4619	29366	CSR YET 8	CSR 27 / CSR 36	LS
4620	<b>Local Check</b>			

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**Table No.2.8: Grain yield (Kg/h) of entries of IVT- AL&ISTVT Alkalinity, Kharif 2020**

Entry No.	IET NO.	ZONE II								ZONE III		Overall (2)	
		HA				UP1		Zone II (2)		UP2		Mean	
		KRL		KUK		@KNP		HA (2)		@LCK			
4601	29353	3756	6	2461		1094		3109	9	785	8	3108.5	9
4602	29354	3850	5	3955	4	2319	1*	3903	5* 20%	1955	2	3902.5	5* 20%
4603	29355					1186							
4604	29356	3718	8	2247		1182		2983		1244	4	2982.5	
4605	29357	3078		2871	10	1235		2975		397		2974.5	
4606	CSR 36 (Alkaline Check)	2000		1627		1593	8	1814		411		1813.5	
4607	29358	4139	1	4087	1*	2008	3	4113	1* 26%	1554	3	4113	1* 26%
4608	29359	3009		2065		1287		2537		909	7	2537	
4609	CSR 23 ( Inland Saline Check)	2364		2377		1699	7	2371		349		2370.5	
4610	29360	3556	9	2152		1262		2854		449		2854	
4611	29361	3741	7	3786	6	2157	2*	3764	6 15%	769	9	3763.5	6 15%
4612	CSR 10 ( Early duration saline check)	2481		2784		1175		2633		745	10	2632.5	
4613	29362					1131							
4614	29363	3098		3639	7	1321	10	3369	7	433		3368.5	7
4615	FL 478 ( Saline tolerant check)	3176		2952	9	2004	4	3064	10	473		3064	10
4616	29364	3898	4	4022	2*	1178		3960	4* 21%	665		3960	4* 21%
4617	29365	4003	3	3923	5	1584	9	3963	3* 21%	2576	1	3963	3* 21%
4618	Pusa 44 ( Sensitive Check)	1680		1672		1942	5	1676		933	6	1676	
4619	29366	4050	2	4016	3*	1267		4033	2* 24%	1242	5	4033	2* 24%
4620	Local Check	3325	10	3193	8	1875	6	3259	8	393		3259	8
Exp. Mean		<b>3273.4</b>		<b>2990.43</b>		<b>1524.9</b>		<b>3131.972</b>		<b>905</b>		<b>3131.97</b>	
CD		864.53		782.26		109.11		627.97		181.09		627.97	
CV%		<b>15.92</b>		<b>15.76</b>		<b>4.33</b>		<b>12.05</b>		<b>14.1</b>		<b>12.05</b>	
D/S		28-07-2020		28-07-20220		01-08-2020				21-07-2020			
D/P		26-08-2020		26-08-2020		26-08-2020				21-08-2020			
Local Check Name		CSR 36		CSR 36		CSR 27				CSR36			

**Table No. 2.8 contd.: Grain yield (Kg/h) of entries of IVT- AL&ISTVT Inland salinity, Kharif 2020**

Entry No.	IET NO.	ZONE II (1)						ZONE VI (1)			Overall (3)		
		HA			Zone II (2)			GU (1)			Mean		
		KRL		PPT	HA (2)		DNT						
4601	29353	3694	3	20%	3083		3389	7	7%	3951	8	3576	8
4602	29354	3560	5	16%	4050	2	3805	3*	20%	1787		3132	
4603	29355									3450	9	3450	9
4604	29356	2822			3487	9	3155			5143	3*	3817	3 10%
4605	29357	2894	9		3303	10	3099			1977		2725	
4606	CSR 36 (Alkaline Check)	1716			2033		1875			4334	6	2694	6
4607	29358	3721	2	21%	4032	3	3877	2*	22%	4690	4	4148	4 20%
4608	29359	2863			3511	8	3187	9		2153		2842	
4609	CSR 23 ( Inland Saline Check)	2892	10		2927		2910			2422		2747	
4610	29360	2879			3837	6	3358	8	6%	3078	10	3265	10
4611	29361	3434	7	12%	3774	7	3604	6	14%	2598		3269	
4612	CSR 10 ( Early duration saline check)	2846			3300		3073			4224	7	3457	7
4613	29362									6984	1*	6984	1* 102%
4614	29363	2710			3063		2887			2388		2720	
4615	FL 478 ( Saline tolerant check)	1810			3169		2490			2564		2514	
4616	29364	3451	6	13%	3865	5	3658	5	16%	4538	5	3951	5 14%
4617	29365	3737	1	22%	4170	1	3954	1*	25%	5524	2*	4477	2* 29%
4618	Pusa 44 ( Sensitive Check)	1590			1921		1756			1230		1580	
4619	29366	3567	4	16%	3883	4	3725	4*	18%	1979		3143	
4620	Local Check	3066	8		3258		3162	10		2308		2877	
Exp. Mean		<b>2958</b>			<b>3370</b>		<b>3164</b>			<b>3366</b>		<b>3368</b>	
CD		812.68			962.09		544.55			846.14		619.73	
CV%		16.55			17.2		10.37			15.21		11.13	
D/S		28-07-2020			28-07-2020					21-07-2020			
D/P		26-08-2020			26-08-2020					19-08-2020			
Local Check Name		CSR 27			CSR 27					GNR-5			

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**Table No. 2.8 contd.: Grain yield (Kg/h) of entries of IVT AL&ISTVT Normal, Kharif 2020**

Entry No	IET NO.	ZONE II		ZONE III (1)		ZONE VI (1)			ZONE VII		
		PUN		UP (1)		GU (1)			TN		PUD (1)
		@KPT		MSD		NWG			@AML		KRK
4601	29353	1081	4	2083		2368		8830	6	1956	
4602	29354			2167	9	1501		8933	5	2556	7
4603	29355			3333	6	1725		8360	10	1856	
4604	29356	1356	3			5925	5 6%	7728		2511	8
4605	29357			2900	8	6621	2 18%	5538		2656	6
4606	CSR 36 (Alkaline Check)			1500		3738		5470		1456	
4607	29358	1073	5	3450	3	4723	10	9053	3	1578	
4608	29359			3367	4	6833	1 22%	6663		2500	9
4609	CSR 23 ( Inland Saline Check)			1600		5315	7	6143		2922	3
4610	29360			1633		4503		8440	8	1933	
4611	29361			1583		4053		8313		3378	1 7%
4612	CSR 10 ( Early duration saline check)			2933	7	5608	6	7655		3169	2
4613	29362			1933		3138		9418	2 *	2709	4
4614	29363					6550	3 17%	4375		1833	
4615	FL 478 ( Saline tolerant check)			1300		3529		8428	9	2694	5
4616	29364	1488	2	2133	10	6299	4 12%	4203		2339	
4617	29365			3500	2	3358		9015	4	1567	
4618	Pusa 44 ( Sensitive Check)			3700	1 * 10%	2701		9463	1 *	2186	
4619	29366	1550	1	1517		4748	9	5710		2422	10
4620	Local Check			3367	4	4798	8	8793	7	2277	
<b>Exp. Mean</b>		<b>1310</b>		<b>2444</b>		<b>4402</b>		<b>7526</b>		<b>2325</b>	
CD				271.67		1115.2		375.02		995.1	
CV%				6.7		12.1		3.52		25.89	
D/S		24-07-2020		21-07-2020		23-07-2020		31-07-2020		07-08-2020	
D/P		20-08-2020		19-08-2020		28-08-2020		25-08-2020		11-09-2020	
Local Check Name		PR 118		NDRK 2008		Dandi		Trichy-3		TRY 2	

**Table No.2.8 contd.: Grain yield (Kg/h) of entries of IVT AL&ISTVT Normal, Kharif 2020**

Entry No	IET NO.	ZONE VII										Overall (5)	
		KA (1)					TE (1)		Zone VII (3)			Mean	
		GNV		@BRM			KMP		Mean			Mean	
4601	29353	4668	1 15%	38	2	3142		3255	5	2843			
4602	29354	4162	5			3167		3295	4	2711			
4603	29355							1856		2305			
4604	29356	3807	7			4117	1 * 22%	3478	1 10%	4090	1 15.70%		
4605	29357					3179	10	2918		3839	4 8.60%		
4606	CSR 36 (Alkaline Check)	2932				3173		2520		2560			
4607	29358	3754	8		35 3	2877		2736		3276	9		
4608	29359	4646	3 15%	15	6	2407		3184	6	3951	3 11.76%		
4609	CSR 23 ( Inland Saline Check)			20	5	3272	7	3097	9	3277	8		
4610	29360	2551				3401	5	2628		2804			
4611	29361	2936	10			3864	2 15%	3393	3 7%	3163	10		
4612	CSR 10 ( Early duration saline check)	2331				3364	6	2955	10	3481	7		
4613	29362			13	7			2709		2593			
4614	29363	4652	2 15%	30	4	2877		3121	8	3978	2 12.53%		
4615	FL 478 ( Saline tolerant check)					2938		2816		2615			
4616	29364	4566	4 13%			3500	4	3468	2 9%	3767	5 6.58%		
4617	29365	3616	9			3210	8	2798		3050			
4618	Pusa 44 ( Sensitive Check)	1861				3154		2400		2720			
4619	29366	1690				3562	3 6%	2558		2788			
4620	Local Check	4047	6	125	1	3185	9	3170	7	3535	6		
<b>Exp. Mean</b>		<b>3481</b>		<b>39</b>		<b>3244</b>		<b>2852</b>		<b>3167</b>			
CD		1292.3				796.59		504.97		580.11			
CV%		17.3				14.8		12.5		11.72			
D/S		31-07-2020		10-08-2020		01-08-2020							
D/P		07-09-2020		02-09-2020		04-09-2020							
Local Check Name		CSR-22		MO-4		KPS-2874							

**Table No. 2.9: Days to 50% flowering of entries of IVT- AL&ISTVT, Kharif 2020 (Alkalinity)**

Entry No.	IET NO.	ZONE II				ZONE III	Overall (2)
		HA		UP1	Zone II (3)	UP2	
		KRL	KUK	@KNP	Mean	@LCK	Mean
4601	29353	78	78	80	78	97	78
4602	29354	80	79	81	79	90	79
4603	29355			87			
4604	29356	81	83	84	82	92	82
4605	29357	76	76	87	76	81	76
4606	CSR 36 (Alkaline Check)	79	82	81	81	94	81
4607	29358	80	79	87	80	89	80
4608	29359	106	110	83	108	86	108
4609	CSR 23 ( Inland Saline Check)	101	105	81	103	85	103
4610	29360	84	86	85	85	98	85
4611	29361	108	106	87	107	89	107
4612	CSR 10 ( Early duration saline check)	85	82	75	84	112	84
4613	29362			79			
4614	29363	99	98	85	99	98	99
4615	FL 478 ( Saline tolerant check)	89	90	76	90	86	90
4616	29364	83	85	78	84	95	84
4617	29365	79	78	74	78	94	78
4618	Pusa 44 ( Sensitive Check)	108	105	76	107	95	107
4619	29366	84	85	77	85	86	85
4620	Local Check	95	96	84	96	104	96
<b>Exp. Mean</b>		<b>89</b>	<b>89</b>	<b>81</b>	<b>89</b>	<b>93</b>	<b>89</b>

**Table No. 2.9 contd.: Days to 50% flowering of entries of IVT- AL&ISTVT Inland salinity Kharif 2020**

Entry No.	IET NO.	ZONE II			ZONE VI (1)	Overall (3)
		HA		Zone II (2)	GU (1)	
		KRL	PPT	HA (2)	DNT	Mean
4601	29353	75	76	76	106	86
4602	29354	73	72	73	125	90
4603	29355				114	114
4604	29356	84	81	83	99	88
4605	29357	75	73	74	119	89
4606	CSR 36 (Alkaline Check)	75	75	75	111	87
4607	29358	76	75	75	102	84
4608	29359	104	102	103	131	112
4609	CSR 23 ( Inland Saline Check)	102	106	104	97	102
4610	29360	75	77	76	110	87
4611	29361	95	95	95	119	103
4612	CSR 10 ( Early duration saline check)	82	82	82	107	90
4613	29362				100	100
4614	29363	101	98	100	121	107
4615	FL 478 ( Saline tolerant check)	84	85	85	110	93
4616	29364	83	84	84	113	93
4617	29365	71	70	71	91	78
4618	Pusa 44 ( Sensitive Check)	101	98	100	95	98
4619	29366	83	83	83	87	84
4620	Local Check	77	83	80	96	86
<b>Exp. Mean</b>		<b>84</b>	<b>84</b>	<b>84</b>	<b>108</b>	<b>94</b>

**Table No. 2.9 contd.: Days to 50% flowering of entries of IVT-AL&ISTVT Normal, Kharif 2020**

Entry No	IET NO.	ZONE II	ZONE III (1)	ZONE VI (1)	ZONE VII
		PU	UP (1)	GU (1)	TN
		@KPT	MSD	NWG	@AML
4601	29353	82	91	81	95
4602	29354		105	77	102
4603	29355		89	79	97
4604	29356	95		89	82
4605	29357		99	101	95
4606	CSR 36 (Alkaline Check)		96	79	93
4607	29358	83	93	82	107
4608	29359		93	95	105
4609	CSR 23 ( Inland Saline Check)		93	105	106
4610	29360		90	94	85
4611	29361		92	95	90
4612	CSR 10 ( Early duration saline check)		91	103	103
4613	29362		94	100	105
4614	29363			91	101
4615	FL 478 ( Saline tolerant check)		90	99	82
4616	29364	103	98	91	103
4617	29365		99	87	98
4618	Pusa 44 ( Sensitive Check)		99	101	117
4619	29366	93	95	96	102
4620	Local Check		95	101	121
<b>Exp. Mean</b>		<b>91</b>	<b>95</b>	<b>92</b>	<b>99</b>

**Table No. 2.9 contd.: Days to 50% flowering of entries of IVT AL&ISTVT Normal, Kharif 2020**

Entry No	IET NO.	ZONE VII						Overall (5) Mean
		PUD (1)	KA		KA (1)	TE (1)	Zone VII (3)	
		KRK	GNV	@BRM	Mean	KMP	Mean	
4601	29353	95	98	99	98	92	71	91
4602	29354	80	103		103	85	67	90
4603	29355	92		92			46	87
4604	29356	81	109	97	109	94	71	93
4605	29357	95		95		102	66	99
4606	CSR 36 (Alkaline Check)	78	97		97	86	65	87
4607	29358	81	93	104	93	89	66	88
4608	29359	96	101	100	101	89	72	95
4609	CSR 23 ( Inland Saline Check)	104		98		87	64	97
4610	29360	88	108		108	99	74	96
4611	29361	91	102	99	102	104	74	97
4612	CSR 10 ( Early duration saline check)	97	108	99	108	76	70	95
4613	29362	96		104			48	96
4614	29363	79	102	104	102	89	67	90
4615	FL 478 ( Saline tolerant check)	91		98		92	61	93
4616	29364	90	111	93	111	92	73	96
4617	29365	75	97	99	97	87	65	89
4618	Pusa 44 ( Sensitive Check)	93	107	101	107	87	72	98
4619	29366	94	113	105	113	87	74	97
4620	Local Check	80	105	105	105	87	68	94
<b>Exp. Mean</b>		<b>89</b>	<b>103</b>	<b>99</b>	<b>103</b>	<b>90</b>	<b>67</b>	<b>93</b>

**Table No.2.10: Plant height (cm) of entries of IVT-AL&ISTVT, Kharif 2020 (Alkalinity)**

Entry No.	IET NO.	ZONE II				ZONE III	Overall (2)
		HA		UP1	Zone II (3)	UP2	Mean
		KRL	KUK	@KNP	Mean	@LCK	
4601	29353	56.17	54.17	74.00	55.17	62.73	55.17
4602	29354	51.50	47.50	76.00	49.50	64.06	49.50
4603	29355			68.00		90.00	
4604	29356	59.17	56.17	78.00	57.67	56.81	57.67
4605	29357	56.67	53.67	70.00	55.17	60.54	55.17
4606	CSR 36 (Alkaline Check)	58.33	49.33	86.00	53.83	57.83	53.83
4607	29358	52.67	46.67	87.00	49.67	56.29	49.67
4608	29359	48.33	42.33	68.00	45.33	59.83	45.33
4609	CSR 23 ( Inland Saline Check)	63.67	56.67	67.00	60.17	63.92	60.17
4610	29360	59.50	50.50	71.00	55.00	61.69	55.00
4611	29361	51.83	47.83	79.00	49.83	57.27	49.83
4612	CSR 10 ( Early duration saline check)	48.83	42.83	88.00	45.83	57.40	45.83
4613	29362			77.00		73.00	
4614	29363	50.67	45.67	85.00	48.17	48.22	48.17
4615	FL 478 ( Saline tolerant check)	55.67	50.67	69.00	53.17	61.29	53.17
4616	29364	73.83	61.83	72.00	67.83	76.27	67.83
4617	29365	54.67	50.67	86.00	52.67	70.42	52.67
4618	Pusa 44 ( Sensitive Check)	41.83	38.83	72.00	40.33	53.40	40.33
4619	29366	66.17	60.17	76.00	63.17	65.48	63.17
4620	Local Check	76.74	70.74	80.00	73.74	74.84	73.74
<b>Exp. Mean</b>		<b>57.01</b>	<b>51.46</b>	<b>76.45</b>	<b>54.24</b>	<b>63.56</b>	<b>54.24</b>

**Table No. 2.10 contd.: Plant height (cm) of entries of IVT- AL&ISTVT Inland salinity, Kharif 2020**

Entry No.	IET NO.	ZONE II			ZONE VI (1)	Overall (3)
		HA		Zone II (2)	GU (1)	Mean
		KRL	PPT	HA (2)	DNT	
4601	29353	58.86	56.58	57.72	113.10	76.18
4602	29354	53.61	50.25	51.93	109.50	71.12
4603	29355				91.70	91.70
4604	29356	51.38	55.08	53.23	94.70	67.05
4605	29357	55.17	51.83	53.50	106.50	71.17
4606	CSR 36 (Alkaline Check)	52.96	55.67	54.31	111.00	73.21
4607	29358	57.10	57.83	57.46	103.70	72.88
4608	29359	43.05	48.67	45.86	103.30	65.00
4609	CSR 23 ( Inland Saline Check)	50.63	55.33	52.98	69.10	58.35
4610	29360	62.99	59.75	61.37	116.60	79.78
4611	29361	55.67	58.42	57.04	115.50	76.53
4612	CSR 10 ( Early duration saline check)	55.29	48.92	52.10	101.40	68.54
4613	29362				112.60	112.60
4614	29363	49.72	48.33	49.03	105.10	67.72
4615	FL 478 ( Saline tolerant check)	54.08	58.83	56.46	87.20	66.71
4616	29364	71.54	68.42	69.98	128.50	89.49
4617	29365	55.60	57.33	56.47	91.30	68.08
4618	Pusa 44 ( Sensitive Check)	54.34	44.92	49.63	92.10	63.79
4619	29366	52.81	60.58	56.70	107.30	73.56
4620	Local Check	53.21	51.87	52.54	102.30	69.13
<b>Exp. Mean</b>		<b>54.89</b>	<b>54.92</b>	<b>54.91</b>	<b>103.13</b>	<b>74.13</b>



**Table No. 2.10 contd.: Plant height (cm) of entries of IVT -AL&ISTVT Normal, Kharif 2020**

Entry No	IET NO.	ZONE II	ZONE III (1)	ZONE VI (1)	ZONE VII
		PU	UP (1)	GU (1)	TN
		@KPT	MSD	NWG	@AML
4601	29353	73.40	84.00	109.80	81.00
4602	29354		107.00	103.10	96.00
4603	29355		90.00	111.90	95.00
4604	29356	76.15		105.60	77.00
4605	29357		80.00	97.20	92.00
4606	CSR 36 (Alkaline Check)		68.00	91.30	90.00
4607	29358	72.45	68.00	101.70	122.00
4608	29359		100.00	102.80	125.00
4609	CSR 23 ( Inland Saline Check)		80.00	130.40	93.00
4610	29360		77.00	116.80	75.00
4611	29361		71.00	116.30	96.00
4612	CSR 10 ( Early duration saline check)		89.00	101.00	98.00
4613	29362		73.00	135.30	112.00
4614	29363			122.40	88.00
4615	FL 478 ( Saline tolerant check)		80.00	113.30	76.00
4616	29364	89.80	101.00	136.70	86.00
4617	29365		119.00	92.30	92.00
4618	Pusa 44 ( Sensitive Check)		88.00	84.80	131.00
4619	29366	84.65	75.00	134.80	96.00
4620	Local Check		100.00	113.10	124.00
<b>Exp. Mean</b>		<b>79.00</b>	<b>86.11</b>	<b>111.03</b>	<b>97.25</b>

**Table No. 2.10 contd.: Plant height (cm) of entries of IVT -AL&ISTVT Normal, Kharif 2020**

Entry No	IET NO.	ZONE VII						Overall (5)
		PUD (1)	KA			TE (1)	Zone VII (3)	
		KRK	GNV	@BRM	Mean	KMP	Mean	
4601	29353	102.57	103.50	69.00	103.50	81.33	95.80	10.86
4602	29354	109.93	91.00		91.00	67.61	89.51	13.14
4603	29355	120.60		68.50			120.60	11.67
4604	29356	122.53	82.00	71.00	82.00	80.33	94.96	16.45
4605	29357	133.27		72.00		90.11	111.69	16.56
4606	CSR 36 (Alkaline Check)	100.60	72.50		72.50	71.28	81.46	12.17
4607	29358	94.07	76.50	65.50	76.50	71.78	80.78	12.38
4608	29359	125.73	83.00	52.50	83.00	86.67	98.47	11.85
4609	CSR 23 ( Inland Saline Check)	143.93		69.00		110.56	127.24	20.94
4610	29360	138.37	111.50		111.50	96.22	115.36	17.09
4611	29361	126.77	112.50	61.00	112.50	83.06	107.44	19.92
4612	CSR 10 ( Early duration saline check)	114.87	88.00	53.50	88.00	75.61	92.83	11.39
4613	29362	110.60		55.00			110.60	22.20
4614	29363	108.30	103.50	70.00	103.50	75.39	95.73	13.50
4615	FL 478 ( Saline tolerant check)	129.77		62.00		86.89	108.33	19.04
4616	29364	143.73	105.50	68.50	105.50	93.50	114.24	19.30
4617	29365	102.50	88.00	62.50	88.00	67.11	85.87	13.57
4618	Pusa 44 ( Sensitive Check)	106.57	105.50	68.00	105.50	68.50	93.52	12.29
4619	29366	136.53	113.00	67.00	113.00	91.61	113.71	21.51
4620	Local Check	127.70	112.00	66.50	112.00	83.61	107.77	12.38
<b>Exp. Mean</b>		<b>119.95</b>	<b>96.53</b>	<b>64.79</b>	<b>96.53</b>	<b>82.29</b>	<b>102.30</b>	<b>15.41</b>

**Table No.2.11: Panicles/m<sup>2</sup> of entries of IVT- AL&ISTVT, Kharif 2020 (Alkalinity)**

Entry No.	IET NO.	ZONE II				ZONE III	Overall (2)
		HA		UP1	Zone II (3)	UP2	
		KRL	KUK	@KNP		@LCK	Mean
4601	29353	228	187	251	207	473	207
4602	29354	245	280	318	263	516	263
4603	29355			268			
4604	29356	233	193	226	213	346	213
4605	29357	187	210	264	198	415	198
4606	CSR 36 (Alkaline Check)	169	140	260	155	458	155
4607	29358	303	315	348	309	507	309
4608	29359	193	175	244	184	489	184
4609	CSR 23 ( Inland Saline Check)	181	216	307	198	426	198
4610	29360	222	181	225	201	537	201
4611	29361	251	268	318	260	324	260
4612	CSR 10 ( Early duration saline check)	175	210	208	193	507	193
4613	29362			279			
4614	29363	187	274	296	230	507	230
4615	FL 478 ( Saline tolerant check)	198	210	299	204	414	204
4616	29364	245	315	286	280	346	280
4617	29365	292	303	344	298	288	298
4618	Pusa 44 ( Sensitive Check)	123	105	362	114	420	114
4619	29366	303	280	245	292	533	292
4620	Local Check	204	210	318	207	641	207

**Table No. 2.11 contd.: Panicles/m<sup>2</sup> of entries of IVT- AL&ISTVT Inland salinity, Kharif 2020**

Entry No.	IET NO.	ZONE II			ZONE VI (1)	Overall (3)
		HA		Zone II (2)	GU (1)	
		KRL	PPT	HA (2)	DNT	Mean
4601	29353	163	128	146	351	214
4602	29354	187	210	198	360	252
4603	29355				282	282
4604	29356	152	163	158	351	222
4605	29357	152	152	152	327	210
4606	CSR 36 (Alkaline Check)	105	93	99	357	185
4607	29358	187	210	198	315	237
4608	29359	152	175	163	324	217
4609	CSR 23 ( Inland Saline Check)	128	128	128	420	226
4610	29360	187	187	187	354	242
4611	29361	187	140	163	342	223
4612	CSR 10 ( Early duration saline check)	175	163	169	300	213
4613	29362				327	327
4614	29363	163	152	158	303	206
4615	FL 478 ( Saline tolerant check)	128	117	123	324	190
4616	29364	175	187	181	330	231
4617	29365	210	222	216	342	258
4618	Pusa 44 ( Sensitive Check)	93	82	88	270	148
4619	29366	163	152	158	356	224
4620	Local Check	163	163	163	290	206
<b>Exp. Mean</b>		<b>159</b>	<b>156</b>	<b>158</b>	<b>331</b>	<b>226</b>

**Table No. 2.11 contd.: Panicles/m<sup>2</sup> of entries of IVT- AL&ISTVT Normal, Kharif 2020**

Entry No	IET NO.	ZONE II	ZONE III (1)	ZONE VI (1)	ZONE VII	
		PU	UP (1)	GU (1)	TN	PUD (1)
		@KPT	MSD	NWG	@AML	KRK
4601	29353	239	209	258	386	477
4602	29354		208	236	244	584
4603	29355		263	249	429	479
4604	29356	283		280	339	842
4605	29357		228	280	317	582
4606	CSR 36 (Alkaline Check)		189	272	284	484
4607	29358	271	279	277	528	953
4608	29359		265	286	366	542
4609	CSR 23 ( Inland Saline Check)		182	278	381	630
4610	29360		157	267	463	546
4611	29361		195	269	512	690
4612	CSR 10 ( Early duration saline check)		216	274	482	610
4613	29362		202	258	454	654
4614	29363			278	422	588
4615	FL 478 ( Saline tolerant check)		172	266	520	453
4616	29364	271	215	283	387	614
4617	29365		249	270	392	454
4618	Pusa 44 ( Sensitive Check)		263	263	522	486
4619	29366	291	189	273	343	613
4620	Local Check		<b>263</b>	281	493	553
<b>Exp. Mean</b>		<b>271</b>	<b>217</b>	<b>270</b>	<b>413</b>	<b>592</b>

**Table No. 2.11 contd.: Panicles/m<sup>2</sup> of entries of IVT- AL&ISTVT Normal, Kharif 2020**

Entry No	IET NO.	ZONE VII					Overall (5)
		KA		KA (1)	TE (1)	Zone VII (3)	Mean
		GNV	@BRM	Mean	KMP	Mean	
4601	29353	386	78	386	329	397	332
4602	29354	377		377	340	434	349
4603	29355		59			479	330
4604	29356	381	60	381	389	537	473
4605	29357		65		237	410	332
4606	CSR 36 (Alkaline Check)	340		340	211	345	299
4607	29358	343	91	343	389	561	448
4608	29359	303	66	303	426	424	364
4609	CSR 23 ( Inland Saline Check)		73		274	452	341
4610	29360	341		341	355	414	333
4611	29361	323	68	323	374	462	370
4612	CSR 10 ( Early duration saline check)	308	58	308	418	445	365
4613	29362		76			654	372
4614	29363	324	70	324	422	445	403
4615	FL 478 ( Saline tolerant check)		66		292	373	296
4616	29364	339	61	339	370	441	364
4617	29365	338	63	338	400	397	342
4618	Pusa 44 ( Sensitive Check)	332	60	332	392	403	347
4619	29366	349	61	349	400	454	365
4620	Local Check	358	108	358	366	426	364
<b>Exp. Mean</b>		<b>343</b>	<b>69</b>	<b>343</b>	<b>355</b>	<b>448</b>	<b>359</b>

## ADVANCE VARIETY TRIAL 1 – COASTAL SALINE TOLERANT VARIETY TRIAL (AVT 1 – CSTVT)

**Locations: 05**

**Test Entries: 12**

**Checks: Bhuthnath (Coastal Saline Check), FL478, CSR 10 Table:2.12 (Early duration check), Pusa 44 (Sensitive check) and Local check**

AVT 1 – CSTVT trial was constituted with 11 test entries in the second year of testing, one test entry (IET 27037) in third year of testing and five checks namely Bhuthnath (Coastal Saline Check), FL 478, CSR 10 (Early duration check), Pusa 44 (Sensitive check) and Local check. The trial was sent to 14 locations and data was received from seven locations. Data from Brahmavar (3.22 ds/m) and Karaikal (0.8-1.02 ds/m), Chinsurah (sensitive check recorded 4616 kg/ha) not considered for analysis due to low stress.

Data from remaining four locations namely Cuttack (Zone III), Canning (Zone III), Danti (Zone VI) and Machilipatnam (Zone VII) was considered for analysis under coastal saline stress. The data pertaining to yield, days to 50% flowering, plant height, panicles/m<sup>2</sup> and quality data are presented in tables 2.13, 2.14, 2.15, 2.16 and 2.17. The EC and pH of these locations are given in below table.

S No.	Locations	pH	EC ds/m	Mean (kg/ha)	CV %	Remarks
1	Cuttack	5.9	6.7	2327	9.18	Data considered for analysis under stress
2	Brahmavar	5.47	3.22	78.19	30.3	Data not considered for analysis under stress.
3	Karaikal	7.75-8.38	0.8-1.02	2599	2.94	Data not considered for analysis under stress due to lack of stress. The crop was affected due to flooding in the early stage.
4	Canning	6.7	6.43	3899	15.7	Data considered for analysis under stress
5	Machilipatnam	7.86	5.95	3556	17.54	Data considered for analysis under stress. The crop was damaged due to Nivara cyclone.
6	Danti	8.3	5.8	2018	19.25	Data considered for analysis under stress
7	Chinsurah	6.5	3.5-4.5	4297	12.53	Sensitive check recorded more than 4t/ha (4616 Kg/ha), hence the data is considered under normal

### Overall

In overall, data from four locations Cuttack (Zone III), Canning (Zone III), Danti (Zone VI) and Machilipatnam (Zone VII) were considered for analysis, The grain yield was

ranged from 2156 (CSR 10) to 4027 kg/ha (IET 27847) and days to 50% flowering ranged from 96 (CSR 10) to 123 days (IET 27051 (R)).

Among the early checks (CSR 10 (96 days) and Local check (103 days)), Local check recorded highest grain yield of 3489 kg/ha with 103 days to 50% flowering, **Among the early test entries (<103+1SEM), IET 27847 recorded 15% yield advantage over the early best check.** Among the late checks (Bhuthnath (112 days)) and FL 478 (107 days), Bhuthnath recorded 2939 kg/ha with 112 days to 50% flowering. **Among the late entries (>104 days), IET 27051 (R) and 27834 recorded 6 and 5 % yield superiority over the late best check.**

### Performance of test entries and checks in AVT 1 – CSTVT during kharif 2020

IET NO.	ZONE III		ZONE VI (1)		ZONE VII (1)		Overall (4)		Remarks
<b>IET 27834</b> NVS 6147							3083 108	5% LBC	
<b>IET 27851</b> CR 3903-161-1-3-2	4038 115	16% LBC							
<b>IET 27829</b> CSR 2748-44			2857 99	18% LBC					
<b>IET 27051 (R)</b> CR 2851-S-1-B-4-1-4-1-1							3125 123	6% LBC	
<b>IET 27836</b> MCM 122 (QYT74)	3995 107	15% LBC							
<b>IET 27847 (H)</b> IIRRRH-115	3676 105	6% LBC	4468 100	46% LBC			4027 104	15% EBC	
<b>Bhuthnath</b> (Coastal Saline Check)	3480 111	LBC	2408 111	LBC	2387 113		2939 112	LBC	
<b>CSR 10</b> (Early duration saline check)	2838 97	EBC	1345 97		1601 93		2156 96	LBC	
<b>FL 478</b> (Saline Tolerant check)	2899 107		2347 107		3616 108		2940 107		
<b>Local Check (LC)</b>	3141 104		3069 91	EBC	4605 112	BC	3489 103	EBC	
<b>Pusa 44</b> (Sensitive Check)	2592 108		1424 110		3719 108		2582 109		

\*BC-Best Check; LBC-Late Best Check; EBC-Early Best Check

### Zone III

In zone III, the data from Cuttack and Canning was considered for analysis. The grain yield was ranged from 2592 (Pusa 44) to 4038 kg/ha (IET 27851) and days to 50% flowering ranged from 97 (CSR 10) to 120 days (IET 27852). Among the early checks, CSR 10 recorded 2838 kg/ha with 97 days to 50% flowering.

Among the early entries (97+1SEM), no entries flowered <98 days, hence none is promoted by comparing to early best check. Among the late checks, Bhuthanath recorded highest grain yield of 3480 kg/ha with 111 days to 50% flowering, **Among the late entries**

(>98 days), IET 27851 (16%), 27836 (15%) and 27847 (6%) recorded yield superiority over the late best check.

#### Zone VI

In zone VI, the data from Danti (Gujarat) was considered for analysis. The grain yield was ranged from 993 (IET 27851) to 4468 kg/ha (IET 27847) and days to 50% flowering ranged from 91 (Local check) to 131 days (IET 27051 (R)). Among the early checks (CSR 10 (97 days) and local check (91 days)), the local check recorded highest grain yield of 3069 kg/ha with 91 days to 50% flowering. Among the test entries, no entries flowered less than 92 days (91+2SEM), hence none is promoted by comparing to early best check.

Among the late checks (Bhuthnath (111 days) and FL 478 (107 days)), Bhuthnath recorded 2408 kg/ha with 111 days to 50% flowering. **Among the late test entries (>93 days), IET 27829 (18%) and 27847 (46%) recorded yield superiority over the best check.**

#### Zone VII

In zone VII, the data the Machilipatnam was considered for analysis. The grain yield was ranged from 1601 (CSR 10) to 4605 kg/ha (Local check) and days to 50% flowering ranged from 93 (CSR 10) to 117 days (IET 27851).

Among the checks, local check recorded highest grain yield of 4605 kg/ha with 112 days 50% flowering while remaining checks Bhuthnath (2387 kg/ha), CSR 10 (1601 kg/ha) and FL 478 (3616 kg/ha) recorded lower yield than salinity check (3719 kg/ha). Hence, all the test entries were compared with highest yielding check (Local check), but no test entries showed yield superiority over the best check.

#### Three year of performance of IET 27037

IET No.	Year	% BC in Zone						Remarks
		Overall		III		VII		
IET 27037 OR (CZ) - 9-1 CST7-1 Mutant	2020	-	-	-	-	-	-	Discontinued
	2019	-	-	-	-	-	-	
	2018	-	-	-	-	15%	AN-32%	
	2017	-	-	16 %	OR-16%			

**IET 27037 (OR (CZ)-9-1) derived from CST 7-1 Mutant did not consistent yield over superiority over best check in the three year of testing hence it is discontinued.**

***On basis of salinity tolerance and flower duration in AVT 1 – CSTVT, a total five test entries IETs 27834, 27851, 27829, 27051 (R), 27836 and IET 27847 (H) recorded yield superiority over the best salinity tolerant check and promoted to third year of testing.***

## INITIAL VARIETY TRIAL - COASTAL SALINE TOLERANT VARIETY TRIAL (IVT-CSTVT)

Locations: 05

Test Entries: 40

**Checks:** Bhuthnath (Coastal Saline Check), FL478, CSR 10 (Early duration check), Pusa 44 (Sensitive check) and Local check **Table:2.18**

IVT – CSTVT trial was constituted with 40 test entries in the first year of testing and five checks namely Bhuthnath (Coastal Saline Check), FL478, CSR 10 (Early duration check), Pusa 44 (Sensitive check) and Local check. The trial was sent to 14 locations and data was received from five locations. Data from Brahmavar (3.08 ds/m) and Karaikal (0.8-1.02 ds/m) not considered for analysis due to low stress.

Data from remaining three locations namely Cuttack (Zone III), Danti (Zone VI) and Machilipatnam (Zone VII) was considered for analysis under coastal saline stress. The data pertaining to yield, days to 50% flowering, plant height and panicles/m<sup>2</sup> are presented in tables 2.19, 2.20, 2.21 and 2.22. The EC and pH of these locations are given in below table.

S No.	Locations	pH	EC ds/m	Mean (kg/ha)	CV %	Remarks
1	Cuttack	5.7	5.9	2842.79	8.26	Data considered for analysis under stress
2	Brahmavar	6.10	3.08	234.52	23.13	Data not considered for analysis under stress. The was severely damaged due to flood.
3	Karaikal	7.51-8.38	0.8-1.02	1964.65	13.45	Data not considered for analysis under stress due to lack of stress. The crop was affected due to flooding in the early stage.
4	Danti	8.2	4.9-5.43	2223.93	18.66	Data considered for analysis under stress
5	Machilipatnam	11.35	7.98	2864.77	19.59	Data considered for analysis under stress

### Overall

In overall, data from three locations Cuttack (Zone III), Danti (Zone VI) and Machilipatnam (Zone VII) were considered for analysis. The grain yield was ranged from 1423 (IET 28611) to 3755 kg/ha (IET 29371) and days to 50% flowering ranged from 92 (IET 29381) to 117 days (IET 28628).

Among the checks, Local check recorded highest grain yield of 3435 kg/ha with 104 days to 50% flowering. However, the performance of Bhuthnath (2505 kg/ha), CSR 10 (2910 kg/ha) and FL 478 (2952 kg/ha) were on par with sensitive check (2714 kg/ha), hence all the test entries irrespective of flower duration were compared with highest yielding check (Local Check): 3435 kg/ha; 104 days). However, none of the test entries achieved required yield advantage over the best check.

**Zone III**

In zone III, the data from Cuttack was considered for analysis. The grain yield was ranged from 2441 (IET 29379) to 3288 kg/ha (IET 28623) and days to 50% flowering ranged from 105 (IET 29372) to 129 days (IET 29371).

Among the checks (Bhuthnath-119 days and Local check-115 days), Local check recorded highest grain yield of 3028 kg/ha with 115 days to 50% flowering, while none of the test entries achieved required yield advantage over the best check. While FL 478 flowered in 106 days, hence test entries with <106 days were compared with FL 478 as early best check (2954 kg/ha). However, none of the early test entries recorded required yield advantage (>10%) over the early best check.

**Performance of check in IVT – CSTVT during Kharif 2020**

S.No	Name of Check	Zone III (1)	Zone VI (1)	Zone VII (1)	Overall (3)
1	Bhuthnath (Coastal Saline Check)	2823 119	2447 104	2244 107	2505 109
2	CSR 10 (Early duration saline check)	-	1804 120	4015 (BC) 109	2910 114
3	FL 478 (Saline Tolerant Check)	2954 (EBC) 106	3938 (BC) 89	1964 87	2952 94
4	Local Check	3028 (LBC) 115	3280 88	3997 109	3435 (BC) 104
5	Pusa 44 (Sensitive Check)	2725 116	2416 97	3001 106	2714 106

\*BC-Best Check; LBC-Late Best Check; EBC-Early Best Check.

\*\* No test entry found superior to best check

**Zone VI**

In zone VI, the data from Danti (Gujarat) was considered for analysis. The grain yield was ranged from 1122 (IET 29382) to 3998 kg/ha (IET 28619) and days to 50% flowering ranged from 85 (IET 29381) to 121 days (IET 29375).

Among the checks, performance of Bhuthnath (2447 kg/ha), was on par with sensitive check (2416 kg/ha). While CSR 10 (1804 kg/ha) recorded less than sensitive check. Whereas FL478 recorded highest grain yield (3938 kg/ha; 89 days) followed by local check (3280 kg/ha; 88 days), Hence, all the test entries irrespective of flower duration were compared with the best check (FL 478), None of the test entries found superior to best check.

**Zone VII**

In zone VII, the data from Machilipatnam was considered for analysis. The grain yield was ranged from 201 (IET 28618) to 4425 kg/ha (IET 29371) and days to 50% flowering ranged from 87 (FL 478) to 120 days (IET 28628).

Among check, CSR 10 (4015 kg/ha; 109 days) recorded highest grain yield followed by local check (3997 kg/ha; 109 days), whereas Bhuthnath (2244 kg/ha) and FL 478 (1964



kg/ha) recorded lower yield than sensitive check (3001 kg/ha). Hence all the test entries were compared to best check (CSR 10) irrespective of the flower duration.

**Table No. 2.12: Composition of entries in Advance Variety Trial 1 – Coastal Saline Tolerant Variety Trial (AVT 1- CSTVT), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>2<sup>nd</sup> Year of testing:</b>				
4701	27834	NVSR 6147	GR-103 / SLR-51214	LB
4702	27851	CR 3903-161-1-3-2	Santepheap / IR82810-407 // IR 71700-247-1-1-2	MS
4703	27835	RP 5716-336-56-41-6-7-1	RP Bio 226 / CST 7-1	MS
4704	27829	CSR 2748-44	CSR 27 / MI 48	LB
4705	27833	MCM 123(OYT 99)	CST 7-1-4 / CST 7-1	LB
4706	<b>Bhuthnath (Coastal Saline Check)</b>			
4707	27826	RP 5683-876-4-7-2-1	Swarna / CST 7-1	SS
4708	27051 (R)	CR 2851-S-1-B-4-1-4-1-1	Gayatri / SR 26B	MS
4709	<b>CSR 10 (Early duration saline check)</b>			
4710	27838	RP Bio 4919 - BC3 -NSR1	KMR 3 / O.rufipogon	SB
4711	27836	MCM 122 (OYT 74)	Swarna / CSRCS 7 -1-4	LB
4712	<b>FL 478 (Saline Tolerant check)</b>			
4713	27847	<i>IIRRH-115 (Hybrid)</i>	-	MS
4714	27852	CR 2851-S-1-6-2B-4-1	Gayatri / SR 26B	MS
4715	<b>Pusa 44 (Sensitive Check)</b>			
<b>3<sup>rd</sup> Year of testing:</b>				
4716	27037	OR (CZ)-9-1	CST 7-1 Mutant	SB
4717	<b>Local Check</b>			

**Table No. 2.13: Grain Yield (Kg/ha) of entries in AVT 1 – CSTVT Costal Salinity Kharif 2020**

Entry No.	IET NO.	ZONE III					ZONE VI (1)		ZONE VII (1)		Overall (4)		
		OD (1)		WB (1)		Z3 (2)		GU (1)		AP (1)		Mean	
		CTK		CNG		Mean	DNT		MPM				
4701	27834	2248		3722		2985		2195	8	4165	6	3083	4
4702	27851			4038	7	4038	1 16%	993		3335		2789	
4703	27835	2542	2	3587		3065	10	1329		4265	5	2931	9
4704	27829	2286	8	3547		2917		2857	3	2702		2848	
4705	27833	2172		4485	3	3329	7	1069		3467	10	2798	
4706	Bhuthnath (Coastal Saline Check)	2249	10	4710	2	3480	4	2408	6	2387		2939	8
4707	27826	2353	5	4356	4	3355	6	2606	4	2773		3022	6
4708	27051 (R)	2622	1 5%	4104	6	3363	5	1196		4579	2	3125	3
4709	CSR 10 (Early duration saline check)	2493	3	3183		2838		1345		1601		2156	
4710	27838	2252	9	4142	5	3197	8	1710	9	4146	7	3063	5
4711	27836			3995	8	3995	2 15%	1443	10	3338		2925	10
4712	FL 478 (Saline Tolerant check)	2180		3618		2899		2347	7	3616	9	2940	7
4713	27847	2240		5111	1 9%	3676	3 6%	4468	1* 46%	4290	4	4027	1* 15%
4714	27852	2249	10	3128		2689		1327		4456	3	2790	
4715	Pusa 44 (Sensitive Check)	2328	7	2856		2592		1424		3719	8	2582	
4716	27037	2347	6	3780	10	3064		2521	5	3022		2918	
4717	Local Check (LC)	2357	4	3924	9	3141	9	3069	2	4605	1	3489	2
Exp. Mean		2327.89		3899.1		3379.88		2018.07		3556.83		3164.51	
CD		357.24		870.46		815.5		645.98		887.2		466.9	
CV%		9.18		15.70		16.97		19.25		17.54		10.38	
D/S		17-07-2020		10-07-2020				01-07-2020		10-07-2020			
D/P		27-08-2020		10-08-2020				30-07-2020		14-08-2020			
Local Check Name		Luna Suvarna		Canning 7				S		Panduranga (MCM 1			

**Table No.2.13 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – CSTVT Normal Kharif 2020**

Entry No.	IET NO.	ZONE III (1)		ZONE VII			Overall (1)		
		WB (1)				PUD (1)			
		CHN		@BRM	@KRK	Mean			
4701	27834	4625	3	64		2300		4625	3
4702	27851	3234		103	4	2266		3234	
4703	27835	3850		72	7.5	2642	8	3850	
4704	27829	3969		46		2672	7	3969	
4705	27833	5519	2 * 20%	119	3	2800	6	5519	2 * 20%
4706	Bhuthnath (Coastal Saline Check)	4456	7	69	9.5	2819	5	4456	7
4707	27826	3969		97	6	1523		3969	
4708	27051 (R)	5569	1 * 21%	125	2	3101	2	5569	1 * 21%
4709	CSR 10 (Early duration saline check)	3094		100	5	2911	3	3094	
4710	27838	4538	6	42		2271		4538	6
4711	27836	4188	10	60		2150		4188	10
4712	FL 478 (Saline Tolerant check)	4125		31		3706	1	4125	
4713	27847	4156		56		2536		4156	
4714	27852	4553	5	57		2526		4553	5
4715	Pusa 44 (Sensitive Check)	4616	4	69	9.5	2578	9	4616	4
4716	27037	4244	9	72	7.5	2571	10	4244	9
4717	Local Check (LC)	4359	8	147	1	2826	4	4359	8
<b>Exp. Mean</b>		<b>4298</b>		<b>78</b>		<b>2600</b>		<b>4298</b>	
CD		765.73		50.225		127.18		765.73	
CV%		12.53		30.3		2.94		12.53	
D/S		13-07-2020		14-07-2020		17-08-2020			
D/P		27-08-2020		13-08-2020		16-09-2020			
Local Check Name		Gosaba 5(IET-23403)		MO-4		TRY 2			

**Table No.2.14: Days to 50% flowering of entries in AVT 1 -CSTVT Costal Salinity, Kharif 2020**

Entry No.	IET NO.	ZONE III			ZONE VI (1)	ZONE VII (1)	Overall (4)
		OD (1)	WB (1)	Zone III (2)	GU (1)	AP (1)	
		CTK	CNG	Mean	DNT	MPM	
4701	27834	125	97	111	106	107	108
4702	27851		115	115	125	117	119
4703	27835	123	115	119	114	115	117
4704	27829	121	89	105	99	103	103
4705	27833	121	109	115	119	116	116
4706	Bhuthnath (Coastal Saline Check)	122	101	111	111	113	112
4707	27826	117	93	105	102	104	104
4708	27051 (R)	124	122	123	131	116	123
4709	CSR 10 (Early duration saline check)	110	84	97	97	93	96
4710	27838	124	96	110	110	106	109
4711	27836		107	107	119	115	114
4712	FL 478 (Saline Tolerant check)	121	94	107	107	108	107
4713	27847	117	93	105	100	104	104
4714	27852	126	115	120	121	115	119
4715	Pusa 44 (Sensitive Check)	120	96	108	110	108	109
4716	27037	125	106	115	113	112	114
4717	Local Check (LC)	120	89	104	91	112	103
<b>Exp. Mean</b>		<b>121</b>	<b>101</b>	<b>110</b>	<b>110</b>	<b>109</b>	<b>110</b>

**Table No 2.14 contd.: Days to 50% flowering of entries in AVT 1 CSTVT Normal, Kharif 2020**

Entry No.	IET NO.	ZONE III (1)	ZONE VII		Overall (1)
		WB (1)	KA	PUD (1)	Mean
		CHN	@BRM	@KRK	
4701	27834	114	109	92	114
4702	27851	123	108	92	123
4703	27835	130	86	89	130
4704	27829	102	105	88	102
4705	27833	116	107	93	116
4706	Bhuthnath (Coastal Saline Check)	115	102	90	115
4707	27826	105	102	86	105
4708	27051 (R)	122	110	92	122
4709	CSR 10 (Early duration saline check)	95	98	71	95
4710	27838	111	109	92	111
4711	27836	119	106	98	119
4712	FL 478 (Saline Tolerant check)	108	96	91	108
4713	27847	103	99	90	103
4714	27852	119	105	91	119
4715	Pusa 44 (Sensitive Check)	107	107	90	107
4716	27037	114	95	92	114
4717	Local Check (LC)	103	107	84	103
<b>Exp. Mean</b>		<b>112</b>	<b>103</b>	<b>89</b>	<b>112</b>

**Table No. 2.15: Plant height (cm) of entries in AVT 1 - CSTVT Coastal Salinity, Kharif 2020**

Entry No.	IET NO.	ZONE III			ZONE VI (1)	ZONE VII (1)	Overall (4)
		OD (1)	WB (1)	Zone III (2)	GU (1)	AP (1)	
		CTK	CNG	Mean	DNT	MPM	
4701	27834	81.56	101.58	91.57	113.10	101.45	99.42
4702	27851		100.25	100.25	109.50	116.80	108.85
4703	27835	76.89	92.58	84.74	91.70	95.85	89.26
4704	27829	79.78	87.50	83.64	94.70	96.40	89.59
4705	27833	82.11	113.33	97.72	106.50	114.88	104.20
4706	Bhuthnath (Coastal Saline Check)	75.22	110.75	92.99	111.00	98.55	98.88
4707	27826	75.78	96.92	86.35	103.70	89.70	91.52
4708	27051 (R)	96.78	94.25	95.51	103.30	117.58	102.98
4709	CSR 10 (Early duration saline check)	55.11	69.08	62.10	69.10	56.88	62.54
4710	27838	87.33	105.25	96.29	116.60	108.30	104.37
4711	27836		109.50	109.50	115.50	108.15	111.05
4712	FL 478 (Saline Tolerant check)	83.44	92.58	88.01	101.40	93.95	92.84
4713	27847	84.56	93.17	88.86	112.60	99.75	97.52
4714	27852	87.11	94.42	90.76	105.10	101.60	97.06
4715	Pusa 44 (Sensitive Check)	75.89	87.42	81.65	87.20	89.70	85.05
4716	27037	88.22	115.00	101.61	128.50	117.25	112.24
4717	Local Check (LC)	97.89	101.58	99.74	91.30	87.58	94.59
<b>Exp. Mean</b>		<b>81.84</b>	<b>97.95</b>	<b>91.25</b>	<b>103.58</b>	<b>99.67</b>	<b>96.59</b>

**Table No. 2.15 contd.: Plant height (cm) of entries of AVT 1 - CSTVT Normal, Kharif 2020**

Entry No.	IET NO.	ZONE III (1)		ZONE VII		Overall (1)
		WB (1)		KA	PUD (1)	
		CHN		@BRM	@KRK	Mean
4701	27834	116		44	131	116
4702	27851	120		37	142	120
4703	27835	99		41	138	99
4704	27829	102		47	128	102
4705	27833	127		51	145	127
4706	Bhuthnath (Coastal Saline Check)	121		76	106	121
4707	27826	106		54	132	106
4708	27051 (R)	114		60	129	114
4709	CSR 10 (Early duration saline check)	69		37	77	69
4710	27838	123		41	137	123
4711	27836	122		38	145	122
4712	FL 478 (Saline Tolerant check)	105		54	127	105
4713	27847	110		67	124	110
4714	27852	112		67	126	112
4715	Pusa 44 (Sensitive Check)	97		61	107	97
4716	27037	126		66	153	126
4717	Local Check (LC)	114		47		114
<b>Exp. Mean</b>		<b>111</b>		<b>52</b>	<b>128</b>	<b>111</b>

**Table No. 2.16: Panicles/m<sup>2</sup> of entries of AVT 1 - CSTVT Coastal Salinity, Kharif 2020**

Entry No.	IET NO.	ZONE III			ZONE VI (1)	ZONE VII (1)	Overall (4)
		OD (1)	WB (1)	Z3 (2)	GU (1)	AP (1)	
		CTK	CNG	Mean	DNT	MPM	Mean
4701	27834	142	328	235	351	144	241
4702	27851		332	332	360	161	284
4703	27835	172	342	257	282	103	225
4704	27829	159	274	216	351	103	222
4705	27833	176	362	269	327	150	254
4706	Bhuthnath (Coastal Saline Check)	183	347	265	357	118	251
4707	27826	170	293	232	315	138	229
4708	27051 (R)	194	352	273	324	134	251
4709	CSR 10 (Early duration saline check)	184	323	254	420	260	297
4710	27838	170	323	246	354	110	239
4711	27836		352	352	342	106	267
4712	FL 478 (Saline Tolerant check)	172	328	250	300	100	225
4713	27847	155	343	249	327	136	240
4714	27852	199	284	241	303	131	229
4715	Pusa 44 (Sensitive Check)	202	342	272	324	125	248
4716	27037	198	347	272	330	98	243
4717	Local Check (LC)	199	342	270	342	135	255
<b>Exp. Mean</b>		<b>178</b>	<b>330</b>	<b>264</b>	<b>336</b>	<b>132</b>	<b>247</b>

**Table No. 2.16 contd.: Panicles/m<sup>2</sup> of entries of AVT 1 CSTVT Normal, Kharif 2020**

Entry No.	IET NO.	ZONE III (1)		ZONE VII		Overall (1)
		WB (1)	KA	PUD (1)	Mean	
		CHN	@BRM	@KRK		
4701	27834	275	88	554	275	
4702	27851	330	113	518	330	
4703	27835	297	88	610	297	
4704	27829	286	75	467	286	
4705	27833	264	113	448	264	
4706	Bhuthnath (Coastal Saline Check)	308	82	498	308	
4707	27826	308	100	582	308	
4708	27051 (R)	319	113	584	319	
4709	CSR 10 (Early duration saline check)	286	108	757	286	
4710	27838	385	66	389	385	
4711	27836	341	71	454	341	
4712	FL 478 (Saline Tolerant check)	264	70	422	264	
4713	27847	319	79	463	319	
4714	27852	341	88	603	341	
4715	Pusa 44 (Sensitive Check)	308	98	454	308	
4716	27037	275	88	461	275	
4717	Local Check (LC)	308	110	501	308	
<b>Exp. Mean</b>		<b>307</b>	<b>91</b>	<b>516</b>	<b>307</b>	

**Table No.2.17: Grain quality characteristics of entries in AVT 1-CSTVT, kharif 2020**

Entry No.	IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
4701	27834	78.6	59.6	43.3	6.14	2.46	2.49	LB	VOC	4.0	24.30	55
4702	27851	74.6	61.8	41.7	5.20	1.94	2.68	MS	VOC	4.0	27.74	22
4703	27835	80.0	69.4	53.3	5.11	1.84	2.77	MS	VOC	7.0	23.87	22
4704	27829	74.8	62.4	32.2	6.14	2.23	2.75	LB	VOC	7.0	26.84	45
4705	27833	78.7	68.1	57.7	6.22	2.35	2.64	LB	VOC	5.0	27.69	43
4706	Bhuthnath	77.5	65.8	55.0	6.43	2.27	2.83	LB	VOC	4.0	26.04	22
4707	27826	77.3	63.8	47.2	5.40	1.70	3.17	SS	VOC	4.0	25.69	56
4708	27051	74.4	60.8	39.6	5.52	2.15	2.56	MS	VOC	4.0	26.57	42
4709	CSR-10	78.0	62.7	56.6	5.04	2.39	2.10	SB	OC	4.0	23.73	45
4710	27838	76.2	62.3	34.5	5.13	2.29	2.24	SB	VOC	4.0	27.16	61
4711	27836	79.5	70.2	63.2	6.31	2.43	2.59	LB	VOC	6.0	26.48	22
4712	FL-478	77.4	62.4	56.2	6.10	2.27	2.68	LB	VOC	4.0	24.11	41
4713	27847	79.4	68.7	60.9	5.34	2.02	2.64	MS	VOC	5.0	26.78	50
4714	27852	72.7	61.9	40.8	5.34	1.90	2.81	MS	VOC	5.0	27.51	47
4715	Pusa-44	74.3	61.0	55.3	5.32	1.87	2.84	MS	VOC	7.0	26.31	22
4716	27037	75.0	64.3	52.5	5.22	2.35	2.22	SB	VOC	7.0	26.01	30
4717	Local Check	77.7	61.2	22.7	5.20	2.25	2.31	SB	VOC	7.0	25.13	72

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB:Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

**Table No. 2.18: Composition of entries in Initial Variety Trial – Coastal Saline Tolerant Variety Trial (IVT- CSTVT), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>1<sup>st</sup> year of testing:</b>				
4801	28614	NVSR 6157	Jaya / IR 71829-3R-82-1-1	LB
4802	28613	CR 3884-244-8-5-6-2-1	Khandagiri / FL378	MS
4803	28612	RP 6332-123-6-5-2	Sugandha Samba / A69-1	MS
4804	28618	CSR 63	IR 4630-22-2-5-1-3 / IR 61920-3B-22-2-1	MS
4805	28625	MCM 126 (OYT 109)	MTU 1064 / Swarna Sub 1 / CSR 683-169-1	MS
4806	28609	CN 2018-1	Bhutnath / Kaushalya	LS
4807	28611	MCM 127 (OYT 116)	BPT 5204 / CSR 13	MS
4808	<b>Bhuthnath (Coastal Saline Check)</b>			
4809	28610	CR 2850-S-2B-12-1-2-5-1	Gayatri / FL496	SB
4810	28616	<i>IIRRH-139 (Hybrid)</i>	-	MS
4811	28621	CSRM1-27	Cheriviruppu / IR 10205-37-1-3	LB
4812	28623	NVSR 6156	Dandi / IR 50184-18-2B-1	MS
4813	28620	RP 6335-136-7-3-1	MTU 1010 / CSR 3005-2-30-5	MS
4814	28628	MCM 125 (OYT 106)	MTU 1042 / MTU 1061	MS
4815	<b>CSR 10 (Early duration saline check)</b>			
4816	28619	CR 3881-4-1-6-3-4-1	Naveen / FL496 / Naveen	MS
4817	28629	NVSR 6161	NAUR-1 / IR 72049- B- R- 22- 3-1-1	LS
4818	28627	CR 3439-10-M-3-B	Naveen / Chettivirippu	LB
4819	28626	CSR 62	A 69-1 / IR 73718-23-2-1-3	LS
4820	28630	CSR 2013-IR 42-22	A69-1 / IR 73718-23-2-1-4	LB
4821	29367	MCM 131 (MCM 136-5-1-1-1)	NLR 40024 / MTU 1121	MS
4822	29368	CSR YET 16	CSR 27 / CSR 36	MS
4823	29369	CR 4308-299-4-2-2	SR 27-8-1 / FL496	MS
4824	29370	CR 3466-4-2-L-10-M-1	IR64 / FL478 // IR-73931-40-1-2-3-2-22-1 / Pratiksha	SB
4825	<b>FL 478 (Saline Tolerant check)</b>			
4826	28622	CR 3884-244-8-5-6-1-1	Khandagiri / FL378	MS
4827	29371	CR 4261-252-2-1-1	Naveen / CSR 13	MS
4828	29372	RP Bio 4919-B-B-105	KMR3 / O. rufipogon	MS
4829	28617	CR 3884-244-8-7-4-1-3	Khandagiri / FL 378	MS
4830	29373	CSR YET 5	CSR 27 / CSR 36	LS
4831	29374	NVSR-6109	SLR-51214 / NVSR-26	LS
4832	28615	CR 3879-3-1-6-1-3-1	Naveen / FL 378	BS
4833	29375	CR 2851-S-1-S-2B-3-1	Gayatri / SR 26B	MS
4834	29376	RP 5716-123-41-5-2-1	RP Bio 226 / CST 7-1	MS
4835	29377	CR 2851-S-1-4-B-1	Gayatri / SR26B	MS
4836	<b>Pusa 44 (Sensitive Check)</b>			
4837	28624	CR 3881-M-3-1-5-1-1-1	Naveen / FL 496 / Naveen	SB
4838	29378	NVSR-6302	(CST-7-1 / IRGC 74613) / RP Bio-226	LS
4839	29379	CR 4306-297-1-1-1	SR 27-8-1 / Getu	LS
4840	29380	CR 2850-245-2-4-1	Gayatri / FL 496	SB
4841	29381	CR 4260-251-12-3-2	Naveen / CST 7-1	LS
4842	29382	MCM 132 (MCM 123-3-1-1-2)	BPT 2231 / Pokkali	MS
4843	29383	CR 2837-1-S-2B-2-B-37-B-5	Swarna / FL 378	LS
4844	29384	CR 4304-295-14-1-2	SR 27-8-1 / SR26 B	LS
4845	<b>Local Check</b>			

**Table No.2.19: Grain Yield (kg/ha) of entries in IVT - CSTVT Costal Salinity Kharif 2020**

Entry No.	IET NO.	ZONE III (1)		ZONE VI (1)		ZONE VII (1)		Overall (3)	
		OD (1)		GU (1)		AP (1)		Mean	
		CTK		DNT		MPM			
4801	28614	2927		1862		1939		2243	
4802	28613	2736		2182		2508		2475	
4803	28612	2937		1369		1744		2017	
4804	28618	2988	8	2781	9	201		1990	
4805	28625	2943		1481		1200		1875	
4806	28609	2938		2821	8	939		2233	
4807	28611	2819		1170		281		1423	
4808	Bhuthnath (Coastal Saline Check)	2823		2447		2244		2505	
4809	28610	3125	2	1435		1560		2040	
4810	28616	3047	5	1845		1147		2013	
4811	28621	2780		2585		2245		2537	
4812	28623	3228	1	2054		3978	9	3087	8
4813	28620	2796		2546		3593		2978	
4814	28628	2949		995		4154	3	2699	
4815	CSR 10 (Early duration saline check)			1804		4015	6	2910	
4816	28619	2828		3998	1	3444		3423	3
4817	28629	2550		1262		2646		2153	
4818	28627	2730		1666		2781		2392	
4819	28626	2914		1592		3712		2739	
4820	28630	2762		3319	5	3504		3195	5
4821	29367	2760		2183		4130	4	3024	10
4822	29368	2879		2549		3099		2842	
4823	29369	2954	10	3850	3	2863		3222	4
4824	29370	3076	4	1978		2574		2543	
4825	FL 478 (Saline Tolerant check)	2954	10.5	3938	2	1964		2952	
4826	28622	2952		2576		3980	8	3169	6
4827	29371	3021	7	3820	4	4425	1	3755	1
4828	29372	2686		1724		2129		2180	
4829	28617	2808		2478		3677		2988	
4830	29373	3086	3	1298		1780		2055	
4831	29374								
4832	28615	2638		2143		4097	5	2959	
4833	29375	2678		1302		3526		2502	
4834	29376	2730		2831	7	3577		3046	9
4835	29377	2889		2698	10	3728	10	3105	7
4836	Pusa 44 (Sensitive Check)	2725		2416		3001		2714	
4837	28624	2636		2204		3454		2765	
4838	29378								
4839	29379	2441		1667		3199		2436	
4840	29380	2975	9	1421		3584		2660	
4841	29381	2716		2245		2021		2327	
4842	29382	2624		1122		4208	2	2651	
4843	29383	2473		2000		2891		2455	
4844	29384	2850		2692		3447		2996	
4845	Local Check	3028	6	3280	6	3997	7	3435	2
<b>Exp. Mean</b>		<b>2842</b>		<b>2223</b>		<b>2864</b>		<b>2683</b>	
CD		474.66		837.81		911.4		803.95	
CV%		<b>8.26</b>		<b>18.66</b>		<b>19.59</b>		<b>18.45</b>	
D/S		07-03-2020				24-07-2020			
D/P		05-09-2020		18-08-2020		21-08-2020			
Local Check Name		Luna Suvarna		Dandi		Panduranga (MCM 100)			

Table No. 2.19 contd.: Grain Yield (kg/ha) of entries in IVT - CSTVT Normal Kharif 2020

Entry No.	IET NO.	ZONE VII	
		KA	PU
		@BRM	@KRK
4801	28614	33	1478
4802	28613		1811
4803	28612	130	2684
4804	28618	258	1168
4805	28625	58	1166
4806	28609	173	1589
4807	28611	125	2022
4808	Bhuthnath (Coastal Saline Check)	330	1789
4809	28610	283	2121
4810	28616	40	2161
4811	28621	515	1814
4812	28623	185	3614
4813	28620	198	1544
4814	28628	205	1860
4815	CSR 10 (Early duration saline check)	245	1188
4816	28619	158	1600
4817	28629	523	2832
4818	28627	203	2159
4819	28626	220	1378
4820	28630	518	2668
4821	29367	365	2679
4822	29368	150	1489
4823	29369	123	1960
4824	29370	180	1667
4825	FL 478 (Saline Tolerant check)		2106
4826	28622		1361
4827	29371	80	2677
4828	29372	438	1756
4829	28617	165	3341
4830	29373	110	1459
4831	29374	585	2172
4832	28615	183	1448
4833	29375	245	1456
4834	29376	215	
4835	29377	340	2983
4836	Pusa 44 (Sensitive Check)	173	2651
4837	28624	153	1894
4838	29378	308	1337
4839	29379	108	1511
4840	29380	255	2718
4841	29381	270	3199
4842	29382	365	1074
4843	29383	158	1389
4844	29384	190	
4845	Local Check	300	1508
<b>Exp. Mean</b>		<b>235</b>	<b>1965</b>
CD		109.56	429.23
CV%		23.13	13.45
D/S		29-07-2020	24-08-2020
D/P		02-09-2020	20-09-2020
<b>Local Check Name</b>		MO-4	TRY 2



**Table No. 2.20: Days to 50% flowering of entries in IVT - CSTVT Coastal Salinity Kharif 2020**

Entry No.	IET NO.	ZONE III (1)	ZONE VI (1)	ZONE VII (1)	Overall (3)
		OD (1)	GU (1)	AP (1)	
		CTK	DNT	MPM	Mean
4801	28614	120	97	105	107
4802	28613	124	89	102	105
4803	28612	110	112	108	110
4804	28618	108	90	103	100
4805	28625	110	105	118	111
4806	28609	116	103	113	110
4807	28611	113	115	119	115
4808	Bhuthnath (Coastal Saline Check)	119	104	107	110
4809	28610	117	118	114	116
4810	28616	107	97	100	101
4811	28621	112	97	88	99
4812	28623	106	94	91	97
4813	28620	114	100	104	106
4814	28628	114	118	120	117
4815	CSR 10 (Early duration saline check)		120	109	114
4816	28619	112	96	103	103
4817	28629	114	103	102	106
4818	28627	116	101	103	107
4819	28626	116	109	113	113
4820	28630	113	103	101	105
4821	29367	113	87	103	101
4822	29368	115	86	90	97
4823	29369	107	94	102	101
4824	29370	106	102	111	106
4825	FL 478 (Saline Tolerant check)	106	89	87	94
4826	28622	109	95	102	102
4827	29371	129	96	104	109
4828	29372	105	98	93	98
4829	28617	115	99	95	103
4830	29373	111	88	88	95
4831	29374				
4832	28615	108	96	100	101
4833	29375	104	121	103	109
4834	29376	114	103	105	107
4835	29377	114	111	109	111
4836	Pusa 44 (Sensitive Check)	116	97	106	106
4837	28624	106	88	88	94
4838	29378				
4839	29379	114	98	101	104
4840	29380	106	87	91	94
4841	29381	106	85	87	92
4842	29382	110	97	95	100
4843	29383	113	102	104	106
4844	29384	111	86	103	100
4845	Local Check	115	88	109	104
<b>Exp. Mean</b>		<b>112</b>	<b>99</b>	<b>102</b>	<b>104</b>

Table No.2.20 contd.: Days to 50% Flowering of entries in IVT - CSTVT Normal Kharif 2020

Entry No.	IET NO.	ZONE VII	
		KA (1)	PU (1)
		@BRM	@KRK
4801	28614	105	98
4802	28613	99	88
4803	28612	98	94
4804	28618	101	94
4805	28625	100	93
4806	28609	104	94
4807	28611	109	91
4808	Bhuthnath (Coastal Saline Check)	102	96
4809	28610	103	94
4810	28616	99	91
4811	28621	99	97
4812	28623	99	95
4813	28620	95	93
4814	28628	99	96
4815	CSR 10 (Early duration saline check)	105	93
4816	28619	105	92
4817	28629	106	91
4818	28627	106	91
4819	28626	102	99
4820	28630	105	92
4821	29367	110	94
4822	29368	109	97
4823	29369	94	95
4824	29370	95	96
4825	FL 478 (Saline Tolerant check)	99	98
4826	28622	99	89
4827	29371	98	98
4828	29372	103	96
4829	28617	105	96
4830	29373	106	84
4831	29374	108	85
4832	28615	100	84
4833	29375	111	87
4834	29376	103	
4835	29377	104	94
4836	Pusa 44 (Sensitive Check)	106	97
4837	28624	106	92
4838	29378	104	94
4839	29379	99	94
4840	29380	100	94
4841	29381	99	93
4842	29382	95	96
4843	29383	102	94
4844	29384	96	
4845	Local Check	106	90
<b>Exp. Mean</b>		<b>102</b>	<b>93</b>

**Table No. 2.21: Plant Height of entries in IVT - CSTVT Coastal Salinity Kharif 2020**

Entry No.	IET NO.	ZONE III (1)	ZONE VI (1)	ZONE VII (1)	Overall (3)
		OD (1)	GU (1)	AP (1)	
		CTK	DNT	MPM	Mean
4801	28614	84.50	113.30	105.00	100.93
4802	28613	83.67	114.90	105.77	101.44
4803	28612	90.00	115.80	90.10	98.63
4804	28618	83.00	90.40	70.17	81.19
4805	28625	75.67	108.90	96.40	93.66
4806	28609	83.50	95.20	87.80	88.83
4807	28611	88.67	104.60	85.13	92.80
4808	Bhuthnath (Coastal Saline Check)	89.83	108.10	98.67	98.87
4809	28610	74.00	111.20	93.90	93.03
4810	28616	75.17	89.50	91.33	85.33
4811	28621	87.83	86.40	81.87	85.37
4812	28623	90.83	107.50	103.27	100.53
4813	28620	90.33	107.60	105.80	101.24
4814	28628	83.83	110.00	107.30	100.38
4815	CSR 10 (Early duration saline check)		113.90	97.50	105.70
4816	28619	90.00	124.80	118.30	111.03
4817	28629	73.33	121.50	118.07	104.30
4818	28627	78.33	122.10	129.87	110.10
4819	28626	90.67	106.00	111.17	102.61
4820	28630	92.50	122.40	112.90	109.27
4821	29367	83.00	99.30	103.60	95.30
4822	29368	94.83	102.90	89.20	95.64
4823	29369	80.50	105.70	102.53	96.24
4824	29370	91.17	111.90	123.70	108.92
4825	FL 478 (Saline Tolerant check)	69.83	85.20	83.77	79.60
4826	28622	82.33	111.10	115.00	102.81
4827	29371	95.17	89.50	94.33	93.00
4828	29372	72.35	114.70	105.07	97.37
4829	28617	71.00	122.00	114.27	102.42
4830	29373	83.33	123.40	163.10	123.28
4831	29374				
4832	28615	89.33	119.70	117.13	108.72
4833	29375	82.67	110.00	109.53	100.73
4834	29376	79.67	86.10	107.17	90.98
4835	29377	80.50	92.40	93.67	88.86
4836	Pusa 44 (Sensitive Check)	90.00	92.10	79.47	87.19
4837	28624	91.67	114.00	108.87	104.84
4838	29378				
4839	29379	83.83	110.20	94.27	96.10
4840	29380	80.50	109.80	113.63	101.31
4841	29381	79.83	94.30	92.63	88.92
4842	29382	80.83	95.20	88.90	88.31
4843	29383	84.83	117.20	137.20	113.08
4844	29384	91.83	94.60	104.00	96.81
4845	Local Check	108.52	103.10	97.90	103.17
<b>Exp. Mean</b>		<b>84.60</b>	<b>106.48</b>	<b>103.47</b>	<b>98.35</b>

Table No. 2.21 contd.: Plant Height of entries in IVT - CSTVT Normal Kharif 2020

Entry No.	IET NO.	ZONE VII	
		KA (1)	PU (1)
		@BRM	@KRK
4801	28614	67.50	157.60
4802	28613	64.50	116.57
4803	28612	46.00	138.30
4804	28618	68.50	133.35
4805	28625	69.00	136.53
4806	28609	20.50	134.23
4807	28611	49.00	142.63
4808	Bhuthnath (Coastal Saline Check)	52.50	141.60
4809	28610	41.50	135.03
4810	28616	62.00	121.10
4811	28621	52.50	185.57
4812	28623	60.00	123.23
4813	28620	56.50	133.40
4814	28628	61.00	124.23
4815	CSR 10 (Early duration saline check)	67.00	115.70
4816	28619	61.00	133.20
4817	28629	61.50	137.13
4818	28627	66.50	117.83
4819	28626	63.50	117.23
4820	28630	64.00	157.07
4821	29367	64.50	129.43
4822	29368	68.00	126.23
4823	29369	35.00	120.60
4824	29370	67.50	141.27
4825	FL 478 (Saline Tolerant check)	72.00	120.03
4826	28622	79.50	109.27
4827	29371	63.50	163.57
4828	29372	60.00	144.47
4829	28617	56.50	133.00
4830	29373	74.50	125.70
4831	29374	67.00	137.63
4832	28615	65.50	120.97
4833	29375	71.50	116.83
4834	29376	32.50	
4835	29377	57.50	142.63
4836	Pusa 44 (Sensitive Check)	68.00	133.67
4837	28624	59.50	112.67
4838	29378	58.00	146.29
4839	29379	37.50	154.27
4840	29380	47.00	160.93
4841	29381	55.00	132.87
4842	29382	55.50	146.80
4843	29383	52.50	118.77
4844	29384	55.00	
4845	Local Check	61.50	127.33
<b>Exp. Mean</b>		<b>58.64</b>	<b>134.11</b>

**Table No. 2.22: Panicle/m<sup>2</sup> of entries in IVT - CSTVT Costal Salinity Kharif 2020**

Entry No.	IET NO.	ZONE III (1)	ZONE VI (1)		ZONE VII (1)	Overall (3)
		OD (1)	GU (1)	Z6 (1)	AP (1)	
		CTK	DNT	Mean	MPM	
4801	28614	197	351	351	150	232
4802	28613	185	387	387	166	246
4803	28612	179	356	356	96	210
4804	28618	203	374	374	38	205
4805	28625	140	324	324	74	179
4806	28609	139	275	275	37	150
4807	28611	167	333	333	29	176
4808	Bhuthnath (Coastal Saline Check)	154	302	302	83	179
4809	28610	188	315	315	92	198
4810	28616	163	441	441	137	247
4811	28621	178	396	396	277	284
4812	28623	200	374	374	334	302
4813	28620	179	338	338	215	244
4814	28628	186	324	324	240	250
4815	CSR 10 (Early duration saline check)		329	329	251	290
4816	28619	178	437	437	260	292
4817	28629	176	374	374	266	272
4818	28627	209	347	347	252	269
4819	28626	162	320	320	229	237
4820	28630	162	351	351	329	281
4821	29367	200	297	297	266	254
4822	29368	204	338	338	305	282
4823	29369	179	351	351	237	256
4824	29370	153	284	284	295	244
4825	FL 478 (Saline Tolerant check)	166	324	324	337	276
4826	28622	149	383	383	283	272
4827	29371	199	333	333	296	276
4828	29372	191	383	383	332	302
4829	28617	209	360	360	299	289
4830	29373	205	356	356	339	300
4831	29374					
4832	28615	190	450	450	333	324
4833	29375	172	293	293	338	267
4834	29376	193	315	315	342	283
4835	29377	180	383	383	280	281
4836	Pusa 44 (Sensitive Check)	191	351	351	281	274
4837	28624	207	383	383	330	306
4838	29378					
4839	29379	171	338	338	273	260
4840	29380	181	347	347	330	286
4841	29381	173	401	401	339	304
4842	29382	165	374	374	310	283
4843	29383	183	324	324	291	266
4844	29384	209	383	383	283	291
4845	Local Check	202	347	347	266	272
<b>Exp. Mean</b>		<b>181</b>	<b>352</b>	<b>352</b>	<b>245</b>	<b>260</b>

Table No. 2.22 contd.: Panicle/m<sup>2</sup> of entries in IVT - CSTVT Normal Kharif 2020

Entry No.	IET NO.	ZONE VII	
		KA (1)	PU (1)
		@BRM	@KRK
4801	28614	58	511
4802	28613	53	640
4803	28612	73	400
4804	28618	95	451
4805	28625	57	426
4806	28609	91	460
4807	28611	75	478
4808	Bhuthnath (Coastal Saline Check)	86	421
4809	28610	77	463
4810	28616	54	412
4811	28621	113	518
4812	28623	68	622
4813	28620	71	472
4814	28628	75	696
4815	CSR 10 (Early duration saline check)	79	370
4816	28619	64	429
4817	28629	120	499
4818	28627	77	437
4819	28626	69	442
4820	28630	103	414
4821	29367	106	411
4822	29368	62	493
4823	29369	65	519
4824	29370	69	578
4825	FL 478 (Saline Tolerant check)	70	497
4826	28622	74	350
4827	29371	84	496
4828	29372	107	434
4829	28617	86	583
4830	29373	58	557
4831	29374	133	423
4832	28615	77	482
4833	29375	87	430
4834	29376	80	
4835	29377	90	361
4836	Pusa 44 (Sensitive Check)	73	421
4837	28624	70	529
4838	29378	103	520
4839	29379	73	432
4840	29380	92	348
4841	29381	93	489
4842	29382	95	477
4843	29383	66	569
4844	29384	76	
4845	Local Check	88	487
<b>Exp. Mean</b>		<b>81</b>	<b>476</b>

**INITIAL VARIETY TRIAL - AROMATIC SHORT GRAIN (IVT-ASG)****Locations: 26 Test Entries: 11****Checks: Shobini-National; Badshabhog (Northern & Central), Table: 3.1  
CR Sugandh Dhan 907 (Eastern & North Eastern),  
Sugandha Samba (Western & Southern)-Zonal;  
Dubraj & Ketekejoha (Quality) and Local check**

The Initial Variety Trial – Aromatic Short Grain was constituted with 11 test entries and 5 checks viz., Shobini (NC), 3 Zonal checks: Badshah bhog (Northern and Central), CR Sugandh dhan 907 (Eastern & North Eastern), Sugandh Samba (Western & Southern), and 2 quality checks: Dubraj (QC), Ketikijoha (QC) and Local check. Out of 11 test entries two entries are in second year of testing and remaining nine entries are in first year of testing. The trial was conducted in six zones namely Zone 2 (Northern): UP, Zone 3 (Eastern): Odisha, Bihar, West Bengal and part of UP, Zone 4 (North eastern): Assam and Tripura, Zone 5 (Central): Madhya Pradesh and Chhattisgarh, Zone 6 (western): Maharashtra and Gujarat and Zone 7 (southern): Telangana, Kerala and Karnataka. The trial data was received from 14 locations covering 7 states and 4 zones across the country. Data not received from twelve locations viz., Nagina, Chinsurah, Pundibhari, Hathwara, Bankura, Varanasi, Gerua-ICAR, Arundhutinagar, Jabalpur, Ambhikarpur, Bilaspur and Mugad. Data from three locations namely viz., Masodha (low CV), Waraseoni (low CV and low mean yield) and Jagdalpur (high CV) as against the remarketed range of 5%-20% CV and mean yield below 2000kg/ha.

Overall mean yield ranged from 3167 kg/ha (IET 29388) to 4674 kg/ha (IET 29390); days to 50% flowering ranged from 87 days (IET 29390) to 101 days (IET 29392); plant height varied from 77.62 cm (IET 29388) to 107.05 cm (Ketkijoha) and number of panicles/m<sup>2</sup> ranged from 262 (IET 29390) to 329 (IET 29387). The data pertaining to yield, flowering, plant height, panicles/m<sup>2</sup> and quality were presented in tables 3.2, 3.3, 3.4, 3.5 and 3.6. Among the yield checks, Local check is the top yielder (4015 kg/ha) followed by National check (3965 kg/ha) and Zonal check (3717 Kg/ha), while the yields of quality checks i.e Dubraj (3509 kg/ha) and Ketekijoha (3486 kg/ha).

On overall mean basis of five entries namely IET's 29390, 28563, 29389, 28571 and 29385 recorded required yield superiority over best varietal check (local check) and are discussed below.

IET 29390 (R 1656-2151-1-412-1) derived from the cross Swarna / Jirashankar ranked first (4674 kg/ha) possessing 87 days flowering duration and short bold grains. It recorded 16 % yield gain over the best check (local check). It recorded 1<sup>st</sup> rank in Zone 3 and Zone 5 with yield superiority of 43 % and 90 % respectively over the best check. It stood first in Odisha and Chhattisgarh with respective yield advantage of 36 % and 90 % over the best checks, and with 6 % yield advantage compared to best check stands second in Bihar. Quality wise it recorded 62.9 HRR, intermediate amylose content (24.78 %), ASV (4.0), 48 mm GC and possessed no aroma. Hence it is not considered for promotion to second year of testing in AVT-1-(ASG) trial.

Second best entry is IET 28563 (R 1915-115-1-88-1) derived from the cross CN 1269-7-21 / Madhuri with medium slender grain type and 98 days to 50% flowering recorded 4434 kg/ha of mean grain yield. This entry recorded 10% yield advantage over the best check (Local). It ranked 1<sup>st</sup> in Zone VII with 23% yield advantage over best varietal check. It stood

first in Telangana and Maharashtra with 24% and 6 % of yield advantage over best varietal checks. The quality characteristics reported to be low HRR (53.1 %), ASV (4.0), intermediate AC (22.99 %) and GC (70 mm) and possess no aroma. Based on quality (low HRR 53.1 %) and other parameters, the entry do not qualify to be promoted to next year of testing.

#### Overall performance of promoting entries in IVT- ASG, Kharif 2020

Rank	IETNo/ Designation Cross combination	GY/ DFF/ GT	Yield adv. % over BC (Over all)	% yield increase over the best check				Remarks
				Zone		State		
				Rank	% BVC	Rank	% BVC	
1	IET 29390 R 1656-2151-1- 412-1 (Swarna / Jirashankar)	4674 87 SB	16%	III-1 V-1	43 90	OD-1 BI-2 CH-1	36 6 90	Aroma absent ( <b>D</b> )
2	IET 28563 R1915-115-1-88-1 (CN 1269-7-21 / Madhuri)	4434 98 MS	10%	VII-1	23	TE-1 MA-1	24 6	Low HRR:53.1% Aroma absent ( <b>D</b> )
3	IET 29389 NVSR -409 (IET 19347 / Pusa- 834)	4387 90 MS	9%	III-2 V-3	16 25	OD-3 CH-3	8 25	Low HRR:51.7% Aroma absent ( <b>D</b> )
4	IET 28571 Kudrat-5 (Improved Paddy variety)	4378 92 MS	9%	III-3	12	OD-4	7	Low HRR:50.3% Aroma absent ( <b>D</b> )
5	IET 29385 NVSR -408 (IET 19347 / Pusa Basmati-1)	4291 90 MS	7%	III-4	11	OD-2	9	Low HRR:51.4% Aroma absent ( <b>D</b> )
	National check (NC)	3965 96						
	Zonal Check (ZC)	3717 95						
	<b>Local Check (LC)</b>	<b>4015 95</b>						
	Dubraj (QC1)	3509 88						
	Ketkijoha (QC2)	3486 95						

\*(**D**)- Dropped

IET 29389 (NVSR-409) is the third best entry derived from the cross IET 19347 / Pusa-834 with medium slender grain type and 90 days to 50% flowering recorded 4387 kg/ha of mean grain yield. It recorded 9 % yield advantage over the best check (Local). It ranked 2<sup>nd</sup> in Zone III with 16 % yield advantage and 3<sup>rd</sup> in Zone V with 25 % over best varietal check in respective zones. It stood third in Odisha and Chhattisgarh with 8 % and 25 % of yield advantage over best varietal check respectively. The quality characteristics reported to be low HRR (51.7 %), ASV (4.0), intermediate AC (22.14 %) and GC (22 mm) and possess



no aroma. Based on absence of aroma the entry do not qualify to be promoted to next year of testing.

The fourth best entry in the trial is IET 28571[Kudrat-5 (Improved Paddy variety)] with 92 days to 50% of flowering and possessing medium slender grains. It exhibited yield advantage of 9 % over the best varietal check on overall basis and ranked 3<sup>rd</sup> in Zone III with 12% yield superiority over best check. It recorded low HRR (50.3%), intermediate amylose content (20.38%), GC (26mm) and ASV (4) and do not possess aroma. Based on unacceptable quality (low HRR 51.2% and no aroma) parameters, the entry does not qualify to be promoted to next year of testing.

IET 29385 (NVSR-408) stood fifth derived from IET 19347 / Pusa Basmathi-1 with 90 days to 50% of flowering and possessing medium slender grains. It has 7 % yield gain over the best check on over all mean basis. It ranked 4<sup>th</sup> in Zone III with 11 % yield advantage over best check. It stood second in Odisha and with 9 % and over best check. The quality traits reported to be low HRR (51.4 %), ASV (4.0), high AC (23.93 %) and GC (35 mm) and has no aroma. Based on unacceptable quality (low HRR 51.4 % and no aroma) parameters, the entry does not qualify to be promoted to next year of testing.

#### Zone wise performance of the promising entries in IVT- ASG, Kharif 2020

Rank	IET No/ Designation Cross combination	GY/ DFF/ GT	Yield adv. % over BC	Performance across the states		Remarks
				State Rank	% BVC	
<b>Promising entries in Zone - III (Eastern):</b>						
1	IET 29390 R 1656-2151-1-412-1 (Swarna / Jirashankar)	5282 84 SB	43	OD-1 BI-2	36 6	Aroma absent (D)
2	IET 29389 NVSR -409 (IET 19347 / Pusa-834)	4269 88 MS	16	OD-3	8	Low HRR:51.7% Aroma absent (D)
3	IET 28571 Kudrat-5 (Improved Paddy variety)	4121 87 MS	12	OD-4	7	Low HRR:50.3% Aroma absent (D)
4	IET 29385 NVSR -408 (IET 19347 / Pusa Bas-1)	4070 85 MS	11	OD-2	9	Low HRR:51.4% Aroma absent (D)
	National check (NC)	3682 92				
	Zonal Check (ZC)	3347 85				
	Local Check (LC)	3385 95				
	<b>Dubraj (QC1)</b>	<b>3684 85</b>				
	Ketkijoha (QC2)	2942 95				
<b>Promising entries in Zone - V (Central):</b>						
1	IET 29390 R 1656-2151-1-412-1 (Swarna / Jirashankar)	5617 88 SB	90	CH-1	90	Aroma absent (D)
2	IET 29386 Vishubhog Mutant -1	3764 102	27	CH-2	27	Aroma absent (D)

Rank	IET No/ Designation Cross combination	GY/ DFF/ GT	Yield adv. % over BC	Performance across the states		Remarks
				State Rank	% BVC	
	Mutant of Vishnubhog local landrace	SB				
3	IET 29389 NVSR -409 (IET 19347 / Pusa-834)	3694 91 MS	25	CH-3	25	Low HRR:51.7% Aroma absent (D)
	National check (NC)	2602 111				
	Zonal Check (ZC)	1374 112				
	<b>Local Check (LC)</b>	<b>2963</b> <b>106</b>				
	Dubraj (QC1)	1969 88				
	Ketkijoha (QC2)	2455 92				
<b>Promising entries in Zone - VII (Southern):</b>						
1	IET 28563 R 1915-115-1-88-1 (CN 1269-7-21 / Madhuri)	5950 105 MS	23	TE-1	24	Low HRR:53.1% Aroma absent (D)
2	IET 29392 OR 2594-5 (Swarna / Chinikamini)	5392 105 SB	12			Repeat
	<b>National check (NC)</b>	<b>4829</b> <b>99</b>				
	Zonal Check (ZC)	4812 101				
	Local Check (LC)	4420 99				
	Dubraj (QC1)	4534 97				
	Ketkijoha (QC2)	4529 97				

\*(D)- Dropped

### Zonal performance of promising entries

#### Zone 3 (Eastern):

In Zone III a total of 11 entries are evaluated. Among the entries IET 29390 recorded maximum grain yield of 5282 kg/ha (Days to 50% flowering 84) with an yield increment of 43 percent, followed by entry IET 29389 recorded grain yield of 4269 kg/ha (Days to 50% flowering 88) with yield improvement of 16%, the entry IET 28571 recorded grain yield of 4121 kg/ha (Days to 50% flowering 87) with a yield gain of 12% and the entry IET 29385 recorded grain yield of 4070 kg/ha (Days to 50% flowering 85) with yield improvement of 11% respectively over the best check QC (Dubraj) 3684 kg/ha.. None of the entries possess aroma, hence do not qualify for next level of testing.

In Zone V as only single location data is available for analysis, yield advantage of more than 15 % is required for advancing the entries to the next level. Based on the foresaid criteria three entries showed required yield superiority namely IETs, 29390, 29386 and 29389 over the best check. The entry IET 29390 obtained grain yield of 5617 contributing for 90% yield advantage with 88 days to fifty percent flowering. IET 29386 recorded grain yield of 3764 kg/ha (Days to 50% flowering 102) with an yield increment of 27 % and IET 29389 exhibited 25 % yield advantage with grain yield of 3694 kg/ha. As the entries with required yield advantage could not possess aroma, these entries are not promoted to next level of testing.

In Zone VI none of the entries exhibited required yield advantage over best check.

In Zone VII two entries showed adequate yield advantage over the best check (National check-4829 kg/ha). The entry IET 28563 has recorded grain yield of 5950 kg/ha (Days to 50% flowering 105) with an yield increment of 23 % and entry IET 29392 recorded grain yield of 5392 kg/ha (Days to 50% flowering 105) with yield improvement of 12 percent respectively over the best check NC. Hence the entries IET 28563 and IET 29392 are promoted for further evaluation in AVT-1. IET 28563 do not possess the aroma, hence not considered for further testing and IET 29392 quality data is awaited due to lack of seed material.

On the basis of required criteria for over and above yield superiority over the best check, and quality parameters, especially aroma none of the entries got promoted. Entry IET 29392 will be repeated in the next season as the quality analysis data is not available due to lack of seed material for quality analysis.

**Table No. 3.1: Composition of entries in Initial Variety Trial -Aromatic Short Grain (IVT-ASG), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>2<sup>nd</sup> year of testing:</b>				
4901	28563	R 1915-115-1-88-1	CN 1269-7-21 / Madhuri	MS
4902	28571	Kudrat-5 (Improved paddy variety)	-	MS
<b>1<sup>st</sup> year of testing:</b>				
4903	29385	NVSR-408	IET 19347 / Pusa Basmati-1	MS
4904	29386	Vishnubhog Mutant-1	Mutant of Vishnubhog local landrace	SB
4905	<b>Shobini (National Check)</b>			
4906	29387	OR 2594-1	Swarna / Chinikamini	SB
4907	29388	JRC 1	Chinnor / NPT 14	SS
4908	<b>Zonal Check (Badshabhog-Northern &amp; Central, CR Sugandh Dhan 907- Eastern &amp; North Eastern, Sugandh Samba- Western &amp; Southern)</b>			
4909	29389	NVSR-409	IET 19347 / Pusa-834	MS
4910	29390	R 1656-2151-1-412-1	Swarna / Jirashankar	SB
4911	<b>Dubraj (Quality Check)</b>			
4912	29391	BRR 2177	MTU 7029 / Taraori Basmati	SS
4913	29392	OR 2594-5	Swarna / Chinikamini	
4914	<b>Ketekijoha (Quality Check)</b>			
4915	29393	JR (SF) 21	HMT / NPT 14	SS
4916	<b>Local Check</b>			

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**Table No. 3.2: Grain Yield (kg/ha) of entries in IVT – ASG, Kharif 2020**

Entry No	IET No.	Zone III													
		OD					OD (3)		BI (1)		UP		Zonal III (4)		
		CTK		JYP		CHP		Mean		BKG		@MSD		Mean	
4901	28563	3822	4	1304		5639	5	3588	7	3319		2165	10	3521	7
4902	28571	4518	3*	1885		5856	4	4086	4 7%	4223	6	2325	5	4121	3* 12%
4903	29385	2590	8	3855	3*	6006	3	4150	2* 9%	3827	8	2430	2	4070	4* 11%
4904	29386	2270		2174	9	4672	7	3039	10	2731		2875	1	2962	
4905	Shobini (NC)	2989	7	2857	4	5611	6	3819	5	3272		2350	4	3682	6
4906	29387	4765	2*	2460	5	2566		3264	9	2614		2260	8	3101	
4907	29388	2388	9	1230		4489	8	2702		3025		2150		2783	
4908	Zonal Check (ZC)	2208		1942	10	4033		2728		5206	3	1850		3347	9
4909	29389	3233	6	2460	5	6628	1*	4107	3 8%	4753	4	1785		4269	2* 16%
4910	29390	4781	1*	4303	2*	6539	2	5208	1* 36%	5504	2 6%	1910		5282	1* 43%
4911	Dubraj (QC)	2374	10	5003	1*	3656		3678	6	3704	9	2110		3684	5
4912	29391	2150		1287		3600		2346		5962	1* 15%	2275	7	3250	10
4913	29392	2161		1403		4117	10	2560		2977		1935		2665	
4914	Ketekijoha (QC)	2229		1749		3289		2422		4501	5	2200	9	2942	
4915	29393	1590		2409	7	3556		2518		3889	7	2360	3	2861	
4916	Local Check (LC)	3566	5	2192	8	4222	9	3327	8	3560	10	2305	6	3385	8
<b>Exp. Mean</b>		<b>2977</b>		<b>2407</b>		<b>4655</b>		<b>3346</b>		<b>3942</b>		<b>2205</b>		<b>3495</b>	
CD		786.01		302.92		949.52		330.02		441.64		141.03		284.58	
CV%		<b>12.39</b>		<b>5.9</b>		<b>9.57</b>		<b>4.63</b>		<b>5.26</b>		<b>3</b>		<b>3.82</b>	
D/S		04-06-2020		11-08-2020		06-08-2020				07-08-2020		20-08-2020			
D/P		04-07-2020		03-09-2020		03-09-2020				02-09-2020					
Local Check Name		R Sugandh Dhan91		Kalajeera		Geetanjali				R Kasturi		Narenra Mahak			

**Table No. 3.2 contd.: Grain Yield (kg/ha) of entries in IVT – ASG, Kharif 2020**

Entry No	IET No.	Zone V									
		MP		CH				CH (1)		Zonal V (1)	
		@WRS		RPR		@JDP		Mean		Mean	
4901	28563	1137	9	2091	9	3451	1	2091	9	2091	9
4902	28571	1403	5	3276	5	2480		3276	5 11%	3276	5 11%
4903	29385	924		3317	4	2936	5	3317	4 12%	3317	4 12%
4904	29386	1110	10	3764	2*	2760		3764	2* 27%	3764	2* 27%
4905	Shobini (NC)	2301	1	2602	7	2995	4	2602	7	2602	7
4906	29387	891		794		2845	10	794		794	
4907	29388	1223	7	1230		2695		1230		1230	
4908	Zonal Check (ZC)	944		1374		2910	9	1374		1374	
4909	29389	1223	7	3694	3*	2448		3694	3* 25%	3694	3* 25%
4910	29390	1496	4	5617	1*	2793		5617	1* 90%	5617	1* 90%
4911	Dubraj (QC)	944		1969	10	2936	5	1969	10	1969	10
4912	29391	1064		1492		2663		1492		1492	
4913	29392	1975	2			3066	3				
4914	Ketekijoha (QC)	1569	3	2455	8	2930	7	2455	8	2455	8
4915	29393	1403	5	646		3405	2	646		646	
4916	Local Check (LC)	924		2963	6	2923	8	2963	6	2963	6
<b>Exp. Mean</b>		<b>1283</b>		<b>2486</b>		<b>2890</b>		<b>2486</b>		<b>2486</b>	
CD		57.62		536.92		1346		536.92		536.92	
CV%		<b>2.11</b>		<b>10.07</b>		<b>21.85</b>		<b>10.07</b>		<b>10.07</b>	
D/S		24-08-2020		05-08-2020		08-08-2020					
D/P		04-09-2020		20-08-2020		30-08-2020					
Local Check Name		Improved Chinnor		CG Devbhog		Vishubhog					

**Table No. 3.2 contd.: Grain Yield (kg/ha) of entries in IVT – ASG, Kharif 2020**

Entry No	IET No.	Zone VI										
		MA (1)			GU				GU (2)		Zonal VI (3)	
		KJT			NVS		NWG		Mean		Mean	
4901	28563	4958	1	6%	5620	1	4170	3	4895	2	4916	1
4902	28571	4250		4	5097	5	4077	4	4587	5	4475	4
4903	29385	3875		8	5198	3	4805	1	5002	1	4626	3
4904	29386	3542			3757		2783		3270		3361	
4905	Shobini (NC)	3375			4670	8	3755	6	4213	6	3933	6
4906	29387	3458			3873		967		2420		2766	
4907	29388	3958		6	5148	4	1835		3492	10	3647	10
4908	Zonal Check (ZC)	3708		9	4306	10	3679	7	3993	7	3898	7
4909	29389	3625			5303	2	4059	5	4681	4	4329	5
4910	29390	4458		3	4677	7	2502		3590	9	3879	8
4911	Dubraj (QC)	3058			3179		2055		2617		2764	
4912	29391	3667		10			3053	8	3053		3360	
4913	29392	3458			3870		2446		3158		3258	
4914	Ketekijoha (QC)	3917		7	3654		2970	9	3312		3514	
4915	29393	4000		5	4366	9	2860	10	3613	8	3742	9
4916	Local Check (LC)	4667		2	5047	6	4689	2	4868	3	4801	2
<b>Exp. Mean</b>		<b>3873</b>			<b>4518</b>		<b>3169</b>		<b>3798</b>		<b>3829</b>	
CD		794.9			1042.64		913.72		697.95		519.34	
CV%		<b>9.63</b>			<b>10.76</b>		<b>13.53</b>		<b>8.62</b>		<b>6.36</b>	
D/S		03-08-2020			01-08-2020		08-08-2020					
D/P		02-09-2020			20-08-2020		11-09-2020					
Local Check Name		Karjat -3			GAR-14		GAR-14					

**Table No. 3.2 contd.: Grain Yield (kg/ha) of entries in IVT – ASG, Kharif 2020**

Entry No	IET No.	Zone VII											Overall (11)			
		TE			TE (2)			KE (1)		Zonal VII (3)			Mean			
		RNR		KMP	Mean			PTB		Mean						
4901	28563	5629	1	7079	1*	6354	1*	24%	5143	7	5950	1*	23%	4434	2*	10%
4902	28571	5214	2	5368	7	5291		2	4399	10	4994		3	4378	4*	9%
4903	29385	4558	6	5000		4779		5	4173		4577		8	4291	5*	7%
4904	29386	2271		5895	3	4083			5220	4	4462			3553		10
4905	Shobini (NC)	4887	4	5368	7	5128		4	4232		4829		5	3965		7
4906	29387	4263	7	5132	9	4698		6	4202		4532		10	3190		
4907	29388	2553		5079	10	3816			3905		3846			3167		
4908	Zonal Check (ZC)	3662	10	5566	6	4614		8	5208	5	4812		6	3717		8
4909	29389	4193	8	4947		4570		10	5357	3	4832		4	4387	3*	9%
4910	29390	4920	3	4237		4579		9	3875		4344			4674	1*	16%
4911	Dubraj (QC)	3485		5789	4	4637		7	4327		4534		9	3509		
4912	29391	2890		6105	2	4498			5161	6	4719		7	3537		
4913	29392	4716	5	5711	5	5214		3	5750	1	5392	2*	12%	3661		9
4914	Ketekijoha (QC)	4163	9	4750		4457			4673	9	4529			3486		
4915	29393	2952		3513		3233			5071	8	3845			3168		
4916	Local Check (LC)	2502		5026		3764			5732	2	4420			4015		6
<b>Exp. Mean</b>		<b>3929</b>		<b>5285</b>		<b>4607</b>			<b>4777</b>		<b>4664</b>			<b>3821</b>		
CD		825.61		597.3		378.21			980.23		382.95			195.69		
CV%		<b>9.86</b>		<b>5.3</b>		<b>3.85</b>			<b>9.63</b>		<b>3.85</b>			<b>2.4</b>		
D/S		27-07-2020			24-08-2020			07-09-2020								
D/P		29-08-2020			22-09-2020			08-10-2020								
Local Check Name		RNR 15459			Chittimthyalu			Gandhakashala								

**Table No. 3.3: Days to 50% flowering of entries in IVT – ASG, Kharif 2020**

Entry No	IET No.	Zone III							Zone V				
		OD			OD (3)	BI (1)	UP	Zonal III (4)	MP	CH		CH (1)	Zonal V (1)
		CTK	JYP	CHP	Mean	BKG	@MSD	Mean	@WRS	RPR	@JDP	Mean	Mean
4901	28563	74	92	110	92	95	102	92	97	107	107	107	107
4902	28571	66	95	102	88	86	108	87	84	97	99	97	97
4903	29385	66	95	100	87	81	84	85	87	95	104	95	95
4904	29386	71	102	105	93	109	88	97	92	102	104	102	102
4905	Shobini (NC)	68	104	104	92	95	91	92	88	111	104	111	111
4906	29387	75	97	115	96	97	86	96	95	116	108	116	116
4907	29388	68	95	91	84	89	77	85	86	93	102	93	93
4908	Zonal Check (ZC)	66	102	91	86	83	102	85	87	112	92	112	112
4909	29389	66	109	92	89	85	104	88	86	91	103	91	91
4910	29390	67	97	93	86	80	102	84	72	88	90	88	88
4911	Dubraj (QC)	64	101	90	85	85	108	85	71	88	101	88	88
4912	29391	73	105	105	94	96	102	94	88	105	104	105	105
4913	29392	72	92	102	89	108	99	93	97	116	119	116	116
4914	Ketekijoha (QC)	66	109	91	89	113	93	95	72	92	99	92	92
4915	29393	66	97	89	84	85	108	84	83	115	95	115	115
4916	Local Check (LC)	76	118	101	98	87	103	95	114	106	108	106	106
<b>Exp. Mean</b>		<b>69</b>	<b>100</b>	<b>99</b>	<b>89</b>	<b>92</b>	<b>97</b>	<b>90</b>	<b>87</b>	<b>102</b>	<b>102</b>	<b>102</b>	<b>102</b>

**Table No. 3.3 contd.: Days to 50% flowering of entries in IVT – ASG Kharif 2020**

Entry No	IET No.	Zone VI					Zone VII					Ovearll (11)
		MA (1)		GU	GU (2)	Zonal VI (3)	TE		TE (2)	KE (1)	Zonal VII (3)	Mean
		KJT	NVS	NWG	Mean	RNR	KMP	Mean	PTB	Mean		
4901	28563	102	87	101	94	96	115	101	108	99	105	98
4902	28571	91	82	95	88	89	105	95	100	97	99	92
4903	29385	89	79	100	89	89	101	92	96	99	97	90
4904	29386	103	88	95	91	95	109	98	103	98	102	98
4905	Shobini (NC)	101	87	95	91	94	102	97	99	99	99	96
4906	29387	93	88	103	95	94	116	.	116	99	107	100
4907	29388	88	83	91	87	87	93	96	94	99	96	89
4908	Zonal Check (ZC)	101	85	102	93	96	105	99	102	99	101	95
4909	29389	86	72	102	87	86	98	98	98	98	98	90
4910	29390	89	77	87	82	84	93	95	94	98	95	87
4911	Dubraj (QC)	89	78	88	83	85	95	97	96	99	97	88
4912	29391	90		99	99	94	99	101	100	98	99	97
4913	29392	119	88	99	93	102	121	98	109	98	105	101
4914	Ketekijoha (QC)	105	87	90	88	94	96	98	97	98	97	95
4915	29393	89	78	89	84	85	99	99	99	99	99	91
4916	Local Check (LC)	90	79	93	86	87	100	99	100	98	99	95
<b>Exp. Mean</b>		<b>95</b>	<b>82</b>	<b>95</b>	<b>89</b>	<b>91</b>	<b>103</b>	<b>97</b>	<b>101</b>	<b>98</b>	<b>100</b>	<b>94</b>

**Table No. 3.4: Plant Height (cm) of entries in IVT – ASG Kharif 2020**

Entry No	IET No.	Zone III							Zone V				
		OD			OD (3)	BI (1)	UP	Zonal III (4)	MP	CH		CH (1)	Zonal V (1)
		CTK	JYP	CHP	Mean	BKG	@MSD	Mean	@WRS	RPR	@JDP	Mean	Mean
4901	28563	92.30	67.10	96.77	85.39	78.00	75.00	83.54	72.90	88.01	67.40	88.01	88.01
4902	28571	107.00	93.30	88.81	96.37	90.33	79.00	94.86	105.20	87.32	80.40	87.32	87.32
4903	29385	88.60	94.00	88.17	90.26	89.33	103.00	90.03	95.10	83.85	72.50	83.85	83.85
4904	29386	82.40	85.30	87.13	84.94	76.33	105.00	82.79	92.10	68.26	63.30	68.26	68.26
4905	Shobini (NC)	84.70	87.50	110.38	94.19	75.00	111.00	89.39	98.20	78.80	78.10	78.80	78.80
4906	29387	99.20	95.40	77.57	90.72	89.67	98.00	90.46	91.80	97.54	73.80	97.54	97.54
4907	29388	60.30	83.30	91.89	78.50	73.00	87.00	77.12	79.50	65.34	70.80	65.34	65.34
4908	Zonal Check (ZC)	82.50	86.70	75.06	81.42	77.00	89.00	80.31	77.10	67.58	68.80	67.58	67.58
4909	29389	85.70	64.20	94.39	81.43	85.33	102.00	82.41	93.90	85.64	69.10	85.64	85.64
4910	29390	118.40	87.60	87.81	97.94	112.67	119.00	101.62	105.90	112.33	69.30	112.33	112.33
4911	Dubraj (QC)	78.40	86.80	82.24	82.48	111.67	108.00	89.78	108.50	109.43	74.20	109.43	109.43
4912	29391	71.60	94.00	82.50	82.70	87.67	105.00	83.94	91.50	87.90	78.10	87.90	87.90
4913	29392	108.40	75.90	88.44	90.91	107.00	103.00	94.94	101.90	118.59	70.50	118.59	118.59
4914	Ketekijoha (QC)	112.00	84.80	85.59	94.13	118.00	98.00	100.10	92.10	116.16	84.20	116.16	116.16
4915	29393	69.90	85.40	94.32	83.21	95.00	92.00	86.16	102.40	66.29	73.40	66.29	66.29
4916	Local Check (LC)	82.20	95.70	97.13	91.68	94.33	89.00	92.34	159.60	67.60	68.30	67.60	67.60
<b>Exp. Mean</b>		<b>88.98</b>	<b>85.44</b>	<b>89.26</b>	<b>87.89</b>	<b>91.27</b>	<b>97.69</b>	<b>88.74</b>	<b>97.98</b>	<b>87.54</b>	<b>72.64</b>	<b>87.54</b>	<b>87.54</b>

**Table No. 3.4 contd.: Plant Height (cm) of entries in IVT – ASG, Kharif 2020**

Entry No	IET No.	Zone VI					Zone VII					Ovearll (11)
		MA (1)	GU		GU (2)	Zonal VI (3)	TE		TE (2)	KE (1)	Zonal VII (3)	Mean
		KJT	NVS	NWG	Mean	Mean	RNR	KMP	Mean	PTB	Mean	
4901	28563	94.10	118.00	78.70	98.35	96.93	80.00	97.33	88.67	88.04	88.46	88.94
4902	28571	88.20	115.80	90.20	103.00	98.07	89.70	102.00	95.85	90.96	94.22	94.88
4903	29385	92.00	92.50	83.60	88.05	89.37	79.50	97.67	88.58	101.20	92.79	90.04
4904	29386	83.50	77.30	76.60	76.95	79.13	71.50	87.67	79.58	95.00	84.72	81.00
4905	Shobini (NC)	82.60	89.40	82.10	85.75	84.70	76.90	95.33	86.12	90.76	87.66	86.68
4906	29387	88.50	99.40	92.60	96.00	93.50	97.10	115.00	106.05	90.46	100.85	94.77
4907	29388	76.00	91.70	65.30	78.50	77.67	72.90	79.00	75.95	95.10	82.33	77.62
4908	Zonal Check (ZC)	86.00	90.30	70.60	80.45	82.30	69.40	84.67	77.03	93.61	82.56	80.31
4909	29389	87.50	95.30	68.40	81.85	83.73	74.50	110.33	92.42	89.62	91.48	85.54
4910	29390	112.20	126.10	96.40	111.25	111.57	96.60	118.00	107.30	95.28	103.29	105.76
4911	Dubraj (QC)	113.60	124.20	107.80	116.00	115.20	91.60	111.00	101.30	95.30	99.30	101.09
4912	29391	87.20		81.00	81.00	84.10	82.10	99.67	90.88	97.68	93.15	87.13
4913	29392	108.80	75.32	92.60	83.96	92.24	83.90	112.67	98.28	88.88	95.15	96.41
4914	Ketekijoha (QC)	104.70	129.70	112.90	121.30	115.77	97.00	117.33	107.17	99.35	104.56	107.05
4915	29393	80.00	110.10	67.10	88.60	85.73	71.10	92.00	81.55	94.67	85.92	84.17
4916	Local Check (LC)	85.50	96.90	87.00	91.95	89.80	81.30	86.33	83.82	94.19	87.27	88.02
	<b>Exp. Mean</b>	<b>91.90</b>	<b>102.13</b>	<b>84.56</b>	<b>92.69</b>	<b>92.49</b>	<b>82.19</b>	<b>100.38</b>	<b>91.28</b>	<b>93.76</b>	<b>92.11</b>	<b>90.59</b>

**Table No.3.5: Panicles/M<sup>2</sup> of entries in IVT – ASG, Kharif 2020**

Entry No	IET No.	Zone III							Zone V				
		OD			OD (3)	BI (1)	UP	Zonal III (4)	MP	CH		CH (1)	Zonal V (1)
		CTK	JYP	CHP	Mean	BKG	@MSD	Mean	@WRS	RPR	@JDP	Mean	Mean
4901	28563	293	225	200	239	242	226	240	398	181	189	181	181
4902	28571	287	263	211	253	226	227	246	332	147	219	147	147
4903	29385	264	243	232	246	248	232	247	312	140	208	140	140
4904	29386	320	300	234	285	237	229	273	472	148	122	148	148
4905	Shobini (NC)	290	336	281	302	237	221	286	295	159	186	159	159
4906	29387	323	306	211	280	226	206	266	315	125	162	125	125
4907	29388	234	233	255	241	220	212	235	438	175	215	175	175
4908	Zonal Check (ZC)	294	300	240	278	244	215	269	325	117	153	117	117
4909	29389	271	210	226	235	223	217	232	297	163	119	163	163
4910	29390	320	203	220	248	237	240	245	290	148	115	148	148
4911	Dubraj (QC)	234	313	261	269	237	255	261	298	77	159	77	77
4912	29391	251	236	227	238	258	219	243	291	183	164	183	183
4913	29392	317	223	193	244	248	260	245	258		177		
4914	Ketekijoha (QC)	304	246	255	268	270	225	269	285	179	161	179	179
4915	29393	267	223	201	230	226	230	229	376	114	213	114	114
4916	Local Check (LC)	287	213	252	251	220	245	243	228	187	139	187	187
	<b>Exp. Mean</b>	<b>285</b>	<b>255</b>	<b>231</b>	<b>257</b>	<b>237</b>	<b>229</b>	<b>252</b>	<b>325</b>	<b>149</b>	<b>169</b>	<b>149</b>	<b>149</b>

**Table No. 3.5 contd.: Panicles/M<sup>2</sup> of entries in IVT – ASG, Kharif 2020**

Entry No	IET No.	Zone VI					Zone VII					Overall (11) Mean
		MA (1)	GU		GU (2)	Zonal VI (3)	TE		TE (2)	KE (1)	Zonal VII (3)	
		KJT	NVS	NWG	Mean	Mean	RNR	KMP	Mean	PTB	Mean	
4901	28563	261	242	282	262	261	462	538	500	310	437	294
4902	28571	259	151	328	239	246	502	374	438	419	432	288
4903	29385	251	225	333	279	270	458	495	477	334	429	293
4904	29386	219	219	269	244	236	516	648	582	445	536	323
4905	Shobini (NC)	241	240	275	258	252	516	445	480	459	473	316
4906	29387	257	233	207	220	232	569	734	651	424	576	329
4907	29388	282	249	263	256	265	533	622	578	325	494	308
4908	Zonal Check (ZC)	277	240	274	257	264	502	549	526	351	467	308
4909	29389	221	240	280	260	247	467	306	386	315	363	265
4910	29390	294	234	269	252	266	431	180	306	352	321	262
4911	Dubraj (QC)	297	219	264	242	260	538	238	388	376	384	277
4912	29391	228		273	273	250	484	232	358	415	377	279
4913	29392	201	249	269	259	240	453	284	369	482	406	292
4914	Ketekijoha (QC)	266	237	264	250	255	462	451	457	409	441	304
4915	29393	221	225	264	245	237	458	524	491	355	445	280
4916	Local Check (LC)	201	237	279	258	239	569	344	456	371	428	287
	<b>Exp. Mean</b>	<b>249</b>	<b>229</b>	<b>274</b>	<b>253</b>	<b>251</b>	<b>495</b>	<b>435</b>	<b>465</b>	<b>384</b>	<b>438</b>	<b>294</b>

**Table No. 3.6: Grain quality characteristics of entries in IVT-ASG, kharif 2020**

Entry No.	IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	VER	WU	KLAC	ER	ASV	AC	GC	Aroma
4901	28563	77.8	68.1	53.1	5.55	2.11	2.63	MS	VOC	5.5	250	9.4	1.69	4.0	22.99	70	NS
4902	28571	76.2	65.7	50.3	5.28	1.98	2.66	MS	A	5.5	265	8.5	1.60	4.0	20.38	26	NS
4903	29385	76.3	65.8	51.4	5.36	1.85	2.89	MS	VOC	5.5	237	9.0	1.67	4.0	23.93	35	NS
4904	29386	75.9	69.5	67.5	4.02	2.15	1.86	SB	A	4.6	195	7.3	1.81	7.0	20.35	22	NS
4905	Shobini (NC)	76.8	65.7	57.3	5.29	1.67	3.16	SS	A	5.3	285	9.8	1.85	4.0	24.66	24	SS
4906	29387	79.6	71.8	68.5	3.70	2.22	1.66	SB	VOC	4.0	225	7.4	2.00	5.0	20.65	27	MS
4907	29388	74.7	64.9	60.7	4.99	1.52	3.28	SS	A	4.7	230	7.8	1.56	4.0	21.12	22	NS
4908	Zonal Check	76.0	68.8	58.2	4.58	1.82	2.51	MS	A	4.3	250	9.2	2.00	7.0	23.20	22	SS
4909	29389	76.6	66.9	51.7	5.61	1.90	2.95	MS	A	5.5	250	10.0	1.78	4.0	22.14	22	NS
4910	29390	77.2	66.2	62.9	3.97	2.52	1.57	SB	VOC	4.7	230	6.4	2.11	4.0	24.78	48	NS
4911	Dubraj	76.4	65.4	56.0	5.36	1.74	3.08	SS	A	4.1	225	10.2	1.90	4.0	26.34	47	SS
4912	29391	75.6	64.9	40.4	5.40	1.64	3.29	SS	A	4.6	290	10.2	1.88	7.0	24.25	22	SS
4913	29392																
4914	Ketekejooha	78.3	68.3	57.3	5.51	1.84	3.03	SS	A	5.6	285	10.5	1.90	7.0	24.81	46	SS
4915	29393	73.4	62.6	34.6	4.73	1.53	3.09	SS	A	4.4	250	9.6	2.02	4.0	18.50	22	NS
4916	Local Check	79.2	69.4	52.4	5.34	1.80	2.96	MS	A	5.0	255	9.8	1.83	4.0	23.90	39	MS

**HULL:** Hulling (%); **Milling (%)**: Milling (%); **HRR:** Head Rice Recovery (%); **KL:** Kernel Length(mm); **KB:** Kernel Breadth(mm); **L/B:** Length and breadth ratio; **Grain Chalk:** Grain Chalkiness; **VOC:** Very occasionally present; **A:** Absent; **KLAC:** Kernel Length after cooking; **WU:** Water uptake; **VER:** Volume expansion ratio; **ER:** Elongation ratio; **ASV:** Alkali Spreading Value; **AC:** Amylose Content (%); **GC:** Gel Consistency; **LB Long Bold;** **SB:** Short Bold; **LS:** Long Slender; **MS:** Medium Slender; **SS:** Short Slender.



## VARIETY TRIALS-HILLS

The variety trials under hill ecology were conducted in different elevations to identify high yielding cultures with cold, drought tolerance and resistance to pests and diseases under irrigated as well as rainfed uplands. The early and medium duration trials were evaluated under irrigated transplanted conditions whereas the upland trials were conducted at direct seeded rainfed situation. The trials were evaluated under low hills ( $\leq 950$  msl), medium hills (951 to 1500 msl) and high hills ( $\geq 1501$  msl). The trial was sent for evaluation under low elevation hills at Malan, Sundernagar, ICAR-Barapani (Umiam), CAU-Umiam, Lamphalpet, Wangbal, CAU-Imphal, Daulakhan, Sirsi and Ponnampet. However, at ICAR-Barapani the trial was conducted at high elevation instead of low elevation; Medium elevation hills-Rajouri, Bajaura, Palampur, Almora, Bageshwar, Gangtok and Kalimpong; High elevations hills- Khudwani, Wadura, Pombay and Upper Shillong.

A total of 7 trials namely, IVT-E(H), AVT1-E(H), IVT-M(H), AVT1-M(H), AVT 1-U (H), IVT-U(H) and IVT-LR (H), were conducted with 25,13, 22,13,17,12 and 19 entries respectively thus making a total of 121 entries. Each trial was evaluated at low, medium and high hills: IVT-E (H) and AVT-1E (H) at 12 locations (5 low, 5 medium, 2 high), IVT M (H) and AVT 1-M (H) at 18 locations (11 low, 3 medium, 4 high), IVT-U(H) and AVT 1-U(H) at 14 locations (7 low, 5 medium, 2 high), IVT- LR (H) at 3 locations (2 low, and 1 medium). The trials were sent to 21 locations to conduct 83 experiments. The data of 46 experiments received from 13 locations indicating 55.4% (Funded 68.1%, Voluntary 50.8%).

### List of centres and elevations

<b>I.Low Elevation:</b>	
<b>Northern Hills:</b>	
Malan	950 msl
CAU, Barapani	940 msl
Lamphelpat-ICAR	786 msl
CAU, Imphal	808 msl
Daulakhan	350 msl
Wangbal	781 msl
Sundernagar	870 msl
<b>Southern Hills:</b>	
Sirsi	697 msl
Ponnampet	867 msl
<b>II. Medium Elevation:</b>	
<b>Northern Hills:</b>	
Rajouri	960 msl
Bajaura	1080 msl
Almora-ICAR	1250 msl
Palampur	1267msl
Bageshwar	1320 msl
Kalimpong	1097 msl
Gangtok	1322 msl
<b>III. High Elevation:</b>	
Wadura	1590 msl
Khudwani	1560 msl
ICAR- Barapani	1735 msl (Upper Shillong)
Upper Shillong	1735 msl (Upper Shillong)
Pombay	1990 msl

**ADVANCE VARIETY TRIAL 1-EARLY HILLS (AVT 1-E H)**

**Locations:** 7 **Test Entries:** 10  
**Checks:** Vivekdhan 86 (NC), Shalimar Rice 3 (ZC) and Local Check (LC) **Table:**4.1

Advance Varietal Trial 1- Early Hills (AVT 1- E H) consisted of ten test entries and three check entries, Vivekdhan 86 as National check, Shalimar rice 3 as Zonal check and a local check. Out of ten test entries, three (IETs 27468, 27471 and 27472) were in third year of testing, while seven (IETs 28193, 28200, 28205, 28206, 28196, 28192 and 28202) were in second year of testing. The trial was sent to 12 locations and data was received from seven locations (Almora-ICAR, Khudwani, Malan, Palampur, Sundernagar, Bajura and Ponnampet). The data from five locations (Upper Shillong, Pombay-Khudwani, Wadura-Khudwani, Rajouri and Dhaulakuan) was not received. Out of seven locations, six locations taken up sowing during June and transplanting during July while at Ponnampet, the crop was sown during August and transplanted during September. The data from Malan and Bajura was not included in the analysis as the average experimental mean was less than the minimum yield prescribed (2500kg/ha).

Overall mean yield among the entries ranged from 3177 kg/ha (IET 28205) to 4434 kg/ha (Local check). The experimental mean across test locations varied from 1590 kg/ha (Bajura) to 4627 kg/ha (Khudwani). CV% varied from 5.75 (Khudwani) to 18.44 (Palampur). Days to 50% flowering varied from 77 days (IET 28192) to 101 days (IET 28196); plant height ranged from 78.76 cm (IET 27468) to 114.86 cm (IET 28193) and the number of panicles per square meter ranged from 227.67 (IET 28196) to 304.04 (IET 28192). Among the check entries, Local check is the best check on overall basis (4434 kg/ha), at low elevation- Northern (4999 kg/ha) and southern (3586 kg/ha). At medium elevation- Northern, National check Vivekdhan 86 (3614 kg/ha) recorded highest grain yield among checks, while Zonal check- Shalimar Rice 3 is the best check (7233 kg/ha) under high elevation.

The data on yield performance, flowering, plant height, panicles per square meter and quality are presented in 4.2, 4.3, 4.4, 4.5 and 4.6. Altitude wise performance of entries is discussed below:

**Low Altitude-Northern Hills**

AVT 1-E (H) at low altitude Northern hill trial data was received from two centres namely Malan and Sundernagar. The data from Malan was not considered for analysis due low experimental yield and data from only one location i.e. Sundernagar was considered. The mean yield of the test entries ranged from 3367 kg/ha (Shalimar Rice 3, ZC) to 5859 kg/ha (IET 28206) compared to Local Check (4999 kg/ha), National Check (3570 kg/ha) and Zonal check (3367 kg/ha). Days to 50% flowering varied from 70 days (IET 28192) to 97 days (IET 28196) compared to National Check (83), Zonal check (74) and LC (83). Similarly, plant height also exhibited a range from 95.6 cm (IET 27468) to 139.55 cm (IET 28193). The panicles/m<sup>2</sup> ranged from 222 (IET 28200) to 372.33 (Local check). Among the test entries, IET 28206 ranked first (5859 kg/ha) and is the only entry which surpassed the yield of best check, LC (4999 kg/ha) by 17%. **Hence, IET 28206 with required yield superiority was found eligible for promotion to AVT2 E (H) under Low Altitude-Northern Hills.**

### **Low Altitude - Southern Hills**

Under low altitude- southern hills, the trial was conducted only at one location namely Ponnampet. The mean yield of the test entries ranged from 1597 kg/ha (IET 28192) to 4366 kg/ha (IET 28196) compared to Local Check (3586 kg/ha), National Check (2917 kg/ha) and Zonal check (2829 kg/ha). Days to 50% flowering varied from 81 days (IET 28192) to 108 days (Local check) compared to National Check (86), Zonal check (96). Similarly, plant height exhibited a range from 63.75 cm (IET 27468) to 97.13 cm (IET 28193). The panicles/m<sup>2</sup> ranged from 236.5 (IET 28200) to 374 (IET 27471). Among the test entries, IET 28196 ranked first (4366 kg/ha) and is the only entry which recorded required yield advantage over best check i.e. local check (3586 kg/ha). It recorded 22% yield advantage over best check (Local check). **Hence, IET 28196 with required yield superiority over best check was found eligible for promotion to AVT2 E (H) under Low Altitude-Southern Hills.**

### **Medium Altitude – Northern Hills**

Medium Altitude - Northern hills, trial data was received from three centers viz., Almora-ICAR, Palampur and Bajura. The data from Bajura was not considered for analysis due to low experimental mean. The mean yield of the test entries ranged from 1624 kg/ha (IET 28205) to 4372 kg/ha (IET 27468) compared to National Check (3614 kg/ha), Local Check (3332 kg/ha) and Zonal check (2035 kg/ha). Days to 50% flowering varied from 76 days (IET 28192) to 110 days (IET 28196) compared to National Check (87), Zonal check (78) and Zonal check (80). Similarly, plant height exhibited a range from 79.53 cm (IET 27468) to 116.61 cm (National check). The panicles/m<sup>2</sup> ranged from 254.67 (Zonal check, Shalimar Rice 3) to 292 (IET 27471). Among the test entries, four entries IETs 27468 (21%), 28200 (19%), 28196 (9%) and 27472 (9%) recorded required yield advantage of 5% over best check, National check (3614 kg/ha). **Hence, IETs 28200 and 28196 with required yield superiority over best check were found eligible for promotion to AVT2 E (H) under Medium Altitude-Northern Hills. The entries IET 27468 and IET 27472 were in third year of testing and their performance is discussed separately.**

### **High Altitude Hills**

High Altitude Hills trial data was received from only one location namely Khudwani. The mean yield of the test entries ranged from 2221 kg/ha (Vivekdhan 86, NC) to 7841kg/ha (IET 28192) compared to Zonal Check (7233 kg/ha) and LC (6920 kg/ha). Days to 50% flowering varied from 80 days (IET 28205 and IET 28192) to 104 days (IET 28202) compared to National Check (101), Zonal check (84) and LC (87). Similarly, plant height exhibited a range from 66.6 cm (IET 28202) to 126.6 cm (NC, Shalimar Rice 3). The panicles/m<sup>2</sup> ranged from 181.33 (IET 28196) to 427.67 (IET 28192). None of the entries showed 10% yield advantage over the best check i.e. Shalimar Rice 3. **Hence, none of the entries got promoted in high altitude Hills.**

**Performance of the entries in AVT 1-E H, Kharif 2020**

Rank	IET No. Designation/ Cross Combination	Grain Yield (Kg/ha) Days to 50% Flowering Grain Type	% Yield superiority over best check	Quality data HRR (%)/AC (%)/ GC (mm)/ASV
<b>Northern Low Elevation</b>				
<b>1</b>	<b>IET 28206</b> HPR 3106 HPR 2336 / AC 19146 // HPR 2143	5859 84 LS	17	
	Vivekdhan 86 (NC)	3570 83		
	Shalimar rice 3 (ZC)	3367 74		
	<b>Local check</b>	<b>4999</b> <b>83</b>		
<b>Southern Low Elevation</b>				
1	<b>IET 28196</b> TRC KS-1512-B-B-1-12-1 Katakatarata / Swarna	4366 105 MB	22	
	Vivekdhan 86 (NC)	2917 86		
	Shalimar rice 3 (ZC)	2829 96		
	<b>Local check</b>	<b>3586</b> <b>108</b>		
<b>Northern medium altitude</b>				
1	<b>IET 27468</b> TRC BN-83-372-B-B-18 Bhalum 3 / Naveen	4372 98 LS	21	
2	<b>IET 28200</b> TRC BN-1311-B-B-43-11-1 Bhalum 3 / Naveen	4302 97 LS	19	
3	<b>IET 28196</b> TRC KS-1512-B-B-1-12-1 Katakatarata / Swarna	3939 100 MB	9	
4	<b>IET 27472</b> HPR 2865 PLP Purple / Kasturi	3934 87 LB	9	
	<b>Vivekdhan 86 (NC)</b>	<b>3614</b> <b>87</b>		
	Shalimar rice 3 (ZC)	2035 78		
	Local check	3332 80		

The test entries which show superior performance against best check in different elevations

Elevation	Entries which show superior performance against best check
Northern low elevation	IET 28206 (Promoted)
Southern low elevation	IET 28196 (Promoted)
Northern medium elevation	IET 28200 and IET 28196 (Promoted) IET 27472 (In third year of testing)

### Three year (2018, 2019, 2020) performance of the entries at different elevations

Sl. No.	IET No. / Designation / Cross Combination	Year	% Yield Advantage over BVC			
			Low Hills		Northern Medium Hills	High Hills
			Northern	Southern		
1	IET 27468 TRC BN-83-372-B-B-18 Bhalum 3 / Naveen	2018	17	-	-	-
		2019	15	-	-	-
		2020	-	-	21	-
2	IET 27471 VL 32292 VL Dhan 85 / RIL 29	2018	-	-	31	-
		2019	6	-	-	-
		2020	-	-	-	-
3	IET 27472 HPR 2865 PLP Purple / Kasturi	2018	-	-	52	-
		2019	6	-	-	-
		2020	-	-	9	-

### Three year (2018, 2019, 2020) performance of the entries at different states

Sl. No.	IET No. / Designation / Cross Combination	Year	% Yield Advantage over BVC						
			Low Elevation			Medium Elevation			High Hills
			Northern		Southern	Northern			
			ME	HP	KA	UK	HP	JK	JK
1	IET 27468 TRC BN-83-372-B-B-18 Bhalum 3 / Naveen	2018	@	17	-	-	-	-	-
		2019	-	15	-	-	-	-	-
		2020	-	-	-	6 <sup>#</sup>	36	-	-
2	IET 27471 VL 32292 VL Dhan 85 / RIL 29	2018	-	9 <sup>#</sup>	-	31	-	-	-
		2019	-	6	-	15	-	-	-
		2020	-	-	-	-	-	-	-
3	IET 27472 HPR 2865 PLP Purple / Kasturi	2018	-	-	-	52	-	-	-
		2019	-	6	-	-	-	-	-
		2020	-	-	-	-	-	-	-

# single location data, required yield advantage to be  $\geq 10.0\%$

### Three year (2018, 2019 and 2020) performance of the entries

The performance of three entries in third year of testing is discussed below.

**IET 27468** (TRC BN-83-372-B-B-18) derived from a cross between Bhalum 3 / Naveen exhibited yield advantage over the BVC in Low Northern Hills during 2018 and 2019 and Northern Medium Hills during 2020. It exhibited yield advantage over the BVC in Himachal Pradesh (Low Northern) during 2018 (IVT E H -17%), 2019 (AVT 1 E H – 15%). In Medium Northern Hills, IET 27468 showed yield superiority over the BVC in Himachal Pradesh during 2020. IET 27468 had quality parameters of HRR (56.2%) and AC of 26.9%. **Owing to its inconsistent performance it is discontinued.**

**IET 27471** (VL 32292) obtained from the cross VL Dhan 85 / RIL 29 exhibited yield advantage over the BVC in medium Northern elevations (31%) and low northern elevations (6%) during the years 2018 and 2019 respectively. It out yielded the best check in Himachal Pradesh (Lower Northern elevation) by 9% and 6% during 2018 and 2019 respectively. It exhibited yield advantage over best check in Uttarkhand (medium northern elevation) by 31% and 15% during 2018 and 2019 respectively. IET 27471 had quality parameters of HRR (37.8%) and AC of 24.2%. **Due to its inconsistent performance in different elevations, it is discontinued.**

**IET 27472** (HPR 2865) derived from the cross PLP Purple / Kasturi showed yield superiority over BVC in medium northern elevation during 2020 (9%) and 2018 (52%) respectively. It also performed better than BVC in lower northern elevation during 2019 by 6%. Among the states, it surpassed the required yield advantage over BVC in Uttarkhand (Medium northern elevation) and Himachal Pradesh (Lower northern elevation) during 2018 (52%) and 2019 (6%) respectively. IET 27472 had quality parameters of HRR (53.0%) and AC of 24.4%. **Hence the entry IET 27472 is found promising for medium northern elevation.**

### **INITIAL VARIETY TRIAL- EARLY (HILLS) IVT-E (H)**

**Locations: 5**

**Test Entries: 22**

**Checks: Vivekdhan 86 (NC), Shalimar Rice 3 (ZC) and Local Check (LC)**

**Table: 4.7**

Initial Variety Trial – Early Hills, IVT- E (H) was constituted with 22 test entries and three checks namely Vivekdhan 86 (NC), Shalimar Rice 3 (ZC) and local check. The trial was sent to 12 locations and data was received from five locations (Almora-ICAR, Khudwani, Malan, Palampur and Ponnampet). The data from seven locations (Upper Shillong, Pombay-Khudwani, Wadura-Khudwani, Rajouri, Sundernagar, Bajura and Dhaulakuan) was not received. Data from five locations mentioned above was analyzed under three elevations namely Low elevations (Northern Low and Southern Low), Medium elevation and High elevation. Overall mean grain yield ranged from 2430 kg/ha (IET 28880) to 4053 kg/ha (IET 28884); days to 50% flowering ranged from 75 days (IET 28881) to 104

days (IET 28890); plant height ranged from 82.94 cm (IET 28884) to 128.32 cm (IET 28892); and number of panicles/m<sup>2</sup> from 237 (IET 28892) to 328 (IET 28885). The data pertaining to grain yield, days to 50% flowering, plant height and panicles/m<sup>2</sup> are presented in tables 4.8, 4.9, 4.10 and 4.11. The performance of test entries is described below.

### Northern Low Elevation

Data from Malan of Himachal Pradesh was considered for analysis under Northern Low Elevation. The mean grain yield of entries ranged from 919 kg/ha (IET 28879) to 4455 kg/ha (IET 28890), while days to 50% flowering ranged from 69 days (IET 28880) to 110 days (IET 28890); Plant height ranged from 88 cm (IET 28884) to 150.7 cm (IET 28892); Number of panicles/m<sup>2</sup> ranged from 168 (IET 28894) to 255 (Vivekdhan 86, NC). Among checks, national check, Vivekdhan 86 recorded maximum grain yield of 3795 kg/ha with 87 days to 50% flowering followed by Zonal check (Shalimar Rice-3) with 2641 kg/ha which took 71 days to reach 50% flowering.

**Among the test entries, one entry namely IET 28890 recorded yield advantage of 10% against the best check (NC), hence IET 28890 has been qualified to get promoted to second year of testing in Northern Low Elevation.**

### Performance of superior test entries at Northern Low Elevation in IVT-E (H) during Kharif 2020

Northern Low Elevation (one location, Malan)		
IET No. Designation/ Cross Combination	Grain Yield (Kg/ha) Days to 50% Flowering Grain Type	% Yield superiority over best check
<b>IET 28890</b>	4455	17
TRC GN 117-B-B-12-1-1 Gomatidhan / Tripura Nirog	110 LS	
<b>Vivekdhan 86 (NC)</b>	<b>3795</b> <b>87</b>	
Shalimar Rice 3 (ZC)	2641 71	
Local Check (LC)	2232 84	

### Southern low elevation

Under Southern Low Elevation, the trial was conducted at only one location i.e. Ponnampet in Karnataka state. The mean grain yield of entries ranged from 1398 kg/ha (IET 28881) to 4639 kg/ha (IET 28890), while days to 50% flowering ranged from 80 days (IET 28879) to 114 days (IET 28890); Plant height ranged from 61 cm (IET 28899) to 98.25cm (IET 28892); Number of panicles/m<sup>2</sup> ranged from 264 (IET 28894) to 385 (IET 28880). Among checks, Local check, KPR-1 recorded maximum grain yield of 3556 kg/ha with 109 days to 50% flowering followed by Zonal check (Shalimar Rice-3) with 3106 kg/ha which took 97 days to reach 50% flowering.

**Among the test entries, two entries namely IET 28890 and IET 28884 recorded yield advantage over 10% against the best check (LC), hence IET 28890 and IET 28884 have been promoted to second year of testing in Southern Low Elevation.**

**Performance of superior test entries at Southern Low Elevation in IVT-E (H) during Kharif 2020**

<b>Southern low elevation (1 location, Ponnampet)</b>		
<b>IET No. Designation/ Cross Combination</b>	<b>Grain Yield (Kg/ha) Days to 50% Flowering Grain Type</b>	<b>% Yield superiority over best check</b>
<b>IET 28890</b> TRC GN 117-B-B-12-1-1 Gomatidhan / Tripura Nirog	4639 114 LS	30
<b>IET 28884</b> TRC BN-793-B-B-27-4-1 Bhalum 3 / Naveen	4037 105 SB	14
Vivekdhan 86 (NC)	2917 84	
Shalimar Rice 3 (ZC)	3106 97	
<b>Local Check (LC)</b>	<b>3556</b> <b>109</b>	

**Northern medium elevation**

Data from Almora-ICAR (UK) and Palampur (HP) was considered for analysis under Northern Medium Elevation. The mean grain yield of the locations ranged from 1848 kg/ha (IET 28881) to 4629 kg/ha (IET 28883) whereas days to 50% flowering ranged from 71 days (IET 28881) to 100 days (IET 28884). Plant height ranged from 81.41 cm (IET 28884) to 135.27cm (IET 28892); Number of panicles/m<sup>2</sup> ranged from 232 (IET 28900) to 339 (Vivekdhan 86, NC). Among the checks, National check (Vivekdhan 86) recorded highest grain yield of 3473 kg/ha with 91 days to 50% flowering followed by local check 3446 kg/ha with 86 days to 50% flowering.

**Performance of superior test entries at Northern Medium Elevation in IVT-E (H) during Kharif 2020**

<b>Northern Medium Elevation (2 locations)</b>		
<b>IET No. / Designation/ Cross Combination</b>	<b>Grain Yield (Kg/ha) Days to 50% Flowering Grain Type</b>	<b>% Yield superiority over best check</b>
<b>IET 28883</b> VL 32585 VL 31290 / O minuta	4629 84 MS	33
<b>IET 28886</b> HPR 3203 HPR 2143 / Balwan	4332 87 LS	25
<b>IET 28884</b> TRC BN-793-B-B-27-4-1 Bhalum 3 / Naveen	4323 100 SB	24
<b>IET 28895</b> VL 32594 VL 31339 / BL 122	4299 93 LS	24
<b>IET 28882</b> HPR 3201 HPR 2143 / AC 19146	4042 93 LS	16



<b>Northern Medium Elevation (2 locations)</b>		
<b>IET No. / Designation/ Cross Combination</b>	<b>Grain Yield (Kg/ha) Days to 50% Flowering Grain Type</b>	<b>% Yield superiority over best check</b>
<b>IET 28891</b> HPR 3202 T 23 / IR 67011 // Hasan Serai	3891 88 LS	12
<b>IET 28885</b> SKUA 554 (K 12-9-2-14-3-4) Jhelum / DHMAS	3874 82 LS	12
<b>Vivekdhan 86 (NC)</b>	<b>3473</b> <b>91</b>	
Shalimar Rice 3 (ZC)	2667 77	
Local Check (LC)	3446 86	

Among the test entries at Northern Medium Elevation, 7 test entries viz., IETs 28883, 28886, 28884, 28895, 28882, 28891 and 28885 recorded significant yield advantage over the best check (National check, Vivekdhan 86); hence they have been promoted to second year of testing.

#### High elevation

At high elevations, Khudwani is the only one location where the trial IVT E (H) was conducted. Mean grain yield ranged from 1542 kg/ha (IET 28883) to 7292 kg/ha (IET 28888), while days to 50% flowering ranged from 76 days (IET 28898) to 99 days (Vivekdhan 86, NC). Plant height ranged from 74.4 cm (IET 28895) to 128cm (IET 28896); Number of panicles/m<sup>2</sup> ranged from 150 (IET 28883) to 438 (Shalimar Rice 4, NC). Among the checks, local check (Shalimar Rice 4) recorded maximum grain yield (6675 kg/ha with 85 days to 50% flowering) followed by Zonal check, Shalimar Rice 3 (5000 kg/ha with 85 days to 50% flowering).

None of the entries showed 10% yield advantage over the best check (Local check, Shalimar Rice 4). **Hence, none of the entries got promoted in high altitude Hills.**

**List of test entries promoted to AVT-1 E (H) for second year of testing is mentioned below**

<b>Elevation</b>	<b>Entries promoted to AVT-1 E (H)</b>
Northern low elevation	IET 28890
Southern low elevation	IET 28890 and IET 28884
Northern medium elevation	IETs 28883, 28886, 28884, 28895, 28882, 28891 and 28885

**Table No. 4.1: Composition of entries in Advanced Variety Trial 1-Early Hills, AVT 1-E (H), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>3<sup>rd</sup> Year of testing</b>				
2301	27468	TRC BN-83-372-B-B-18	Bhalum 3 / Naveen	LS
2302	27471	VL 32292	VL Dhan 85 / RIL 29	SB
2303	27472	HPR 2865	PLP Purple / Kasturi	LB
2304	<b>Vivekdhan 86 (NC)</b>			
<b>2<sup>nd</sup> Year of testing</b>				
2305	28193	VL 32465	WAB-450-25 / Anjali	MS
2306	28200	TRC BN-1311-B-B-43-11-1	Bhalum 3 / Naveen	LS
2307	28205	SKUA 536-2	China 1039 / IR 24	MS
2308	<b>Shalimar Rice 3 (ZC)</b>			
2309	28206	HPR 3106	HPR 2336 / AC 19146 // HPR 2143	LS
2310	28196	TRC KS-1512-B-B-1-12-1	Kataktara / Swarna	MB
2311	28192	SKUA 537	Jhelum / IR 24	SB
2312	28202	VL 32462	VL 31630 / BL 122	LS
2313	<b>Local Check</b>			

**Table No.4.2: Grain yield (kg/ha) of entries in AVT 1 – E (H), Kharif 2020**

Entry No.	Elevations IET No	Low Northern						Low Southern(1)	
		Himachal Pradesh				Low Northern (1)		Karnataka (1)	
		@MLN		SUN		Mean		PNP	
2301	27468	2554	4	4781	5	4781	5	3056	6
2302	27471	2006	9	4816	4	4816	4	3197	4
2303	27472	2657	3	4054	7	4054	7	2975	8
2304	<b>Vivekdhan 86 (NC)</b>	2243	7	3570		3570		2917	9
2305	28193	2329	6	3916	8	3916	8	3116	5
2306	28200	3016	1	3733	9	3733	9	3470	3
2307	28205	1650		3634		3634		1817	
2308	<b>Shalimar Rice 3 (ZC)</b>	1742		3367		3367		2829	10
2309	28206	2474	5	5859	1 *	5859	1 * 17%	1868	
2310	28196	2886	2	4386	6	4386	6	4366	1 22%
2311	28192	1120		3728	10	3728	10	1597	
2312	28202	2139	8	4882	3	4882	3	3030	7
2313	<b>Local Check (LC)</b>	1881	10	4999	2	4999	2	3586	2
	Exp. Mean	<b>2207.54</b>		<b>4286.54</b>		<b>4286.54</b>		<b>2909.37</b>	
	CD	453.12		586.47		586.47		822.87	
	CV%	12.18		8.12		8.12		16.78	
	D/S	09-06-2020		12-06-2020				02-08-2020	
	D/P	04-07-2020		06-07-2020				02-09-2020	
	Local Check Name	HPR-1068						KPR-1	

**Table No.4.2 contd.: Grain yield (kg/ha) of entries in AVT 1 – E (H), Kharif 2020**

Entry No.	Elevations IET No	Medium Northern											
		Uttarakhand (1)		Himachal Pradesh			Himachal Pradesh (1)		Himachal Pradesh(2)		Medium Northern (2)		
		ALM		PLM	@BJR	Mean		Mean		Mean			
2301	27468	4753	4	3990	1 *	1262		3990	1 * 36%	4386	2 10.63%	4372	1 * 21%
2302	27471	3802	8	2121		1711	6	2121		3469	7	2962	10
2303	27472	5444	1 6%	2424	8	1738	5	2424	8	3239	9	3934	4 9%
2304	<b>Vivekdhan 86 (NC)</b>	5156	2	2071		2178	1	2071		2821		3614	5
2305	28193	3302	10	2980	5.5	1187		2980	5	3448	8	3141	9
2306	28200	4815	3	3788	3	1289	10	3788	3 29%	3761	6	4302	2 * 19%
2307	28205	975		2273	10	1800	4	2273	10	2954		1624	
2308	<b>Shalimar Rice 3 (ZC)</b>	2302		1768		1240		1768		2568		2035	
2309	28206	4074	6	3081	4	1542	7	3081	4 5%	4470	1 12.76%	3578	6
2310	28196	3988	7	3889	2 *	1293	9	3889	2 * 33%	4138	3	3939	3 9%
2311	28192	3179		2374	9	1533	8	2374	9	3051	10	2777	
2312	28202	4117	5	2980	5.5	1951	2	2980	5	3931	5	3549	7
2313	<b>Local Check (LC)</b>	3735	9	2929	7	1947	3	2929	7	3964	4	3332	8
	Exp. Mean	<b>3818.71</b>		<b>2820.51</b>		<b>1590.08</b>		<b>2820.51</b>		<b>3553.58</b>		<b>3319.61</b>	
	CD	773.33		876.65		375.51		876.65		552.60		625.35	
	CV%	12.02		18.44		14.01		18.44		9.17		11.18	
	D/S	15-06-2020		06-06-2020		09-06-2020							
	D/P	07-07-2020		06-07-2020		01-07-2020							
	Local Check Name	VLD 85		HPR 1068		HPR 2143							

Table No. 4.2 contd.: Grain yield (kg/ha) of entries in AVT 1 – E (H), Kharif 2020

Elevations		High (1)		Overall (5)	
Entry No.	IET No	Jammu & Kashmir(1)		Mean	
		KHD			
2301	27468	2567		3829	5
2302	27471	3085	7	3404	
2303	27472	6196	6	4219	2
2304	<b>Vivekdhan 86 (NC)</b>	2221		3187	
2305	28193	6226	5	3908	3
2306	28200	2301		3621	7
2307	28205	7184	3	3177	
2308	<b>Shalimar Rice 3 (ZC)</b>	7233	2	3500	10
2309	28206	2746	10	3526	9
2310	28196	2790	9	3884	4
2311	28192	7841	1 * 8%	3744	6
2312	28202	2841	8	3570	8
2313	<b>Local Check (LC)</b>	6920	4	4434	1
	Exp. Mean	<b>4627.16</b>		<b>3753.98</b>	
	CD	448.47		419.72	
	CV%	5.75		6.63	
	D/S	08-06-2020			
	D/P	25-06-2020			
	Local Check Name	Shalimar Rice 4			

Table No. 4.3: Days to 50% flowering of entries in AVT 1 – E (H), Kharif 2020

Elevations		Low Northern		Low Northern (1)	Low Southern(1)
Entry No.	IET No	Himachal Pradesh			PNP
		@MLN	SUN	Mean	
2301	27468	95	90	90	106
2302	27471	80	80	80	94
2303	27472	87	84	84	91
2304	<b>Vivekdhan 86 (NC)</b>	83	83	83	86
2305	28193	80	75	75	105
2306	28200	93	92	92	98
2307	28205	79	75	75	84
2308	<b>Shalimar Rice 3 (ZC)</b>	71	74	74	96
2309	28206	88	84	84	98
2310	28196	97	97	97	105
2311	28192	69	70	70	81
2312	28202	87	80	80	94
2313	<b>Local Check</b>	86	83	83	108
	Exp. Mean	<b>84</b>	<b>82</b>	<b>82</b>	<b>96</b>

**Table No. 4.3 contd.: Days to 50% flowering of entries in AVT 1 – E (H), Kharif 2020**

Elevations		Medium Northern					High (1)	Overall (5)	
Entry No.	IET No	Uttarakhand (1)	Himachal Pradesh		Himachal Pradesh (2)	Himachal Pradesh (1)	Medium Northern (2)		Jammu & Kashmir (1)
		ALM	PLM	@BJR	Mean	Mean	Mean		KHD
2301	27468	99	96	80	96	93	98	97	98
2302	27471	81	87	70	87	83	84	96	87
2303	27472	85	88	77	88	86	87	86	87
2304	<b>Vivekdhan 86 (NC)</b>	83	90	68	90	87	87	101	89
2305	28193	76	86	68	86	81	81	87	86
2306	28200	91	103	81	103	98	97	97	96
2307	28205	76	82	64	82	79	79	80	80
2308	<b>Shalimar Rice 3 (ZC)</b>	74	82	66	82	78	78	84	82
2309	28206	86	95	80	95	90	90	93	91
2310	28196	99	101	84	101	99	100	102	101
2311	28192	71	81	65	81	76	76	80	77
2312	28202	84	86	70	86	83	85	104	90
2313	<b>Local Check</b>	74	86	70	86	85	80	87	88
	Exp. Mean	<b>83</b>	<b>90</b>	<b>72</b>	<b>90</b>	<b>86</b>	<b>86</b>	<b>92</b>	<b>88</b>

**Table No. 4.4: Plant Height (cm) of entries in AVT 1- E (H), Kharif 2020**

Elevations		Low Northern		Low Northern (1)	Low Southern(1)
Entry No.	IET No	Himachal Pradesh			Karnataka (1)
		@MLN	SUN	Mean	PNP
2301	27468	122.80	95.60	95.60	63.75
2302	27471	131.00	119.15	119.15	81.50
2303	27472	135.00	128.51	128.51	81.63
2304	<b>Vivekdhan 86 (NC)</b>	107.40	127.37	127.37	78.25
2305	28193	93.60	139.55	139.55	97.13
2306	28200	112.00	99.53	99.53	80.50
2307	28205	123.60	114.60	114.60	78.88
2308	<b>Shalimar Rice 3 (ZC)</b>	101.40	124.07	124.07	86.50
2309	28206	133.00	111.80	111.80	74.88
2310	28196	99.60	105.64	105.64	87.25
2311	28192	126.60	117.43	117.43	67.00
2312	28202	110.40	97.59	97.59	68.63
2313	<b>Local Check</b>	113.20	97.76	97.76	80.75
	Exp. Mean	<b>116.12</b>	<b>113.74</b>	<b>113.74</b>	<b>78.97</b>

**Table No. 4.4 contd.: Plant Height (cm) of entries in AVT 1- E (H), Kharif 2020**

Elevations		Medium Northern					High (1)	Overall (5)
Entry No.	IET No	Uttarakhand (1)	Himachal Pradesh	Himachal Pradesh (1)	Himachal Pradesh (2)	Medium Northern (1)	Jammu & Kashmir (1)	
		ALM	PLM	Mean	Mean	Mean	KHD	
2301	27468	84.00	75.05	75.05	85.33	79.53	75.40	78.76
2302	27471	113.00	98.59	98.59	108.87	105.80	112.50	104.95
2303	27472	120.33	110.53	110.53	119.52	115.43	103.40	108.88
2304	<b>Vivekdhan 86 (NC)</b>	118.33	114.88	114.88	121.13	116.61	81.50	104.07
2305	28193	116.67	109.85	109.85	124.70	113.26	111.10	114.86
2306	28200	100.67	89.44	89.44	94.49	95.05	85.10	91.05
2307	28205	95.67	96.04	96.04	105.32	95.85	124.40	101.92
2308	<b>Shalimar Rice 3 (ZC)</b>	111.00	99.37	99.37	111.72	105.19	126.60	109.51
2309	28206	102.00	91.42	91.42	101.61	96.71	69.70	89.96
2310	28196	105.33	90.95	90.95	98.30	98.14	68.70	91.57
2311	28192	108.00	89.42	89.42	103.43	98.71	122.60	100.89
2312	28202	86.00	75.63	75.63	86.61	80.82	66.60	78.89
2313	<b>Local Check</b>	118.00	79.87	79.87	88.82	98.94	113.20	97.92
	Exp. Mean	<b>106.08</b>	<b>93.93</b>	<b>93.93</b>	<b>103.83</b>	<b>100.00</b>	<b>96.98</b>	<b>97.94</b>

**Table No.4.5: No. of Panicles/m<sup>2</sup> of entries in AVT 1- E (H), Kharif 2020**

Entry No.	Elevations IET No	Low Northern		Low	Low Southern(1)	Medium Northern (1)	Medium	High (1)	Overall (4) Mean
		Himachal Pradesh (1)		Northern (1)	Karnataka (1)	Uttarakhand (1)	Northern (1)	Jammu & Kashmir (1)	
		MLN	@SUN	Mean	PNP	ALM	Mean	KHD	
2301	27468	292.00	332.00	292.00	357.50	288.67	292.00	186.00	281.04
2302	27471	228.00	342.00	228.00	374.00	292.00	228.00	220.33	278.58
2303	27472	222.00	268.33	222.00	280.50	289.33	222.00	324.67	279.13
2304	Vivekdhan 86 (NC)	210.00	322.67	210.00	264.00	280.67	210.00	193.67	237.08
2305	28193	164.00	280.67	164.00	258.50	280.00	164.00	366.00	267.13
2306	28200	204.00	222.00	204.00	236.50	275.33	204.00	200.00	228.96
2307	28205	272.00	242.67	272.00	253.00	271.67	272.00	357.33	288.50
2308	Shalimar Rice 3 (ZC)	196.00	287.00	196.00	324.50	254.67	196.00	351.33	281.63
2309	28206	238.00	358.67	238.00	280.50	279.33	238.00	189.67	246.88
2310	28196	174.00	227.00	174.00	264.00	291.33	174.00	181.33	227.67
2311	28192	228.00	331.33	228.00	280.50	280.00	228.00	427.67	304.04
2312	28202	240.00	333.00	240.00	264.00	287.00	240.00	202.67	248.42
2313	Local Check	228.00	372.33	228.00	242.00	283.67	228.00	388.00	285.42
	Exp. Mean	223	302	223	283	281	223	276	266

**Table No. 4.6: Grain quality characteristics of entries in AVT1-E (H), Kharif 2020**

Entry No.	Designation/IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
2301	27468	77.4	68.0	56.2	6.73	2.01	3.34	LS	VOC	4.0	26.98	62
2302	27471	79.6	69.1	37.8	5.57	2.54	2.19	SB	OC	4.0	24.22	27
2303	27472	80.6	68.8	53.0	6.34	2.52	2.51	LB	OC	4.0	24.49	22
2304	Vivekdhan-86	80.6	69.3	57.7	5.42	2.60	2.08	SB	OC	4.0	24.17	22
2305	28193	80.9	71.1	41.6	5.15	2.57	2.00	SB	VOC	4.0	25.37	31
2306	28200	77.7	69.8	52.2	5.50	2.37	2.32	SB	VOC	7.0	22.11	50
2307	28205	79.9	67.3	36.7	5.22	2.20	2.37	SB	VOC	4.0	25.49	22
2308	Shalimar Rice 3	80.6	68.2	62.1	5.10	2.53	2.01	SB	OC	4.0	25.81	22
2309	28206	82.4	72.7	62.1	6.31	2.16	2.92	LB	VOC	7.0	25.54	22
2310	28196	78.1	67.2	53.3	5.65	2.37	2.37	SB	VOC	7.0	24.22	49
2311	28192	81.1	70.8	41.7	5.54	2.36	2.34	SB	VOC	4.0	25.46	55
2312	28202	77.6	68.0	34.7	5.74	2.15	2.66	MS	VOC	7.0	23.90	56
2313	Local Check	77.2	64.4	18.1	5.48	2.30	2.38	SB	VOC	4.0	24.40	28

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

**Table No.4.7: Composition of entries in Initial Variety Trial-Early Hills, IVT-E(H), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>1<sup>st</sup> Year of testing:</b>				
2401	28879	SKUA 552 (K 12-3-1-5-1-3)	Jhelum / Shalimar Rice-2	SB
2402	28880	SKUA 548 (K 13-7-7-5-2)	Jhelum / Pusa Basmati 1509	LS
2403	28881	SKUA 545 (K 09-6-1-5)	Vivek Dhan 82 / Jhelum	SB
2404	28882	HPR 3201	HPR 2143 / AC 19146	LS
2405	28883	VL 32585	VL 31290 / O. minuta	MS
2406	<b>Shalimar Rice-3 (ZC)</b>			
2407	28884	TRC BN 793-B-B-27-4-1	Bhalum 3 / Naveen	SB
2408	28885	SKUA 554 (K 12-9-2-14-3-4)	Jhelum / DHMAS	LS
2409	28886	HPR 3203	HPR 2143 / Balwan	LS
2410	28887	VL 32558	VL 31329 / Anjali	LB
2411	28888	SKUA 557 (K 12-4-1-11-2-1-1)	Jhelum / VL Dhan 85	SB
2412	28889	SKUA 546 (K 12-9-1-9-1-1)	Jhelum / DHMAS	MS
2413	28890	TRC GN 117-B-B-12-1-1	Gomatidhan / Tripura Nirog	LS
2414	<b>Vivekdhan 86 (NC)</b>			
2415	28891	HPR 3202	T 23 / IR 67011 // Hasan Serai	LS
2416	28892	VL 32594	VL Dhan 61 / VSR 8	LS
2417	28893	SKUA 551 (K 12-9-1-9-1-2)	Jhelum / DHMAS	MS
2418	28894	SKUA 556 (K 39-36-2-1-6)	K 39 / IR 64	MS
2419	28895	VL 32560	VL 31339 / BL 122	LS
2420	28896	SKUA 558 (K 13-7-7-1-1-1)	Jhelum / Pusa Basmati 1509	MS
2421	28897	SKUA 547 (K 12-9-1-9-1-2)	Jhelum / DHMAS	MS
2422	28898	SKUA 549 (K 12-13-1-2-2-2)	K 39 / Shalimar Rice-3	LB
2423	28899	TRC GH 79-B-B-34-4-1	Gomatidhan / Hakuchuk 2	MS
2424	28900	SKUA 542 (K 11-9-1-1-1-2)	Jhelum / IR 24	SB
2425	<b>Local Check</b>			

**Table No.4.8: Grain yield (kg/ha) of entries in IVT – E (H), Kharif 2020**

Entry No.	Elevation IET No.	Low Northern (1)		Low Southern (1)		Medium Northern			
		Himachal Pradesh (1)		Karnataka (1)		Uttarakhand(1)		Himachal Pradesh(1)	
		MLN		PNP		ALM		PLM	
2401	28879	919		2009		1719		2667	
2402	28880	2232		1880		1760		2111	
2403	28881	982		1398		1807		1889	
2404	28882	3170	7	2810		5417	1 15%	2667	
2405	28883	3170	7	2560		5313	2 12%	3944	2 15%
2406	<b>Shalimar Rice-3 (ZC)</b>	2641		3106	7			2667	
2407	28884	4045	2 7%	4037	2 14%	4979	5 5%	3667	6 6%
2408	28885	2721		2588		3969	9	3778	3 10%
2409	28886	2946		2542		5219	3 11%	3444	8
2410	28887	3705	4	3264	5	4990	4 6%	2000	
2411	28888	1420		2574		2813		3778	3 10%
2412	28889	3036	9	3069	9	2344		3000	
2413	28890	4455	1 17%	4639	1 * 30%	2344			
2414	<b>Vivekdhan 86 (NC)</b>	3795	3	2917		4723	6	2222	
2415	28891	3348	6	3106	7	4115	8	3667	6 6%
2416	28892	3036	9	2532		3948	10	2667	
2417	28893	1786		3023		3110		2778	
2418	28894	2016		2861		2098		2778	
2419	28895	2794		3319	4	4375	7	4222	1 23%
2420	28896	1518		2764		2240		2667	
2421	28897	2098		2495		2188		2111	
2422	28898	1719		3037	10	3104		3333	10
2423	28899	3518	5	3134	6	1042		3667	6 6%
2424	28900	1741		1431		2031		2444	
2425	<b>Local Check</b>	2232		3556	3	3448		3444	8
	<b>Exp. Mean</b>	<b>2601.68</b>		<b>2826.11</b>		<b>3295.53</b>		<b>2983.8</b>	
	CD	852.97		573.59		995.56		1150.73	
	CV%	15.89		9.83		14.6		18.64	
	D/S	06-06-2020		02-08-2020		15-06-2020		06-06-2020	
	D/P	30-07-2020		02-09-2020		08-07-2020		04-07-2020	
	Local Check Name	HPR1068		KPR-1		VLD 85		HPR 1068	

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Table No.4.8 contd.: Grain yield (kg/ha) of entries in IVT – E (H), Kharif 2020

Entry No.	Elevation IET No.	Medium Northern				High (1)		Overall (5)	
		Medium Northern (2)		Himachal Pradesh (2)		Jammu & Kashmir (1)		Mean	
		Mean		Mean		KHD			
2401	28879	2193		1793		6083	5	2679	
2402	28880	1936		2172		4167		2430	
2403	28881	1848		1436		6125	4	2440	
2404	28882	4042	5 16%	2919		3675		3548	9
2405	28883	4629	1 * 33%	3557	4 18 %	1542		3306	
2406	<b>Shalimar Rice-3 (ZC)</b>	2667		2654		5000	8	3354	
2407	28884	4323	3 * 24%	3856	2 * 28%	3538		4053	1 4.70%
2408	28885	3874	7 12%	3250	7 8%	7167	2 7%	4045	2 4.49%
2409	28886	4332	2 * 25%	3195	8 6%	2625		3355	10
2410	28887	3495	8	2853		4417		3675	5
2411	28888	3296		2599		7292	1 9%	3575	7
2412	28889	2672		3018	9	4875	10	3265	
2413	28890	2344		4455	1 * 48%			3813	4
2414	<b>Vivekdhan 86 (NC)</b>	3473	9	3009	10	2805		3292	
2415	28891	3891	6 12%	3508	6 16.59%			3559	8
2416	28892	3308		2852		2580		2953	
2417	28893	2944		2282		4917	9	3123	
2418	28894	2438		2397		4667		2884	
2419	28895	4299	4 * 24%	3508	5 16.60%	3333		3609	6
2420	28896	2454		2093		5334	6	2905	
2421	28897	2150		2105		4709		2720	
2422	28898	3219		2526		4750		3189	
2423	28899	2355		3593	3 19%			2840	
2424	28900	2238		2093		5167	7	2563	
2425	<b>Local Check</b>	3446	10	2838		6675	3	3871	3
	<b>Exp. Mean</b>	<b>3114.28</b>		<b>2822</b>		<b>4610.82</b>		<b>3241.72</b>	
	CD	589.09		676.53		2043		482.12	
	CV%	9.17		11.61		21.31		7.21	
	D/S					06-08-2020			
	D/P					25-06-2020			
	Local Check Name					Shalimar Rice 4			

Table No. 4.9: Days to 50% flowering of entries in IVT – E (H), Kharif 2020

Entry No.	Elevation IET No.	Low Northern (1)	Low Southern (1)	Medium Northern			High (1)	Overall (5)	
		Himachal Pradesh (1)	Karnataka (1)	Uttarakhand(1)	Himachal Pradesh(1)	Medium Northern (2)	Himachal Pradesh (2)	Jammu & Kashmir (1)	Mean
		MLN	PNP	ALM	PLM	Mean	Mean	KHD	
2401	28879	71	80	73	82	78	76	83	78
2402	28880	69	91	72	82	77	75	78	78
2403	28881	75	81	69	74	71	75	78	75
2404	28882	92	100	90	97	93	94	98	95
2405	28883	89	92	78	90	84	89	94	88
2406	<b>Shalimar Rice-3 (ZC)</b>	71	97	.	77	77	74	85	82
2407	28884	104	105	99	102	100	103	81	98
2408	28885	73	87	78	87	82	80	81	81
2409	28886	88	99	85	89	87	88	92	90
2410	28887	91	90	80	94	87	92	89	89
2411	28888	71	89	80	82	81	76	81	80
2412	28889	74	92	74	89	81	81	80	82
2413	28890	110	114	99	95	97	103	.	104
2414	<b>Vivekdhan 86 (NC)</b>	87	84	86	97	91	92	99	90
2415	28891	89	98	85	91	88	90	.	90
2416	28892	93	89	89	102	95	97	95	93
2417	28893	72	97	81	85	83	78	83	83
2418	28894	80	93	78	87	83	83	81	84
2419	28895	90	101	88	98	93	94	93	94
2420	28896	76	91	72	82	77	79	86	81
2421	28897	72	97	77	88	82	80	80	83
2422	28898	82	86	74	75	74	78	76	78
2423	28899	103	105	99	96	97	99	.	100
2424	28900	72	81	72	90	81	81	82	79
2425	<b>Local Check</b>	84	109	79	93	86	88	85	90
	<b>Exp. Mean</b>	<b>83</b>	<b>94</b>	<b>81</b>	<b>89</b>	<b>85</b>	<b>86</b>	<b>85</b>	<b>87</b>

**Table No. 4.10: Plant Height (cm) of entries in IVT – E (H), Kharif 2020**

Entry No.	Elevation IET No.	Low Northern (1)		Medium Northern			High (1)	Overall (5) Mean	
		Himachal Pradesh (1)	Karnataka (1)	Uttarakhand(1)	Himachal Pradesh (1)	Medium Northern (2)	Himachal Pradesh (2)		Jammu & Kashmir (1)
		MLN	PNP	ALM	PLM	Mean	Mean		KHD
2401	28879	117.50	72.13	123.00	122.05	245.05	119.78	121.10	111.16
2402	28880	137.00	91.38	122.00	108.18	230.18	122.59	121.10	115.93
2403	28881	100.60	69.63	112.50	97.68	210.18	99.14	107.90	97.66
2404	28882	111.50	72.88	104.50	85.76	190.26	98.63	96.70	94.27
2405	28883	128.20	91.25	126.00	114.45	240.45	121.33	118.00	115.58
2406	Shalimar Rice-3 (ZC)	127.40	84.00	.	108.67	108.67	118.04	110.90	107.74
2407	28884	88.00	64.50	81.00	81.82	162.82	84.91	99.40	82.94
2408	28885	124.20	73.13	109.00	111.16	220.16	117.68	110.90	105.68
2409	28886	111.40	65.50	98.00	98.63	196.63	105.02	81.10	90.93
2410	28887	127.30	78.00	123.00	121.67	244.67	124.49	109.80	111.95
2411	28888	127.80	86.00	109.50	119.41	228.91	123.61	121.90	112.92
2412	28889	133.00	89.38	116.50	118.09	234.59	125.55	115.30	114.45
2413	28890	91.90	70.75	95.00	94.15	189.15	93.03	.	87.95
2414	Vivekdhan 86 (NC)	137.60	76.25	119.50	119.72	239.22	128.66	97.60	110.13
2415	28891	139.80	92.63	127.50	119.19	246.69	129.50	.	119.78
2416	28892	150.70	98.25	131.50	139.04	270.54	144.87	122.10	128.32
2417	28893	124.50	79.63	126.00	105.37	231.37	114.94	109.70	109.04
2418	28894	110.10	84.88	110.50	106.84	217.34	108.47	111.60	104.78
2419	28895	102.50	73.25	99.00	92.11	191.11	97.31	74.40	88.25
2420	28896	125.00	83.25	112.50	120.21	232.71	122.61	128.00	113.79
2421	28897	122.10	81.38	116.50	115.82	232.32	118.96	116.40	110.44
2422	28898	126.10	84.63	120.00	128.64	248.64	127.37	114.80	114.83
2423	28899	91.90	61.00	93.00	87.27	180.27	89.59	.	83.29
2424	28900	117.70	64.75	110.00	98.27	208.27	107.99	111.90	100.52
2425	Local Check	95.00	76.63	112.00	86.44	198.44	90.72	116.70	97.35
	<b>Exp. Mean</b>	<b>118.75</b>	<b>78.60</b>	<b>112.42</b>	<b>108.03</b>	<b>215.95</b>	<b>113.39</b>	<b>109.88</b>	<b>105.19</b>

**Table No. 4.11.: No. of Panicles/m<sup>2</sup> of entries in IVT – E (H), Kharif 2020**

Entry No.	Elevation IET No.	Low Northern (1)		Medium Northern (1)	High (1)	Overall (4) Mean
		Himachal Pradesh (1)	Karnataka (1)	Uttarakhand(1)	Jammu & Kashmir (1)	
		MLN	PNP	ALM	KHD	
2401	28879	189	336	238	334	274
2402	28880	195	385	252	251	271
2403	28881	174	330	253	354	278
2404	28882	231	369	334	195	282
2405	28883	192	303	334	151	245
2406	Shalimar Rice-3 (ZC)	201	308	.	246	252
2407	28884	246	308	326	173	263
2408	28885	237	319	329	428	328
2409	28886	234	297	332	184	262
2410	28887	195	297	284	263	260
2411	28888	177	297	270	405	287
2412	28889	216	325	244	247	258
2413	28890	210	325	237	.	257
2414	Vivekdhan 86 (NC)	255	363	339	153	277
2415	28891	180	275	314	.	256
2416	28892	204	275	289	182	237
2417	28893	183	292	272	334	270
2418	28894	168	264	293	278	251
2419	28895	183	330	292	226	258
2420	28896	186	352	271	322	283
2421	28897	189	369	249	313	280
2422	28898	216	286	287	239	257
2423	28899	201	319	235	.	252
2424	28900	218	330	232	306	271
2425	Local Check	180	270	279	438	292
	<b>Exp. Mean</b>	<b>202</b>	<b>317</b>	<b>282</b>	<b>273</b>	<b>268</b>



**ADVANCE VARIETY TRIAL 1 – MEDIUM (HILLS) AVT 1-M (H)****Locations: 16****Test Entries: 9****Checks: Vivekdhan 62 (NC), VL Dhan 68 (NC), VL Dhan 65 (ZC for North & South), RC Maniphou 11 (ZC for North East) and Local Check Table: 4.12**

AVT 1 – M (H) trial was constituted with 13 entries including 9 test entries and 4 checks – Vivekdhan 62 (NC), VL Dhan 68 (NC), ZC: VL Dhan 65 (North/South) and RC Maniphou 11 (North East) and a LC. The trial was sent to 17 locations of various altitudes. The trial was not conducted by 7 Centres Viz. Imphal (CAU), Gangtok-ICAR (GTK), Upper Shillong (USG), Pombay (PMB-KHD), Wadura-khudwani (WDR-KHD), Sundernagar (SDN) and Bajura (BJR). While, data was not received from two locations viz., Rajouri (RJR) and DaulaKuan (DLK) (Khudwani). Among the 8 locations, data from four locations namely Malan, Wangbal, Sirisi, Bajura and Umiam (ICAR) was not considered for analysis due to High CV and low experimental mean yield.

Overall mean yield ranged from 3491 kg/ha (IET 28227) to 5280 kg/ha (Local Check); days to 50% flowering ranged from 79 days (IET 28227) to 99 days (IET 28206); plant height varied from 102.59 cm (IET 28222) to 136.65 (NC Vivekdhan 62) and number of panicles/m<sup>2</sup> ranged from 226 (IET 28222) to 299 (NC Vivekdhan -62)). None of the test entries are superior to local check in terms of overall yield. The data pertaining to yield, flowering, plant height and panicles/m<sup>2</sup> and quality were presented in tables 4.13, 4.14, 4.15, 4.16 and 4.17. Performance of the test entries at different elevations was discussed below.

**Low altitude Northern ( $\leq$  950 MSL)**

AVT1-M (H) was conducted at 5 locations (ICAR-Lamphelpat, Wangbal, CAU-Umiam, Sundernagar and Malan), however data of three locations was considered. The mean grain yield of the entries ranged from 2657 kg/ha (IET 28227) to 5410 kg/ha (IET 28222); days to 50% flowering varied from 78 days (IET 28227) to 101 days (IET 28216). Among the checks, Zonal check recorded highest grain yield of 5113 kg/ha with 100 days to 50% flowering. Among the test entries, one entry i.e., IET 28210 (5179 kg/ha) showed superior yield performance over the best check (ZC 5113 kg/ha) which is less than 5% superiority **hence dropped for 2<sup>nd</sup> year of testing in northern low altitude locations.**

**Low altitude Southern ( $\leq$  950 MSL)**

The data from Sirsi location under this altitude was not considered for analysis due to low experimental mean yield.

**Medium altitude hills (951-1500 SL)**

AVT-1-M (H) trial was conducted only one location and considered for analysis i.e. Almora Uttarakhand (UK). The mean grain yield at medium altitude ranged from 2127 kg/ha (IET 28217) to 5419 kg/ha (NC-VL Dhan 68); days to 50% flowering varied between 78 days (IET 28227) and 102 days (IET 28220 & LC). Among the checks, National check VL Dhan 68 recorded highest yield of 5419 kg/ha with 90 days to 50% flowering. None of the test entries are superior to best Check i.e National check VL Dhan **hence dropped for 2<sup>nd</sup> year of testing in medium altitude locations.**

**High altitude hills (951-1500 SL)**

AVT1-M (H) trial was conducted only at two locations i.e. Khudwani (KHD) and Ummiam ICAR Upper Shillong, However only data of Khudwani centre was considered. The mean grain yield at medium altitude ranged from 1963 kg/ha (Zonal Check) to 7841 kg/ha (IET 28224); days to 50% flowering varied between 82 days (IET 28224) and 96 days (IET 28220). Among the checks, only local check data submitted which is 4970 kg/ha (Zonal Check) with 85 days to 50% flowering.

On the basis of yield improvement over the local check (LC), two entries IETs 28217 and 28224 (with an yield of 7650 kg/ha and 7841 kg/ha respectively) recorded the required yield gain of more than 5% **However no data pertaining to other checks provided, the trial may be repeated in AVT-1 M (H) in High altitude hills as such.**

**Performance of promising entries at Northern High Altitude Hills in Initial variety Trial – High altitude Hills AVT- 1 M (H), Kharif 2020.**

Rank	IET No /Designation/ Cross combination	Grain Yield (Kg/ha) Days to 50% flowering/ Grain type	% yield superiority over (NC, NC, ZC, LC)
1	IET 28217 SKUA 533-2 Jhelum / Shalimar Rice-1//Jhelum	7650 84 MS	- - - <b>9</b>
2	IET 28224 SKAU 555 Vivekdhan 82 / Shalimar Rice-3	7841 82 LS	- - - <b>11</b>
	VL Dhan 68 (NC)	- -	
	Vivekdhan 62 (NC)	- -	
	Zonal Check (ZC)	- -	
	Local Check (LC)	4970 85	

**INITIAL VARIETY TRIAL - MEDIUM (HILLS) IVT – M (H)****Locations: 17****Test Entries: 18****Checks: Vivekdhan 62 (NC) VL Dhan 68 (NC), VL Dhan 65 (ZC for North & South), RC Maniphou 11 (ZC for North East) and Local Check****Table: 4.18**

The Initial Variety Trial – Medium (Hills) comprised of 18 test entries and Four checks viz., National check (Vivekdhan 62 and VL Dhan 68), Zonal Check (VL Dhan 65 for North & South; RC Maniphou 11 Zonal Check for North East) and Local check. The trial was sent to 17 locations of various altitudes. The trial was not conducted by 7 Centres Viz. Imphal (CAU), Gangtok-ICAR (GTK), Upper Shillong (USG), Pombay (PMB-KHD), Wadura-khudwani (WDR-KHD), Sundernagar (SDN) and Bajura (BJR). While, data was not received from two locations viz., Rajouri (RJR) and DaulaKuan (DLK). Among the 8 locations, data from two locations namely Sirsi, and Barapani (ICAR) was not considered for analysis due to high CV and low experimental mean yield.

Overall mean yield ranged from 2249 kg/ha (IET 28901) to 5334 kg/ha (IET 28907); days to 50% flowering ranged from 80 days (IET 28913) to 106 days (IET 28911); plant height varied from 89.29 cm (IET 28902) to 127.40 (IET 28908) and 130.38 cm (NC Vivekdhan-62) and number of panicles/m<sup>2</sup> ranged from 225 (IET 28902 & NC Vivekdhan - 62)) to 290 (IET 28916). The data pertaining to yield, flowering, plant height and panicles/m<sup>2</sup> were presented in tables 4.19, 4.20, 4.21 and 4.22. Performance of the test entries at different elevations was discussed below.

**Low altitude Northern ( $\leq$  950 MSL)**

IVT-M (H) was conducted at 5 locations (ICAR-Lamphelpat, Wangbal, CAU-Umiam, and Malan). The mean grain yield of the entries ranged from 1878 kg/ha (IET 28901) to 5818 kg/ha (IET 28907); days to 50% flowering varied from 79 days (IET 28906) to 108 days (IET 28911). Among the checks, national check (VL Dhan 68) recorded highest grain yield of 4922 kg/ha with 91 days to 50% flowering. Among the test entries, one entry i.e., **IET 28907 showed 18% (> 5%) superior yield performance over the best check (NC) and hence promoted to 2<sup>nd</sup> year of testing in northern low altitude locations.**

**Performance of promising entries at Northern Low elevated Hills in Initial variety Trial - Medium Hills IVT- M (H), Kharif 2020.**

Rank	IET No/Designation/ Cross combination	Grain Yield (Kg/ha)/ Days to 50% flowering/ Grain type	% yield superiority over NC-1, NC-2 ZC, LC
1	IET 28907 CAUS 124 (ULRC 26-11-2-1-1) Kasalath/Boro dhan	5818 102 MS	18 32 27 25
	VL Dhan 68 (NC 1)	4922 91	
	Vivekdhan 62 (NC 2)	4408 95	
	<b>Zonal Check (ZC)</b>	<b>4574</b> <b>102</b>	
	Local Check (LC)	4650 103	

*Bold Italics- Best check & over the best check; NC- National Check; ZC- Zonal Check; LC- Local Check; LB-Long Bold; SB-Short Bold; MS-Medium Slender, LS-Long Slender,*

**Low altitude Southern ( $\leq 950$  MSL)**

The data from Sirsi location under this altitude was not considered for analysis due to low experimental mean yield.

**Medium altitude hills (951-1500 SL)**

IVT-M (H) trial was conducted only at one location i.e. Almora, Uttarakhand (UK). The mean grain yield at medium altitude ranged from 1232 kg/ha (IET 28916) to 5433 kg/ha (IET 28917); days to 50% flowering varied between 75 days (IET 28909) and 109 days (IET 28911). Among the checks, Zonal check recorded highest yield of 5121 kg/ha with 91 days to 50% flowering.

On the basis of yield improvement over the best check (ZC), two entries IETs 28907, and 28917 recorded the required yield gain of more than 5% in single location and therefore the entries may be repeated.

**Performance of promising entries at Northern Medium elevated Hills in Initial variety Trial - Medium Hills IVT- M (H), Kharif 2020.**

Rank	IET No /Designation/ Cross combination	Grain Yield (Kg/ha) Days to 50% flowering/ Grain type	% yield superiority over (NC, NC, ZC, LC)
1	IET 28907	5429	19
	CAUS 124 (ULRC 26-11-2-1-1)	102	19
	Kasalath/Boro dhan	MS	<b>6</b> 18
2	IET 28917	5433	20
	VL 40626	94	20
	VL 31486/Pusa Sugandh 2	LS	<b>6</b> 18
	VL Dhan 68 (NC)	4545 91	
	Vivekdhan 62 (NC)	4529 85	
	<b>Zonal Check (ZC)</b>	<b>5121</b> <b>91</b>	
	Local Check (LC)	4598 95	

**High altitude hills (951-1500 SL)**

IVT-M (H) trial was conducted only at two locations i.e. Khudwani (KHD) and Ummiam ICAR Upper Shillong, However data of Khudwani centre was considered. The mean grain yield at high altitude ranged from 2492 kg/ha (IET 28904) to 8448 kg/ha (IET 28914); days to 50% flowering varied between 80 days (IET 28916) and 101 days (IET 28904 and IET 28910). Among the checks, local check recorded highest yield of 7108 kg/ha with 86 days to 50% flowering.

On the basis of yield improvement over the best check (LC), three entries IETs 28914, 28913 and 28916 recorded the required yield gain of more than 5%, **however data of other checks not available the trial may be repeated as such in northern high altitude hills.**

**Performance of promising entries at Northern High elevated Hills in Initial variety Trial – High Altitude Hills IVT- M (H), Kharif 2020.**

Rank	IET No /Designation/ Cross combination	Grain Yield (Kg/ha) Days to 50% flowering/ Grain type	% yield superiority over (NC, NC, ZC, LC)
1	IET 28914 SKUA 555 (K 13-39-36-1-1-2) K 39/IR 64	8448 85 MS	- - - <b>19</b>
2	IET 28913 SKAU 553 (K 12-5-1-8-1-2) Jhellum/VL Dhan 85	7825 81 LS	- - - <b>10</b>
3	IET 28916 SKAU 544 (K-11-5-1-9-1-2) CH 1039/IR 24	7584 80	- - - <b>6</b>
	VL Dhan 68 (NC)	- -	
	Vivekdhan 62 (NC)	- -	
	<i>Zonal Check (ZC)</i>	- -	
	Local Check (LC)	7108 86	

**List of the entries promoted in IVT-M (H)**

Elevation	Test Entries
Low Altitude Northern ( $\leq$ 950 MSL)	IETs 28907
Medium altitude hills (951-1500 MSL)	Repeats: IETs 28907 & 28917

**Table No. 4.12: Composition of entries in Advance Variety Trial 1-Medium Hills, AVT 1-M (H), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>2<sup>nd</sup> Year of testing</b>				
2501	28216	CAUS 103 (ULRC 3-4-1-1)	Shahsarang / Mynrii	SS
2502	28212	TRC PSM 164-B-B-13-6-1	Pyzum / BPT 5204	LS
2503	28217	SKUA 533-2	Jhelum / Shalimar Rice-1 // Jhelum	SB
2504	28220	VL 40530	VL 30929 / Pusa Basmati-1	LS
2505	<b>Vivekdhan 62 (NC)</b>			
2506	28224	SKUA 535	Vivekdhan 82 / Shalimar Rice-3	SB
2507	28222	TRC BN-1818-B-B-23-7-1	Bhalum 3 / Naveen	LS
2508	<b>VL Dhan 65 (ZC for North &amp; South), RC Maniphou 11 (ZC for North East)</b>			
2509	28210	CAUS 107 (ULRC 5-2-1-2-2)	Shahsarang / CAU R1	SS
2510	28227	SKUA 534	Shalimar Rice-1 / China 1039	SB
2511	<b>VL Dhan 68 (NC)</b>			
<b>3<sup>rd</sup> Year of testing</b>				
2512	26594 (R)	HPR 2929	Kalizini / HPR 2143 // HPR 2143	LS
2513	<b>Local Check</b>			

**Table No.4.13: Grain yield (kg/ha) of entries in AVT 1 – M (H), Kharif 2020**

Entry No	IET No	Elevation																
		Low Northern																
		Himachal Pradesh						Manipur				Manipur (1)		Meghalaya (1)		Low Northern (3)		
@MLN		SUN		Himachal Pradesh (1)		LPP		@WBL		Mean		UMM-CAU		Mean				
2501	28216	2000	7	3036		3036		7018	3	3267	1	7018	3	4452	2	5%	4835	7
2502	28212	2575	6	4040		4040		7039	2	2800	3	7039	2	4085	4		5055	5
2503	28217	1342		4890	8	4890	8	1989	10			1989	10	1790			2890	
2504	28220	2607	4	3620		3620		5960	6	1667	7	5960	6	2826	10		4135	10
2505	<b>Vivekdhan 62 (NC)</b>	2000	7	5557	5	5557	5	3933	9	2933	2	3933	9	3269	8		4253	9
2506	28224	1013		5587	3	5587	3	1852				1852		1068			2836	
2507	28222	2951	3	4831	9	4831	9	7365	1	2533	6	7365	1	4033	5		5410	1
2508	<b>Zonal Check (ZC)</b>	3010	2	5562	4	5562	4	6450	4			6450	4	3328	7		5113	3
2509	28210	2581	5	4375	10	4375	10	6239	5			6239	5	4923	1	17%	5179	2
2510	28227	939		5761	2	5761	2	807		2600	5	807		1402			2657	
2511	<b>VL Dhan 68 (NC)</b>	3310	1	5429	7	5429	7	5682	7			5682	7	4220	3		5110	4
2512	26594 (R)	1911	9	6131	1	6131	1	10%						3039	9		4585	8
2513	<b>Local Check</b>	1736	10	5439	6	5439	6	5303	8	2667	4	5303	8	3772	6		4838	6
Exp. Mean		<b>2152</b>		<b>4943</b>		<b>4943</b>		<b>4970</b>		<b>2638</b>		<b>4970</b>		<b>3247</b>			<b>4377</b>	
CD		309		1446		1446		1477		128		1477		740			721	
CV%		<b>8.53</b>		<b>17.36</b>		<b>17.36</b>		<b>17.55</b>		<b>2.73</b>		<b>17.55</b>		<b>13.53</b>			<b>9.77</b>	
D/S		09-06-2020		12-06-2020				23-06-2020		15-07-2020				15-06-2020				
D/P		01-07-2020		06-07-2020				20-07-2020		08-08-2020				07-10-2020				
Local Check Name		HPR 2143						RC Maniphou-13		sana-phou				Shahsarang				

Table No. 4.13 contd.: Grain yield (kg/ha) of entries in AVT 1 – M (H), Kharif 2020

Elevation		Low Southern				Medium Northern					
Entry No	IET No	Karnataka		Uttarakhand (1)		Himachal Pradesh		Himachal Pradesh (1)		Medium Northern (1)	
		@SRS		ALM		@BJR		Mean		Mean	
2501	28216	2654	2	3475	10	1233		3036		3475	10
2502	28212	2400	3	4848	4	2342	9	4040		4848	4
2503	28217	1242	6	2127		4600	3	4890	8	2127	
2504	28220	1192	7	4646	7	1683		3620		4646	7
2505	<b>Vivekdhan 62 (NC)</b>	873		4960	3	2742	7	5557	5	4960	3
2506	28224	906		3303		2667	8	5587	3	3303	
2507	28222	2375	4	4116	9	1871	10	4831	9	4116	9
2508	<b>Zonal Check (ZC)</b>	1173	9	4697	6	1629		5562	4	4697	6
2509	28210	2748	1	4136	8	4325	4	4375	10	4136	8
2510	28227	1031	10	2086		4250	5	5761	2	2086	
2511	<b>VL Dhan 68 (NC)</b>	750		5419	1	3433	6	5429	7	5419	1
2512	26594 (R)	1183	8	5202	2	5417	1	6131	1 10%	5202	2
2513	<b>Local Check</b>	1456	5	4843	5	4675	2	5439	6	4843	5
Exp. Mean		<b>1537</b>		<b>4143</b>		<b>3144</b>		<b>4943</b>		<b>4143</b>	
CD		769		680		1398		1446		680	
CV%		<b>29.69</b>		<b>9.74</b>		<b>26.39</b>		<b>17.36</b>		<b>9.74</b>	
D/S		20-06-2020		09-06-2020							
D/P		15-07-2020		02-07-2020		24-06-2020					
Local Check Name		BPT 5204		VLD 61		HPR-1068					

Table No.4.13 contd.: Grain yield (kg/ha) of entries in AVT 1 – M (H), Kharif 2020

Elevation		High								Overall	
Entry No	IET No	Jammu & Kashmir (1)		Meghalaya		Meghalaya (1)		High (1)		Mean	
		KHD		@UMM-ICAR		Mean		Mean		Mean	
2501	28216	3831	6	1917	2	4452	2 5%	3831	6	4362	9
2502	28212	2286	8	1757	4	4085	4	2286	8	4460	6
2503	28217	7650	2 9%	770		1790		7650	2 9%	3689	
2504	28220	2455	7	1217	10	2826	10	2455	7	3901	
2505	<b>Vivekdhan 62 (NC)</b>			1403	8	3269	8			4430	7
2506	28224	7841	1 * 11%	460		1068		7841	1 * 11%	3930	10
2507	28222			1733	5	4033	5			5086	3
2508	<b>Zonal Check (ZC)</b>	1963	9	1430	7	3328	7	1963	9	4400	8
2509	28210			2117	1	4923	1 17%			4918	4
2510	28227	7397	3	603		1402		7397	3	3491	
2511	<b>VL Dhan 68 (NC)</b>			1813	3	4220	3			5188	2
2512	26594 (R)	4264	5	1307	9	3039	9	4264	5	4659	5
2513	<b>Local Check</b>	7045	4	1623	6	3772	6	7045	4	5280	1
Exp. Mean		<b>4970</b>		<b>1396</b>		<b>3247</b>		<b>4970</b>		<b>4446</b>	
CD		707		317		740		707		524	
CV%		<b>8.22</b>		<b>13.48</b>		<b>13.53</b>		<b>8.22</b>		<b>6.99</b>	
D/S		08-06-2020		24-04-2020							
D/P		26-06-2020		25-05-2020							
Local Check Name		Shalimar Rice 4		NEH Megha Rice 2							

**Table No. 4.14 : Days to 50% flowering of entries in AVT 1 – M (H), Kharif 2020**

Elevation		Low Northern							Low Southern	
Entry No	IET No	Himachal Pradesh			Manipur		Manipur (1) Mean	Meghalaya (1)	Low Northern (3) Mean	Karnataka
		@MLN	SUN	Himachal Pradesh (1)	LPP	@WBL		UMM-CAU		@SRS
2501	28216	101	98	98	94	105	94	110	101	105
2502	28212	94	92	92	89	100	89	102	94	100
2503	28217	73	80	80	73	.	73	87	80	81
2504	28220	96	94	94	89	98	89	102	95	97
2505	Vivekdhan 62 (NC)	91	82	82	83	92	83	103	89	88
2506	28224	70	75	75	75	.	75	86	79	81
2507	28222	97	99	99	89	103	89	98	95	100
2508	Zonal Check (ZC)	91	89	89	96	.	96	114	100	88
2509	28210	94	94	94	87	.	87	95	92	102
2510	28227	70	77	77	71	81	71	87	78	81
2511	VL Dhan 68 (NC)	89	88	88	78	.	78	106	91	88
2512	26594 (R)	78	88	88	.	.	.	102	95	95
2513	Local Check	79	84	84	96	98	96	111	97	102
Exp. Mean		86	88	88	85	97	85	100	91	93

**Table No.4.14 contd.: Days to 50% flowering of entries in AVT 1 – M (H), Kharif 2020**

Elevation		Medium Northern				High				Overall (5)
Entry No	IET No	Uttarakhand (1)	Himachal Pradesh (2)	Himachal Pradesh (1)	Medium Northern (1) Mean	Jammu & Kashmir (1)	Meghalaya (2)	Meghalaya (1) Mean	High(1) Mean	Mean
		ALM	@BJR	Mean	Mean	KHD	@UMM-ICAR	Mean	Mean	
2501	28216	101	81	98	101	92	129	110	92	99
2502	28212	98	93	92	98	95	121	102	95	95
2503	28217	87	69	80	87	84	106	87	84	82
2504	28220	102	95	94	102	96	121	102	96	97
2505	Vivekdhan 62 (NC)	94	93	82	94	.	122	103	.	91
2506	28224	79	94	75	79	82	105	86	82	80
2507	28222	98	82	99	98	.	117	98	.	96
2508	Zonal Check (ZC)	93	91	89	93	95	133	114	95	98
2509	28210	97	91	94	97	.	114	95	.	93
2510	28227	78	71	77	78	83	106	87	83	79
2511	VL Dhan 68 (NC)	90	83	88	90	.	125	106	.	91
2512	26594 (R)	90	79	88	90	92	121	102	92	93
2513	Local Check	102	73	84	102	85	130	111	85	95
Exp. Mean		93	84	88	93	89	119	100	89	91

**Table No.4.15: Plant Height (cm) of entries in AVT 1- M (H), Kharif 2020**

Elevation		Low Northern							Low Southern	
Entry No	IET No	Himachal Pradesh			Manipur		Manipur (1) Mean	Meghalaya (1)	Low Northern (3) Mean	Karnataka
		@MLN	SUN	Himachal Pradesh (1)	LPP	@WBL		UMM-CAU		@SRS
2501	28216	115.20	90.98	90.98	126.92	83.00	126.92	111.99	109.96	99.00
2502	28212	103.60	104.03	104.03	115.38	88.00	115.38	96.90	105.44	100.00
2503	28217	118.90	120.82	120.82	119.17	.	119.17	98.40	112.80	101.00
2504	28220	109.50	103.68	103.68	116.67	82.00	116.67	100.05	106.80	99.00
2505	Vivekdhan 62 (NC)	141.40	145.78	145.78	141.50	124.00	141.50	128.67	138.65	122.00
2506	28224	109.00	135.55	135.55	124.50	.	124.50	102.78	120.94	108.00
2507	28222	107.00	94.60	94.60	111.67	80.00	111.67	94.77	100.34	92.50
2508	Zonal Check (ZC)	131.10	132.56	132.56	97.25	.	97.25	85.65	105.15	105.50
2509	28210	104.90	100.38	100.38	103.42	.	103.42	99.19	101.00	93.00
2510	28227	110.40	119.02	119.02	115.83	102.00	115.83	96.96	110.61	98.00
2511	VL Dhan 68 (NC)	135.90	127.56	127.56	123.17	.	123.17	120.41	123.71	106.50
2512	26594 (R)	108.70	122.38	122.38	.	.	.	95.00	108.69	104.00
2513	Local Check	108.90	102.33	102.33	117.50	80.00	117.50	104.72	108.18	106.00
Exp. Mean		115.73	115.36	115.36	117.75	91.29	117.75	102.73	111.71	102.65



**Table No.4.15 contd.: Plant Height (cm) of entries in AVT 1- M (H), Kharif 2020**

Elevation		Medium Northern		High				Overall (5) Mean
Entry No	IET No	Uttarakhand (1)	Medium Northern (1) Mean	Jammu & Kashmir (1)	Meghalaya (2)	Meghalaya (1) Mean	High (1) Mean	
		ALM		KHD	@UMM-ICAR			
2501	28216	116.33	116.33	88.60	96.49	111.99	88.60	106.97
2502	28212	112.67	112.67	92.70	81.40	96.90	92.70	104.34
2503	28217	102.67	102.67	114.90	82.90	98.40	114.90	111.19
2504	28220	110.00	110.00	96.40	84.55	100.05	96.40	105.36
2505	Vivekdhan 62 (NC)	130.67	130.67	.	113.17	128.67	.	136.65
2506	28224	128.67	128.67	121.20	87.28	102.78	121.20	122.54
2507	28222	109.33	109.33	.	79.27	94.77	.	102.59
2508	Zonal Check (ZC)	130.67	130.67	80.60	70.15	85.65	80.60	105.34
2509	28210	107.67	107.67	.	83.69	99.19	.	102.66
2510	28227	102.33	102.33	116.20	81.46	96.96	116.20	110.07
2511	VL Dhan 68 (NC)	127.33	127.33	.	104.91	120.41	.	124.62
2512	26594 (R)	111.00	111.00	84.20	79.50	95.00	84.20	103.15
2513	Local Check	123.67	123.67	118.40	89.22	104.72	118.40	113.32
Exp. Mean		116.38	116.38	101.47	87.23	102.73	101.47	111.45

**Table No.4.16: No. of Panicles/m<sup>2</sup> of entries in AVT 1- M (H), Kharif 2020**

Elevation		Low Northern							Low Southern	
Entry No	IET No	Himachal Pradesh			Manipur		Manipur (1) Mean	Meghalaya (1)	Low Northern (3) Mean	Karnataka
		@MLN	SUN	Himachal Pradesh (1)	LPP	@WBL		UMM-CAU		@SRS
2501	28216	268	286	286	195	318	195	226	236	347
2502	28212	186	230	230	180	243	180	219	210	314
2503	28217	185	327	327	193	.	193	209	243	330
2504	28220	238	312	312	195	162	195	211	239	307
2505	Vivekdhan 62 (NC)	158	555	555	158	248	158	179	297	320
2506	28224	204	358	358	145	.	145	196	233	310
2507	28222	208	245	245	171	231	171	201	205	284
2508	Zonal Check (ZC)	256	380	380	174	.	174	237	264	340
2509	28210	248	311	311	177	.	177	198	229	333
2510	28227	198	302	302	168	282	168	214	228	350
2511	VL Dhan 68 (NC)	277	287	287	190	.	190	233	237	356
2512	26594 (R)	276	366	366	.	.	.	196	281	333
2513	Local Check	236	379	379	151	311	151	220	250	271
Exp. Mean		226	334	334	175	257	175	211	242	323

**Table No.4.16 contd.: No of Panicles/m<sup>2</sup> of entries in AVT 1- M (H), Kharif 2020**

Elevation		Medium Northern		High				Overall (5) Mean
Entry No	IET No	Uttarakhand (1)	Medium Northern (1) Mean	Jammu & Kashmir (1)	Meghalaya (2)	Meghalaya (1) Mean	High (1) Mean	
		ALM		KHD	@UMM-ICAR			
2501	28216	268	268	154	113	226	154	226
2502	28212	298	298	147	110	219	147	215
2503	28217	258	258	350	104	209	350	267
2504	28220	291	291	162	105	211	162	234
2505	Vivekdhan 62 (NC)	306	306	.	89	179	.	299
2506	28224	289	289	441	98	196	441	286
2507	28222	289	289	.	100	201	.	226
2508	Zonal Check (ZC)	317	317	161	119	237	161	254
2509	28210	288	288	.	99	198	.	243
2510	28227	256	256	443	107	214	443	277
2511	VL Dhan 68 (NC)	276	276	.	117	233	.	247
2512	26594 (R)	292	292	300	98	196	300	288
2513	Local Check	307	307	427	110	220	427	297
Exp. Mean		287	287	287	105	211	287	258

**Table No. 4.17: Grain quality characteristics of entries in AVT1-M (H), Kharif 2020**

Entry No.	IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
2501	28216	81.3	72	56.2	5.50	2.28	2.41	SB	OC	4.0	26.34	47
2502	28212	79.3	70.9	56.6	5.56	2.37	2.34	SB	VOC	4.0	23.33	47
2503	28217	80.9	67.4	44.4	5.42	2.47	2.19	SB	OC	4.0	25.43	45
2504	28220	80.8	71.1	63.6	6.87	1.91	3.59	LS	VOC	7.0	27.63	66
2505	Vivekdhan-62	81.0	69.7	62.1	5.16	2.63	1.96	SB	OC	4.0	23.81	22
2506	28224	80.9	71	47.8	5.43	2.43	2.23	SB	VOC	4.0	23.64	22
2507	28222	76.5	70.6	66.1	5.86	2.40	2.44	SB	VOC	7.0	21.91	45
2508	Zonal Check	79.0	68.7	60.0	6.02	2.11	2.85	LB	VOC	4.0	25.63	35
2509	28210	80.0	70.4	57.7	5.54	2.25	2.46	SB	VOC	4.0	26.42	55
2510	28227	78.4	65.8	36.1	5.33	2.63	2.02	SB	OC	4.0	27.54	54
2511	VL Dhan 68	77.0	66.2	34.0	6.11	2.15	2.84	LB	VOC	4.0	26.72	43
2512	26594 ( R)	82.8	70.5	49.7	6.86	1.82	3.57	LS	VOC	7.0	24.25	22
2513	Local Check	80.4	67.9	50.2	6.32	2.59	2.44	LB	VOC	4.0	26.75	45

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

**Table No.4.18: Composition of entries in Initial Variety Trial - Medium Hills, IVT-M (H), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	GT
<b>1<sup>st</sup> Year of testing</b>				
2601	28901	SKUA 559 (K 13-10-10-3-2-1)	Mushkbudji / DHMAS // Mushkbudji /// Mushkbudji	SB
2602	28902	TRC BN 622-B-B-49-5-2	Bhalum 3 / Naveen	MS
2603	<b>VL Dhan 68 (NC)</b>			
2604	28903	CAUS 123 (ULRC 24-99-3-1-1)	Kasalath / Shahsarang	MS
2605	28904	HPR 3204	HPU 741 / HPR 2512 // HPR 1149	LS
2606	28905	VL 32596	VL Dhan 61/ VSR 8	LS
2607	28906	SKUA 543 (K 11-5-1-9-4-3)	CH 1039 / IR 24	MS
2608	28907	CAUS 124 (ULRC 26-11-2-1-1)	Kasalath / Boro dhan	MS
2609	28908	VL 40604	VL 30988 / VL 304241077	LS
2610	28909	SKUA 550 (K 12-9-1-9-1-1)	Jhelum / DHMAS	MS
2611	28910	TRC GH 491-B-B-7-4-1	Gomatidhan / Hakuchuk 2	MS
2612	<b>VL Dhan 65 (ZC for North &amp; South) RC Maniphou 11 (ZC for North East)</b>			
2613	28911	CAUS 125 (ULRC 29-8-4-1)	Samba Mahsuri Sub 1 / Shahsarang	SB
2614	28912	VL 32511	VL Dhan 85 / O. minuta	LS
2615	28913	SKUA 553 (K 12-5-1-8-1-1)	Jhelum / VL Dhan 85	LS
2616	28914	SKUA 555 (K 13-39-36-1-1-2)	K 39 / IR 64	SB
2617	28915	HPR 3205	HPR 2143*3 / DHMAS 164 // HPR 2143*3 / Pusa 1637	LS
2618	28916	SKUA 544 (K 11-5-1-9-1-2)	CH 1039 / IR 24	MS
2619	<b>Vivekdhan 62 (NC)</b>			
2620	28917	VL 40626	VL 31486/ Pusa Sugandh 2	LS
2621	28918	TRC BN 723-B-B-69-2-1	Bhalum 3 / Naveen	MS
2622	<b>Local Check</b>			

**Table No.4.19: Grain yield (kg/ha) of entries in IVT - M (H), Kharif 2020**

Elevation		Low Northern										Low Southern							
Entry No	IET No	Himachal Pradesh (1)		Manipur				Meghalaya (1)		Low Northern (4) Mean		Karnataka							
		MLN	LPP	WBL	Manipur (2)		UMM-CAU				@SRS								
2601	28901	1866		2054		2600	2327		993		1878		179						
2602	28902	5161	8	6366	9	3450	9	4908	8	2995	10	4493	10	3404	1				
2603	VL Dhan 68 (NC)	5946	4	8681	2	3000		5841	2	2061		4922	2	1300	10				
2604	28903	5938	5	7060	5	3650	4	5355	4	3035	9	4921	3	1654	6				
2605	28904	4598		5498		2825		4162		2651		3893		1511	8				
2606	28905	4661		5353		2750		4052		3319	8	4021		1018					
2607	28906	3089		1997		3450	9	2724		806		2336		1054					
2608	28907	5991	2	10272	1	2700		6486	1	11%	4310	1 *	24%	5818	1 *	1	3336	2	
2609	28908	5152	9	8015	3	3550	7	5783	3			2584		4825	4			1026	
2610	28909	4464		1736		3100		2418				1085		2596				1021	
2611	28910	4938	10	6863	7	2750		4807	10	4156	2	20%	4677	7			3186	3	
2612	Zonal Check (ZC)	5223	7	6076	10	3600	9	4838	9	3396	6		4574	9			864		
2613	28911	4420		5642		3500	8	4571		3782	3	9%	4336				2604	4	
2614	28912	5714	6	7002	6	2950		4976	7	3369	7		4759	6			957		
2615	28913	4509		4456		3700	3	4078		1907			3643				986		
2616	28914	4777		1939		2600		2270		1686			2751				1571	7	
2617	28915	4188		3646		2100		2873		3631	4		3391				821		
2618	28916	3321		1823		2500	9	2162		825			2117				1461	9	
2619	Vivekdhan 62 (NC)	6375	1	5122		3600		4361		2536			4408				511		
2620	28917	4509		4311		4200	2	4256		2119			3785				1218		
2621	28918	5991	2	6470	8	4200	2	5335	5	2519			4795	5			1100		
2622	Local Check	4714		7321	4	3100		5211	6	3463	5		4650	8			1875	5	
Exp. Mean		4797		5350		3176		4263		2601			3981					1484	
CD		952		2587		236		1274		710			735					697	
CV%		9.55		23.25		3.57		14.37		13.12			8.87					22.59	
D/S		08-06-2020		23-06-2020		12-07-2020				15-05-2020				20-06-2020					
D/P		30-06-2020		18-07-2020		05-08-2020				10-07-2020				10-07-2020					
Local Check Name		HPR 2143		RC Maniphou-13		sana-phou				Shahsarang				BPT5204					

**Table No.4.19 contd: Grain yield (kg/ha) of entries in IVT - M (H), Kharif 2020**

Elevation		Medium Northern (1)				High				Overall (6) Mean									
Entry No	IET No	Uttarakhand (1)		Jammu & Kashmir (1)		Meghalaya (2)		Meghalaya (1) Mean		High (1) Mean									
		ALM	KHD			@UMM-ICAR													
2601	28901			3730	9	400		993		3730	9		2249						
2602	28902	3143		3217		1195	10	2995	10	3217			4055						
2603	VL Dhan 68 (NC)	4545	10			825		2061					4847	4					
2604	28903	4080				1215	9	3035	9				4753	5					
2605	28904	5036	5	2492		1060		2651		2492			3850						
2606	28905	2277		3087		1330	8	3319	8	3087			3575						
2607	28906	1264		6825	7	320		806		6825	7		2905						
2608	28907	5429	2	6.01%	3300	1725	1 *	4310	1 *	24%	3300		5334	1	6%				
2609	28908	4843	6	4238	8	1035		2584		4238	8		4730	6					
2610	28909	2500		7325	4	435		1085		7325	4		3368						
2611	28910	4554	9	3058		1660	2	4156	2	20%	3058		4387	10					
2612	Zonal Check (ZC)	5121	4			1360	6	3396	6				4683	7					
2613	28911	2366		2616		1515	3	3782	3	9%	2616		3721						
2614	28912	5217	3			1345	7	3369	7				4850	3					
2615	28913	3491		7825	2	10%	760	1907		7825	2	10%	4315						
2616	28914	4263		8448	1 *	19%	675	1686		8448	1 *	19%	3952						
2617	28915	4795	7	7040	6	1450	4	3631	4	7040	6		4233						
2618	28916	1232		7584	3	7%	330	825		7584	3	7%	2881						
2619	Vivekdhan 62 (NC)	4529				1015		2536					4432	8					
2620	28917	5433	1	6.09%	3193	845		2119		3193			3961						
2621	28918	3795		3546	10	1010		2519		3546	10		4420	9					
2622	Local Check	4598	8	7108	5	1385	5	3463	5	7108	5		5051	2					
Exp. Mean		3929		4978		1040		2601		4978			4116						
CD		811		816		286		710		816			509						
CV%		9.89		7.73		13.19		13.12		7.73			5.95						
D/S		09-06-2020		08-06-2020		24-04-2020													
D/P		04-07-2020		26-06-2020		25-05-2020													
Local Check Name		VLD 61		Shalimar Rice 4		NEH Megha Rice 2													

**Table No. 4.20: Days to 50% flowering of entries in IVT - M (H), Kharif 2020**

Elevation		Low Northern					Low Southern	
Entry No	IET No	Himachal Pradesh (1)	Manipur			Meghalaya (1)	Low Northern (4) Mean	Karnataka
		MLN	LPP	WBL	Manipur (2)	UMM-CAU		@SRS
2601	28901	81	72	85	78	92	82	79
2602	28902	99	95	111	103	93	99	103
2603	<b>VL Dhan 68 (NC)</b>	91	80	95	87	100	91	86
2604	28903	93	89	99	94	98	95	88
2605	28904	93	89	110	100	103	99	93
2606	28905	93	96	98	97	101	97	88
2607	28906	78	73	85	79	83	79	77
2608	28907	97	94	111	103	106	102	99
2609	28908	90	87	100	94	111	97	89
2610	28909	75	76	89	82	85	81	80
2611	28910	97	90	115	102	97	99	99
2612	<b>Zonal Check (ZC)</b>	90	88	109	99	120	102	86
2613	28911	111	97	112	105	113	108	105
2614	28912	90	87	99	93	105	95	86
2615	28913	73	75	88	81	84	80	80
2616	28914	81	79	90	84	84	83	88
2617	28915	86	76	96	86	90	87	86
2618	28916	81	77	85	81	84	82	79
2619	<b>Vivekdhan 62 (NC)</b>	91	78	108	93	102	95	88
2620	28917	90	96	96	96	100	96	90
2621	28918	92	94	109	101	101	99	86
2622	<b>Local Check</b>	88	96	111	104	119	103	97
<b>Exp. Mean</b>		<b>89</b>	<b>85</b>	<b>100</b>	<b>93</b>	<b>98</b>	<b>93</b>	<b>89</b>

**Table No. 4.20 contd.: Days to 50% flowering of entries in IVT - M (H), Kharif 2020**

Elevation		Medium Northern (1)	High			High (1) Mean	Overall (6) Mean
Entry No	IET No	Uttarakhand (1)	Jammu & Kashmir (1)	Meghalaya (2)	Meghalaya (1) Mean		
		ALM	KHD	@UMM-ICAR			
2601	28901	.	87	110	92	87	83
2602	28902	99	97	111	93	97	99
2603	<b>VL Dhan 68 (NC)</b>	91	.	118	100	.	91
2604	28903	98	.	116	98	.	95
2605	28904	92	101	121	103	101	98
2606	28905	86	96	119	101	96	95
2607	28906	82	84	101	83	84	81
2608	28907	102	97	124	106	97	101
2609	28908	97	96	129	111	96	97
2610	28909	75	83	103	85	83	80
2611	28910	98	101	115	97	101	99
2612	<b>Zonal Check (ZC)</b>	91	.	138	120	.	100
2613	28911	109	96	131	113	96	106
2614	28912	84	.	123	105	.	93
2615	28913	80	81	102	84	81	80
2616	28914	79	85	102	84	85	83
2617	28915	84	88	108	90	88	87
2618	28916	83	80	102	84	80	81
2619	<b>Vivekdhan 62 (NC)</b>	85	.	120	102	.	93
2620	28917	94	95	118	100	95	95
2621	28918	92	98	119	101	98	98
2622	<b>Local Check</b>	95	86	137	119	86	99
<b>Exp. Mean</b>		<b>90</b>	<b>91</b>	<b>116</b>	<b>98</b>	<b>91</b>	<b>92</b>

**Table No. 4.21: Plant Height (cm) of entries in IVT – M (H), Kharif 2020**

Elevation		Low Northern					Low Southern	
Entry No	IET No	Himachal Pradesh (1)	Manipur			Meghalaya(1)	Low Northern (4) Mean	Karnataka
		MLN	LPP	WBL	MN (2)	UMM-CAU		@SRS
2601	28901	133.90	107.50	122.00	114.75	100.54	115.98	106.20
2602	28902	97.00	105.40	67.00	86.20	82.76	88.04	89.20
2603	<b>VL Dhan 68 (NC)</b>	143.70	129.80	90.00	109.90	105.21	117.18	106.70
2604	28903	115.60	118.20	92.00	105.10	94.74	105.13	102.10
2605	28904	101.70	109.20	74.00	91.60	101.37	96.57	95.60
2606	28905	127.00	122.00	103.00	112.50	107.95	114.99	100.00
2607	28906	129.10	114.60	103.00	108.80	87.67	108.59	100.40
2608	28907	129.40	130.40	90.00	110.20	109.96	114.94	109.70
2609	28908	154.21	141.50	125.00	133.25	123.61	136.08	121.30
2610	28909	143.49	124.80	125.00	124.90	102.27	123.89	118.20
2611	28910	95.60	100.67	87.00	93.83	80.88	91.04	84.90
2612	<b>Zonal Check (ZC)</b>	136.70	97.20	65.00	81.10	77.83	94.18	104.80
2613	28911	97.70	122.00	88.00	105.00	94.66	100.59	91.40
2614	28912	134.30	131.00	120.00	125.50	109.39	123.67	107.30
2615	28913	130.20	118.40	100.00	109.20	93.98	110.64	110.20
2616	28914	130.20	116.20	104.00	110.10	90.00	110.10	119.60
2617	28915	113.90	113.40	86.00	99.70	91.55	101.21	97.60
2618	28916	122.80	109.40	86.00	97.70	72.47	97.67	104.50
2619	<b>Vivekdhan 62 (NC)</b>	146.30	138.60	110.00	124.30	123.99	129.72	128.00
2620	28917	124.50	122.20	110.00	116.10	105.62	115.58	102.90
2621	28918	115.20	121.40	90.00	105.70	95.15	105.44	105.10
2622	<b>Local Check</b>	108.30	115.80	90.00	102.90	96.45	102.64	108.10
Exp. Mean		<b>124.13</b>	<b>118.62</b>	<b>96.68</b>	<b>107.65</b>	<b>97.64</b>	<b>109.27</b>	<b>105.17</b>

**Table No. 4.21 contd: Plant Height (cm) of entries in IVT – M (H), Kharif 2020**

Elevation		Medium Northern (1)	High				Overall (6)
Entry No	IET No	Uttarakhand (1)	Jammu & Kashmir (1)	Meghalaya (2)	Meghalaya (1) Mean	High (1) Mean	Mean
		ALM	KHD	@UMM-ICAR			
2601	28901	.	116.10	86.54	100.54	116.10	116.01
2602	28902	85.00	98.60	68.76	82.76	98.60	89.29
2603	<b>VL Dhan 68 (NC)</b>	132.50	.	91.21	105.21	.	120.24
2604	28903	112.00	.	80.74	94.74	.	106.51
2605	28904	104.00	85.40	87.37	101.37	85.40	95.94
2606	28905	104.50	82.20	93.95	107.95	82.20	107.78
2607	28906	91.50	106.80	73.67	87.67	106.80	105.44
2608	28907	111.00	86.70	95.96	109.96	86.70	109.58
2609	28908	130.00	90.10	109.61	123.61	90.10	127.40
2610	28909	125.50	121.60	88.27	102.27	121.60	123.78
2611	28910	88.50	103.70	66.88	80.88	103.70	92.72
2612	<b>Zonal Check (ZC)</b>	124.50	.	63.83	77.83	.	100.25
2613	28911	108.00	105.40	80.66	94.66	105.40	102.63
2614	28912	124.00	.	95.39	109.39	.	123.74
2615	28913	114.00	117.10	79.98	93.98	117.10	112.28
2616	28914	129.00	114.70	76.00	90.00	114.70	114.02
2617	28915	101.00	104.60	77.55	91.55	104.60	101.74
2618	28916	98.00	103.50	58.47	72.47	103.50	98.69
2619	<b>Vivekdhan 62 (NC)</b>	133.00	.	109.99	123.99	.	130.38
2620	28917	114.50	92.70	91.62	105.62	92.70	111.59
2621	28918	113.50	100.70	81.15	95.15	100.70	105.99
2622	<b>Local Check</b>	124.00	115.90	82.45	96.45	115.90	108.41
Exp. Mean		<b>112.76</b>	<b>102.69</b>	<b>83.64</b>	<b>97.64</b>	<b>102.69</b>	<b>109.29</b>

**Table No. 4.22: No. of Panicles/m<sup>2</sup> of entries in IVT - M (H), Kharif 2020**

Elevation		Low Northern					Low Southern	
Entry No	IET No	Himachal Pradesh (1)	Manipur			Meghalaya(1)	Low Northern (4)	Karnataka
		MLN	LPP	WBL	Manipur (2)	UMM-CAU	Mean	@SRS
2601	28901	261.00	218.00	334.00	276.00	180.00	248.25	313.50
2602	28902	234.00	189.00	244.50	216.75	206.00	218.38	396.00
2603	<b>VL Dhan 68 (NC)</b>	258.00	250.00	326.00	288.00	157.00	247.75	409.20
2604	28903	264.00	217.00	351.50	284.25	156.00	247.13	366.30
2605	28904	258.00	237.00	384.00	310.50	182.00	265.25	349.80
2606	28905	222.00	176.00	384.00	280.00	144.50	231.63	323.40
2607	28906	288.00	234.00	388.50	311.25	162.00	268.13	366.30
2608	28907	261.00	198.00	338.50	268.25	214.00	252.88	359.70
2609	28908	282.00	211.00	454.00	332.50	232.00	294.75	386.10
2610	28909	237.00	140.00	447.50	293.75	176.00	250.13	366.30
2611	28910	249.00	207.00	304.00	255.50	217.50	244.38	379.50
2612	<b>Zonal Check (ZC)</b>	245.00	202.00	312.50	257.25	189.00	237.13	379.50
2613	28911	258.00	194.00	335.50	264.75	208.00	248.88	316.80
2614	28912	243.00	237.00	395.50	316.25	164.00	259.88	320.10
2615	28913	249.00	237.00	336.50	286.75	178.00	250.13	379.50
2616	28914	228.00	177.00	373.50	275.25	129.00	226.88	379.50
2617	28915	225.00	200.00	324.00	262.00	197.00	236.50	386.10
2618	28916	297.00	250.00	385.00	317.50	135.00	266.75	409.20
2619	<b>Vivekdhan 62 (NC)</b>	210.00	164.00	332.50	248.25	144.00	212.63	359.70
2620	28917	204.00	165.00	383.50	274.25	182.00	233.63	366.30
2621	28918	341.00	222.00	313.50	267.75	204.00	270.13	386.10
2622	Local Check	258.00	168.00	336.50	252.25	244.00	251.63	310.20
Exp. Mean		<b>253.27</b>	<b>204.23</b>	<b>353.86</b>	<b>279.05</b>	<b>181.86</b>	<b>248.31</b>	<b>364.05</b>

**Table No. 4.22 contd: No. of Panicles/m<sup>2</sup> of entries in IVT - M (H), Kharif 2020**

Elevation		Medium Northern (1)	High				Overall (6) Mean
Entry No	IET No	Uttarakhand(1)	Jammu & Kashmir (1)	Meghalaya (2)	Meghalaya (1)	High (1)	
		ALM	KHD	@UMM-ICAR	Mean	Mean	
2601	28901	.	212.50	90.00	180.00	212.50	241.10
2602	28902	290.50	183.50	103.00	206.00	183.50	224.58
2603	<b>VL Dhan 68 (NC)</b>	317.50	.	78.50	157.00	.	261.70
2604	28903	335.00	.	78.00	156.00	.	264.70
2605	28904	307.00	165.50	91.00	182.00	165.50	255.58
2606	28905	312.50	183.50	72.50	144.50	183.50	237.08
2607	28906	253.00	381.50	81.00	162.00	381.50	284.50
2608	28907	318.50	197.50	107.00	214.00	197.50	254.58
2609	28908	287.00	243.50	116.00	232.00	243.50	284.92
2610	28909	276.50	397.00	88.00	176.00	397.00	279.00
2611	28910	279.50	188.00	108.50	217.50	188.00	240.83
2612	<b>Zonal Check (ZC)</b>	300.00	.	94.50	189.00	.	249.70
2613	28911	282.00	163.00	104.00	208.00	163.00	240.08
2614	28912	305.00	.	82.00	164.00	.	268.90
2615	28913	285.50	400.50	89.00	178.00	400.50	281.08
2616	28914	323.50	463.00	64.50	129.00	463.00	282.33
2617	28915	303.50	394.50	98.50	197.00	394.50	274.00
2618	28916	269.50	404.00	67.50	135.00	404.00	290.08
2619	<b>Vivekdhan 62 (NC)</b>	276.50	.	72.00	144.00	.	225.40
2620	28917	290.00	177.50	91.00	182.00	177.50	233.67
2621	28918	269.00	182.00	102.00	204.00	182.00	255.25
2622	Local Check	310.50	405.50	122.00	244.00	405.50	287.08
Exp. Mean		<b>294.86</b>	<b>278.97</b>	<b>90.93</b>	<b>181.86</b>	<b>278.97</b>	<b>259.83</b>

**ADVANCE VARIETY TRIAL 1-UPLAND (HILLS) - AVT 1-U (H)****Locations: 07****Test Entries: 8****Checks: Sukaradhan 1 (NC), Vivekdhan 158 and Vivekdhan 154 (ZC for North and South), Bhalum 1 (ZC for North east) and Local check Table: 4.23**

The Advance Variety Trial - Upland (Hills) consisted of eight test entries (6 entries viz., IET 28231, 28230, 28235, 28229, 28233 and 28236 in 2<sup>nd</sup> year of testing and 2 entries namely IET 27498 and 27504 in 3<sup>rd</sup> year of testing) and four checks viz., Sukaradhan-1 (National), Vivekdhan 158 and Vivekdhan 154 (Zonal check for North and South), Bhalum 1 (Zonal check for North East) and local check.

The trial was sent to 10 locations: 5 low elevated locations ( $\leq 950$  msl) namely ICAR-Lamphelpat, CAU-Imphal and Wangbal in Manipur; CAU-Barapani (Meghalaya) and Malan (Himachal Pradesh); three medium elevated locations ( $> 951-1500$  msl) namely Kalimpong in West Bengal, ICAR-Almora and Bageshwar in Uttarakhand and two high elevated locations ( $\geq 1501$  msl) namely Upper Shillong and ICAR-Barapani (Umiam) in Meghalaya. The data was received from 7 locations except CAU- Imphal, Upper Shillong and Kalimpong. At Lamphelpat incidence of blast, stem borer and gundhi bug was noticed. At all other locations the trial was conducted under direct seeded conditions except at Wangbal where in it was transplanted. BLB, BPH and stem borer infestation was noticed at Wangbal.

Mean yield of test entries across the locations ranged from 1690 kg/ha (IET 28229) to 3473 kg/ha (IET 28230) (Table 4.24). Days to 50% flowering duration ranged from 78 days (IET 27504) to 94 days (IET 28236) (Table 4.25) while panicles/m<sup>2</sup> ranged from 176 (zonal check) to 293 (Local check) (Table 4.27). The experimental mean yield ranged from 1830 kg/ha (CAU- Barapani) to 2603 kg/ha (Lamphalpet), while CV% varied from 13.52 % (CAU-Barapani) to 20.7 % (Lamphalpet). Performance of entries under different elevations is discussed below.

***Northern Low Elevated Hills ( $\leq 950$  msl)***

AVT1-U-hills trials under low elevated hills were conducted at 4 locations: ICAR-Lamphelpat and Wangbal in Manipur; CAU-Umiam (Meghalaya) and Malan (Himachal Pradesh). Data from Wangbal is excluded from analysis due to low CV (5%). The mean grain yield ranged from 1690 kg/ha (IET 28229) to 3473 kg/ha (IET 28230); days to 50% flowering ranged from 78 days (IET 27504) to 94 days (IET No. 28236); panicles/m<sup>2</sup> ranged from 176 (ZC) to 293 (LC) (Table 4.27). Among checks, local check recorded the highest grain yield (2784 kg/ha). ***One entry IET 28230 (TRC PSM-1720-B-B-5-1) registered yield superiority of > 5% (24%) over the best check (Local).***

**Performance of promising entries in Low elevated northern hills in Advance Variety Trial 1-Upland (Hills), AVT 1-U (H), Kharif 2020**

Rank	IET No. / Designation / Cross combination	Grain yield (Kg/ha)/ Days to 50% flowering/ Grain type	Yield advantage over over NC/ZC1/ZC 2/LC
1	IET 28230 (TRC PSM-1720-B-B-5-1) Pyzum / BPT 5204	3473 85 LS	74 92 88 24
	Sukaradhan-1 (NC)	1988 80	
	Zonal Check 1 (ZC 1) (Vivekdhan 154)	1802 81	
	Zonal Check 2 (ZC 2) (VL Dhan 158)	1842 83	
	<b>Local Check (LC)</b>	<b>2784</b> <b>83</b>	

IET 28230 (TRC PSM-1720-B-B-5-1) derived from the cross Pyzum / BPT 5204 with long slender grains and 85 days to 50% flowering ranked first (3473 kg/ha). It showed 74 % yield advantage over National check (Sukaradhan 1), 92% over VL Dhan 154, 24% over the best check (local) and 88 % over VL Dhan 158. It ranked 1<sup>st</sup> in Malan (2949 Kg/ha) & Lamphalpet (4352 Kg/ha) and 2<sup>nd</sup> in CAU-Umiam (3118 Kg/ha). Quality wise it possessed HRR (51.1 %), AC (20.9%), GC: 45 mm and ASV 7.0.

One entry *namely* IET 28230 *recorded yield superiority of 24% over the best check (Local) and therefore promoted to 3<sup>rd</sup> year of testing under northern low elevated hills of AVT-2U-H.*

***Northern Medium elevated hills (> 951-1500 msl)***

The trial was sent to 3 centres *ie.*, ICAR-Almora & Bageshwar in Uttarakhand and Kalimpong in West Bengal under medium elevated hill region. Data was not received from Kalimpong. The data from ICAR-Almora and Bageswar was excluded from analysis due to low mean yield of 669 Kg/ha and 959 Kg/ha respectively.

***High elevated hills ( $\geq$  1501 msl)***

Under high elevated hills AVT-1-UH trial was sent to two locations *viz.*, ICAR-Barapani (Umiam) and Upper shilling. Due to low experimental mean (788 Kg/ha), the data obtained from ICAR- Barapani (Umiam) is not analysed. There was no receipt of data from Upper Shillong.



**INITIAL VARIETY TRIAL - UPLAND (HILLS) - IVT –U (H)****Locations: 06****Test Entries: 13****Checks: Sukaradhan 1 (NC), Vivekdhan 158 and Vivekdhan 154 (ZC for North and South), Bhalum-1 (ZC for North East) and Local check Table: 4.29**

The Initial Variety Trial - upland hills (IVT -U-H) constituted with 13 test entries and 4 checks viz., Sukaradhan-1 (National), Vivekdhan 158 and Vivekdhan 154 (Zonal check for North and South), Bhalum 1 (Zonal check for North East) and local check was sent to 10 locations covering 5 states of Manipur, Meghalaya, West Bengal, Uttarakhand and Himachal Pradesh. Of 10 locations, ICAR- Lamphelpat, Imphal-CAU, Wangbal in Manipur, CAU-Barapani (Meghalaya) and Malan (Himachal Pradesh) represent low elevated hills ( $\leq 950$  msl); Kalimpong (West Bengal), Almora-ICAR and Bageshwar (Uttarkhand) located at medium hills ( $>951-1500$  msl); and ICAR- Barapani (Umiam) and Upper Shillong (Meghalaya) situated in high hills ( $\geq 1501$  msl). The trials was grown under direct seeded rainfed conditions except at Wangbal. Four centres i.e., Lamphalpet ICAR, Imphal-CAU, Upper Shillong and Kalimpong could not send the data. Hence the data from the remaining 6 test locations was analysed for assessing the performance of entries. Traces of BLB, BPH and stem borer infestation was reported at Wangbal. Data from Wangbal (CV: 2.59%) under low elevated altitude, Almora (Mean yield: 696 Kg/ha) and Bageshwar (Mean yield: 841 Kg/ha) under medium altitude, and ICAR-Umiam (Mean yield: 827 Kg/ha) was not considered for data analysis due to either low mean yield ( $< 1000$  Kg/ha) or low CV ( $< 5\%$ ).

Overall mean yield of test entries across the locations ranged from 964 kg/ha (Zonal check) to 2387 kg/ha (Local check) (Table 4.30). Days to 50% flowering ranged from 82 days (IET 28925) to 101 days (IET 28923) (Table 4.31) while panicles/m<sup>2</sup> ranged from 113 (IET 28926) to 300 (IET 28930) (Table 4.33). The experimental mean yield ranged from 1477 kg/ha (CAU-Umiam) to 1615 kg/ha (Malan). Among the checks, local check gave highest mean grain yield (2387 kg/ha) followed by Vivekdhan 158 (2169 kg/ha), Sukaradhan 1 (1859 kg/ha) and Vivekdhan 154 (964 kg/ha). Performance of entries under different elevations is discussed below:

**Low elevated hills ( $\leq 950$  msl)**

Data was received from 3 low elevated locations viz., Malan, Umium-CAU and Wangbal. The trial was conducted as irrigated even though it is an upland trial and Wangbal. However due to low CV (2.59%), the data is not included from Wangbal during analysis. Mean grain yield of entries under low altitude ranged from 964 kg/ha (Vivekdhan 154) to 2387 kg/ha (Local check); days to 50% flowering ranged from 82 days (IET 28925) to 101 days (IET 28923); panicles/m<sup>2</sup> varied from 113 in IET 28926 to 300 in IET 28930 (Table ). In low elevated hills, among the checks, local check is the top yielder (2387 kg/ha) followed by Vivekdhan 158 (2169 kg/ha), Sukaradhan 1 (1859 kg/ha) and Vivekdhan 154 (964 kg/ha). *None of the entries were promoted to AVT-1-U (H) under low elevated hills since local check is the top yielder.*

**Medium elevated hills ( $>951-1500$  msl)**

Although the trial was sent to 3 centres (ICAR - Almora, Kalimpong and Bageshwar), the data was received from 2 centres except Kalimpong. However due to low mean yield at

ICAR-Almora (696 Kg/ha) and Bageshwar (841 Kg/ha) the data was not included during analysis.

### High elevated hills ( $\geq 1501$ msl)

The trial was sent to two locations under high hill group (ICAR-Barapani (Umiam) and Upper Shillong) but data was not obtained Upper Shillong. However the data from ICAR-Barapani (Umiam) is excluded from analysis because of low experimental mean grain yield (827 Kg/ha).

**Table No. 4.23: Composition of entries in Advance Variety Trial 1-Upland (Hills) AVT 1-U (H), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	Grain Type
<b>3<sup>rd</sup> year of testing</b>				
2701	27498	TRC SMCT-23-202-B-29	Samba Mahsuri / CT	LB
2702	27504	VL 20254	Vivek Dhan 154 / VL 31072	SB
<b>2<sup>nd</sup> year of testing</b>				
2703	28231	HPR 2868	HPR 2143 / AC 19146 // VL 30424	MB
2704	<b>Sukaradhan 1 (NC)</b>			
2705	28230	TRC PSM-1720-B-B-5-1	Pyzum / BPT 5204	LS
2706	28235	HPR 2653	VL 221 / HPR 2216 // HPR 1149	MB
2707	<b>Vivek Dhan 154 (ZC for North &amp; South), Bhalum-1 (ZC for North East)</b>			
2708	28229	HPR 2657	TS 29 / Ch 988	MS
2709	28233	TRC KS - 179-B-B-12-1-1	Kataktara / Swarna	MB
2710	<b>VL Dhan 158 (ZC for North &amp; South)</b>			
2711	28236	TRC BN -1816-B-B-14-4-1	Bhalum 3 / Naveen	LS
2712	<b>Local Check</b>			

**Table No. 4.24: Grain yield (kg/ha) of entries in AVT 1 - U (H), Kharif 2020**

Entry No	IET No	Elevation													
		Low Northern													
		Himachal Pradesh (1)		Manipur				Meghalaya (1)		Low Northern (3)					
MLN		LPP		@WBL		Manipur (1)		UMM-CAU		Mean					
2701	27498	2428	4	3726	2	2333	6.5	3726	2 *	60%	1224	9	2459	4	
2702	27504	2521	3	1473		2600	5	1473			1206	10	1733		
2703	28231	1908		2593	5	3333	1	2593	5	11%	2332	3	2278	6	
2704	<b>Sukaradhan 1 (NC)</b>	2418	5			2267	8				1557	6	1988	8	
2705	28230	2949	1	7%	4352	1	2733	2	4352	1 *	87%	3118	2	3473	1 * 25%
2706	28235	2386	8		2547	6	2667	3	2547	6	9%	1742	5	2225	7
2707	<b>Zonal Check (ZC)</b>	2129	10		2037	8	2333	6	2037	8		1241	8	1802	10
2708	28229	2407	6		1684	10	2133	10	1684	10		978		1690	
2709	28233	2394	7		2969	4	2667	3	2969	4	28%	2068	4	2477	3
2710	<b>VL Dhan 158 (ZC)</b>	2752	2		1826	9	933		1826	9		948		1842	9
2711	28236	2365	9		3100	3	2000		3100	3	33%	1520	7	2328	5
2712	<b>Local Check</b>	1997			2328	7	2267	8	2328	7		4026	1	2784	2
Exp. Mean		<b>2387.8</b>			<b>2603.08</b>		<b>2355.56</b>		<b>2603.08</b>			<b>1830</b>		<b>2256.52</b>	
CD		556.02			918.91		109.85		918.91			418.81		445.71	
CV%		<b>13.75</b>			<b>20.73</b>		<b>2.75</b>		<b>20.73</b>			<b>13.52</b>		<b>11.66</b>	
D/S		08-06-2020		16-06-2020		12-07-2020						06-08-2020			
D/P						05-08-2020									
Local Check Name		HPR 2656		RC Manipou-6		sana-phou						Bhalum 3			

**Table No. 4.24 contd: Grain yield (kg/ha) of entries in AVT 1 - U (H), Kharif 2020**

Elevation		Medium Northern				High		Meghalaya (1) Mean		Overall (3) Mean	
Entry No	IET No	Uttarakhand				Meghalaya (2)					
		@ALM		@BGS		@UMM-ICAR					
2701	27498	436	9	354	10	527	9	1224	9	2459	4
2702	27504	719	5	1208	3.5	513	10	1206	10	1733	
2703	28231	629	7	813	6	1007	3	2332	3	2278	6
2704	<b>Sukaradhan 1 (NC)</b>	901	2			673	6	1557	6	1988	8
2705	28230	920	1	757	8	1340	2	3118	2	3473	1 * 25%
2706	28235	433	10	771	7	747	5	1742	5	2225	7
2707	<b>Zonal Check (ZC)</b>	590	8	1368	2	533	8	1241	8	1802	10
2708	28229	638	6	958	5	427		978		1690	
2709	28233	414		424	9	893	4	2068	4	2477	3
2710	<b>VL Dhan 158 (ZC)</b>	848	3	1729	1	413		948		1842	9
2711	28236					660	7	1520	7	2328	5
2712	<b>Local Check</b>	829	4	1208	3.5	1727	1	4026	1	2784	2
Exp. Mean		<b>668.92</b>		<b>959.03</b>		<b>788.33</b>		<b>1830</b>		<b>2256.52</b>	
CD		250.92		484.12		180.24		418.81		445.71	
CV%		<b>22.02</b>		<b>29.43</b>		<b>13.5</b>		<b>13.52</b>		<b>11.66</b>	
D/S		10-06-2020		17-06-2020		12-05-2020					
D/P											
<b>Local Check Name</b>		VLD 221		VLD 221		NEH Megha Rice 2					

**Table No. 4.25: Days to 50% flowering of entries in AVT 1 – U (H), Kharif 2020**

Elevation		Low Northern					Medium Northern		High		Meghalaya (1) Mean	Overall (3) Mean
Entry No	IET No	Himachal Pradesh (1)	Manipur		Meghalaya (1)	Low Northern (3) Mean	Uttarakhand		Meghalaya (2)			
			MLN	LPP			@WBL	Manipur (1)		UMM-CAU	@ALM	@BGS
2701	27498	100	82	95	82	92	91	100	97	111	92	91
2702	27504	83	71	85	71	80	78	91	89	99	80	78
2703	28231	94	77	92	77	89	87	95	91	108	89	87
2704	<b>Sukaradhan 1 (NC)</b>	82	.	94	.	79	80	76	.	98	79	.
2705	28230	89	78	94	78	87	85	91	94	106	87	85
2706	28235	96	83	93	83	91	90	100	95	110	91	90
2707	<b>Zonal Check (ZC)</b>	74	78	93	78	90	81	78	81	109	90	81
2708	28229	94	78	97	78	85	86	91	90	104	85	86
2709	28233	104	82	97	82	93	93	104	97	112	93	93
2710	<b>VL Dhan 158 (ZC)</b>	92	75	99	75	83	83	92	96	102	83	83
2711	28236	100	87	100	87	94	94	.	.	113	94	94
2712	<b>Local Check</b>	75	83	93	83	91	83	78	82	110	91	83
Exp. Mean		<b>90</b>	<b>80</b>	<b>94</b>	<b>80</b>	<b>88</b>	<b>86</b>	<b>91</b>	<b>91</b>	<b>107</b>	<b>88</b>	<b>86</b>

**Table No. 4.26: Plant Height (cm) of entries in AVT 1 - U (H), Kharif 2020**

Elevation		Low Northern					Medium Northern	High	Meghalaya	Overall (3)		
Entry No	IET No	Himachal Pradesh (1)	Manipur			Meghalaya (1)	Low Northern (3) Mean	Uttarakhand		Meghalaya (2)	(1) Mean	Mean
		MLN	LPP	@WBL	Manipur (1)	UMM-CAU		@ALM	@BGS	@UMM-ICAR		
2701	27498	81.60	118.00	87.00	118.00	98.53	99.38	74.67	66.00	83.03	98.53	99.38
2702	27504	106.40	120.33	98.00	120.33	109.31	112.02	80.33	86.67	93.81	109.31	112.02
2703	28231	91.00	108.33	84.00	108.33	89.77	96.37	80.33	66.33	74.27	89.77	96.37
2704	Sukaradhan 1 (NC)	107.20	.	114.00	.	118.09	112.64	88.00	.	102.59	118.09	112.64
2705	28230	96.80	111.00	90.00	111.00	102.63	103.48	81.00	71.00	87.13	102.63	103.48
2706	28235	95.20	121.00	90.00	121.00	106.75	107.65	83.33	71.00	91.25	106.75	107.65
2707	Zonal Check (ZC)	102.40	110.00	84.00	110.00	119.21	110.54	86.33	97.67	103.71	119.21	110.54
2708	28229	104.40	109.33	100.00	109.33	107.54	107.09	80.67	77.33	92.04	107.54	107.09
2709	28233	71.60	109.67	75.00	109.67	96.68	92.65	71.33	58.00	81.18	96.68	92.65
2710	VL Dhan 158 (ZC)	105.60	130.00	104.00	130.00	117.45	117.68	109.00	105.00	101.95	117.45	117.68
2711	28236	96.60	111.67	80.00	111.67	89.43	99.23	.	.	73.93	89.43	99.23
2712	Local Check	106.00	119.00	80.00	119.00	98.85	107.95	77.33	89.67	83.35	98.85	107.95
Exp. Mean		97.07	115.30	90.50	115.30	104.52	105.56	82.94	78.87	89.02	104.52	105.56

**Table No. 4.27: No. of Panicles/m<sup>2</sup> of entries in AVT 1 – U (H), Kharif 2020**

Elevation		Low Northern					Medium Northern	High	Meghalaya	Overall (3)		
Entry No	IET No	Himachal Pradesh (1)	Manipur			Meghalaya (1)	Low Northern (3) Mean	Uttarakhand		Meghalaya (2)	(1) Mean	Mean
		MLN	LPP	@WBL	Manipur (1)	UMM-CAU		@ALM	@BGS	@UMM-ICAR		
2701	27498	298	381	270	381	190	290	201	213	95	190	290
2702	27504	310	327	333	327	171	269	237	223	86	171	269
2703	28231	253	239	348	239	144	212	226	223	72	144	212
2704	Sukaradhan 1 (NC)	345	.	402	.	109	227	221	.	55	109	.
2705	28230	273	329	315	329	185	262	214	214	92	185	262
2706	28235	292	321	364	321	169	261	222	211	85	169	261
2707	Zonal Check (ZC)	192	156	376	156	179	176	244	210	90	179	176
2708	28229	330	274	317	274	168	257	227	218	84	168	257
2709	28233	267	340	380	340	214	273	230	214	107	214	273
2710	VL Dhan 158 (ZC)	318	247	227	247	163	243	220	231	82	163	243
2711	28236	292	391	320	391	193	292	.	.	97	193	292
2712	Local Check	385	282	295	282	214	293	222	225	107	214	293
Exp. Mean		296	299	329	299	175	255	224	218	88	175	257

**Table No. 4.28: Grain quality characteristics of entries in AVT1-U (H), Kharif 2020**

Entry No.	IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
2701	27498	76.8	68.2	46.8	5.30	2.12	2.52	MS	VOC	7.0	21.38	27
2702	27504	79.5	68.8	51.4	5.25	2.24	2.29	SB	OC	4.0	20.68	45
2703	28231	79.7	67.3	39.5	6.18	2.10	2.94	LB	VOC	4.0	20.29	54
2704	Sukardhan-1	77.0	67.4	59.5	6.12	1.96	3.12	LS	VOC	4.0	23.29	22
2705	28230	76.7	67.8	51.1	4.8	2.23	2.15	SB	VOC	7.0	20.94	45
2706	28235	76.2	65.3	41.1	6.31	1.88	3.35	LS	VOC	4.0	25.25	35
2707	Zonal Check	78.0	64.8	23.6	5.64	2.21	2.55	MS	VOC	4.0	26.19	37
2708	28229	77.0	66.3	43.0	5.61	1.92	2.92	MS	OC	4.5	22.02	22
2709	28233	76.8	63.7	40.5	5.64	1.96	2.87	MS	VOC	4.0	23.05	63
2710	VL Dhan-158	79.4	67.2	48.4	5.26	2.41	2.18	SB	OC	4.0	25.93	46
2711	28236											
2712	Local Check	76.0	62.1	11.7	5.24	2.25	2.32	SB	VOC	4.0	24.55	22

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

**Table No. 4.29: Composition of entries in Initial Variety Trial -Upland (Hills) IVT-U (H), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	Grain Type
<b>1<sup>st</sup> year of testing</b>				
2801	28919	HPR 2648	VL 221 / RP 2421 // IR 53915	LS
2802	28920	VL 20612	VHC 1462 / NDR 103	MS
2803	28921	TRC GN 1162-B-B-19-1-1	Bhalum 3 / Naveen	LS
2804	<b>Vivekdhan 154 (ZC for North &amp; South), Bhalum – 1 (ZC for North East)</b>			
2805	28922	HPR 2871	HPR 2143 / AC 19146 // VL 80424	LS
2806	28923	TRC GH 491-B-B-6-7-1	Gomatidhan / Hakuchuk-2	LS
2807	28924	VL 11574	VL Dhan 209 / VL 30424	SB
2808	<b>VL Dhan 158 (ZC for North &amp; South)</b>			
2809	28925	VL 20684	Sukaradhan 1 / Anjali	MS
2810	28926	HPR 2882	HPR 2143 / AC 19180 // VL 30424	LS
2811	28927	TRC GN 560-B-B-17-6-3	Gomatidhan / Tripura Nirog	MS
2812	28928	VL 11364	VL Dhan 207 / VL 30424	LS
2813	<b>Sukaradhan -1 (NC)</b>			
2814	28929	VL 20611	VHC 1462 / VL 10499	MS
2815	28930	HPR 2654	VL 221 / HPR 2216 // HPR 1149	LS
2816	28931	HPR 2643	VL 221 / RP 2421 // IR 53915	MS
2817	<b>Local Check</b>			

**Table No. 4.30: Grain yield (kg/ha) of entries in IVT - U (H), Kharif 2020**

Entry No	IET No	Elevation								Meghalaya (1) Mean	Overall (2) Mean								
		Low Northern				Medium Northern						High							
		Himachal Pradesh (1)	Manipur	Meghalaya (1)	Low Northern (2) Mean	Uttarakhand		Meghalaya (2)											
MLN	@WBL	UMM-CAU		@ALM	@BGS	@UMM-ICAR													
2801	28919	1746	7	3750	8	835	1291	786	6	813	9	468		835		1291			
2802	28920	2568	2	2800		1001	1785	6	1036	1	688		560		1001		1785	6	
2803	28921	967		3400	9	2841	2	1904	3				1591	2	2841	2	1904	3	
2804	<b>Zonal Check (ZC)</b>	951		2200		976	964	509		1062	2	547		976		964			
2805	28922	925		3000		1352	8	1139		1000	3.5	757	8	1352	8	1139			
2806	28923	1180		4100	5.5	1066	10	1123					597	10	1066	10	1123		
2807	28924	1421	10	3100	10	965	1193	964	2	906	7	541		965		1193			
2808	<b>Zonal Check (ZC)</b>	2716	1	2100		1622	6	2169	2	893	3	823	8	908	6	1622	6	2169	2
2809	28925	1997	5	2750		916	1457	10	768	7	781	10.5	513		916		1457	10	
2810	28926	835		4100	5.5	1904	4	1370		634	10	948	5	1067	4	1904	4	1370	
2811	28927	2491	3	2600		1215	9	1853	5	464		490		680	9	1215	9	1853	5
2812	28928	1423	9	4250	4	1575	7	1499	9	813	4.5	281		882	7	1575	7	1499	9
2813	<b>Sukaradhan -1 (NC)</b>	1565	8	4550	3	2152	3	1859	4	580		1000	3.5	1206	3	2152	3	1859	4
2814	28929	2404	4	2550		987	1696	7	639	9	938	6	553		987		1696	7	
2815	28930	1341		5050	1 *	1848	5	1595	8	432		479		1035	5	1848	5	1595	8
2816	28931	1109		4900	2 *	899	1004	668	8	781	10.5	504		899		1004			
2817	<b>Local Check</b>	1821	6	3950	7	2952	1	2387	1	813	4.5	1625	1	1654	1	2952	1	2387	1
Exp. Mean		<b>1615.25</b>		<b>3479.41</b>		<b>1476.82</b>		<b>1546.04</b>		<b>695.71</b>		<b>840.97</b>		<b>827.24</b>		<b>1476.82</b>		<b>1546.04</b>	
CD		348.16		191.09		448.12		308.71		271.63		462.7		250.84		448.12		308.71	
CV%		<b>10.17</b>		<b>2.59</b>		<b>14.31</b>		<b>9.42</b>		<b>18.2</b>		<b>25.65</b>		<b>14.3</b>		<b>14.31</b>		<b>9.42</b>	
D/S		09-06-2020		12-07-2020		06-08-2020				10-06-2020		17-06-2020		12-05-2020					
D/P				05-08-2020															
Local Check Name		HPR 2656		sana-phou		Bhalum 3				VLD 221		VLD 221		NEH Megha Rice 2					

**Table No. 4.31: Days to 50% flowering of entries in IVT – U (H), Kharif 2020**

Elevation		Low Northern				Medium Northern		High	Meghalaya (1) Mean	Overall (2) Mean
Entry No	IET No	Himachal Pradesh (1)	Manipur	Meghalaya (1)	Low Northern (2) Mean	Uttarakhand		Meghalaya (2)		
		MLN	@WBL	UMM-CAU		@ALM	@BGS	@UMM-ICAR		
2801	28919	95	82	87	91	91	93	100	87	91
2802	28920	95	94	85	90	85	86	98	85	90
2803	28921	99	101	91	95	.	.	104	91	95
2804	<b>Zonal Check (ZC)</b>	96	81	93	94	86	98	106	93	94
2805	28922	95	92	86	90	91	92	99	86	90
2806	28923	107	102	94	101	.	.	107	94	101
2807	28924	93	81	88	90	94	90	101	88	90
2808	<b>Zonal Check (ZC)</b>	93	94	86	89	91	94	99	86	89
2809	28925	82	76	83	82	86	90	96	83	82
2810	28926	95	94	86	90	92	86	99	86	90
2811	28927	103	101	94	98	96	99	107	94	98
2812	28928	99	91	91	95	94	90	104	91	95
2813	<b>Sukaradhan -1 (NC)</b>	91	94	85	88	88	95	98	85	88
2814	28929	91	95	87	89	89	94	100	87	89
2815	28930	97	92	85	91	91	95	98	85	91
2816	28931	98	81	90	94	94	89	103	90	94
2817	<b>Local Check</b>	75	96	100	87	85	90	113	100	87
Exp. Mean		<b>94</b>	<b>91</b>	<b>89</b>	<b>91</b>	<b>90</b>	<b>92</b>	<b>102</b>	<b>89</b>	<b>91</b>

**Table No. 4.32: Plant Height (cm) of entries in IVT – U (H), Kharif 2020**

Elevation		Low Northern				Medium Northern		High	Meghalaya (1) Mean	Overall (2) Mean
Entry No	IET No	Himachal Pradesh (1)	Manipur	Meghalaya (1)	Low Northern (2) Mean	Uttarakhand		Meghalaya (2)		
		MLN	@WBL	UMM-CAU		@ALM	@BGS	@UMM-ICAR		
2801	28919	93.00	104.00	104.17	98.59	89.50	93.50	92.96	104.17	98.59
2802	28920	128.20	114.00	119.09	123.65	104.50	102.00	107.88	119.09	123.65
2803	28921	86.80	86.00	94.58	90.69	.	.	83.37	94.58	90.69
2804	<b>Zonal Check (ZC)</b>	71.40	100.00	101.29	86.35	72.00	84.00	90.08	101.29	86.35
2805	28922	88.20	98.00	74.78	81.49	78.00	86.50	63.57	74.78	81.49
2806	28923	48.40	74.00	68.21	58.31	.	.	57.00	68.21	58.31
2807	28924	81.40	114.00	95.82	88.61	89.50	86.00	84.61	95.82	88.61
2808	<b>Zonal Check (ZC)</b>	116.80	110.00	115.86	116.33	114.00	96.50	104.65	115.86	116.33
2809	28925	111.20	73.00	93.22	102.21	82.30	89.50	82.01	93.22	102.21
2810	28926	102.20	94.00	101.79	102.00	75.00	72.50	90.58	101.79	102.00
2811	28927	89.20	93.00	103.86	96.53	73.00	63.00	92.65	103.86	96.53
2812	28928	87.80	98.00	90.98	89.39	74.10	64.50	79.77	90.98	89.39
2813	<b>Sukaradhan -1 (NC)</b>	108.00	103.00	102.50	105.25	85.00	91.50	91.29	102.50	105.25
2814	28929	99.00	114.00	106.29	102.65	98.00	117.50	95.08	106.29	102.65
2815	28930	112.20	104.00	97.47	104.84	89.10	67.50	86.26	97.47	104.84
2816	28931	77.80	108.00	85.85	81.83	79.00	74.00	74.64	85.85	81.83
2817	<b>Local Check</b>	83.00	76.00	91.88	87.44	71.50	82.50	80.67	91.88	87.44
Exp. Mean		<b>93.21</b>	<b>97.82</b>	<b>96.92</b>	<b>95.07</b>	<b>84.97</b>	<b>84.73</b>	<b>85.71</b>	<b>96.92</b>	<b>95.07</b>

**Table No. 4.33: No. of Panicles/m<sup>2</sup> of entries in IVT – U (H), Kharif 2020**

Entry No	Elevation IET No	Low Northern				Medium Northern		High	Meghalaya (1) Mean	Overall (2) Mean
		Himachal Pradesh (1)	Manipur	Meghalaya (1)	Low Northern (2) Mean	Uttarakhand		Meghalaya (2)		
		MLN	@WBL	UMM-CAU		@ALM	@BGS	@UMM-ICAR		
2801	28919	213	315	185	199	217	222	98	185	199
2802	28920	303	317	200	251	237	228	106	200	251
2803	28921	180	353	183	182	.	.	97	183	182
2804	Zonal Check (ZC)	128	283	138	133	226	212	73	138	133
2805	28922	125	383	229	177	243	190	122	229	177
2806	28923	275	358	221	248	.	.	117	221	248
2807	28924	260	354	181	220	220	268	96	181	220
2808	Zonal Check (ZC)	320	314	199	259	211	204	106	199	259
2809	28925	328	321	224	276	229	220	119	224	276
2810	28926	78	356	148	113	208	220	79	148	113
2811	28927	383	345	196	289	201	196	104	196	289
2812	28928	248	335	246	247	239	235	130	246	247
2813	Sukradhan -1 (NC)	300	379	148	224	224	202	79	148	224
2814	28929	275	296	216	246	194	251	115	216	246
2815	28930	393	413	208	300	197	196	110	208	300
2816	28931	140	375	203	172	211	223	108	203	172
2817	Local Check	375	314	210	293	223	271	111	210	293
Exp. Mean		254	342	196	225	218	222	104	196	225

**INITIAL VARIETAL TRIAL - LANDRACES (HILLS) IVT-LR (H)****Locations: 03****Test Entries: 15****Checks: Thangjing, Him-HPR 2720, Him-HPR 2795 and Local check Table: 4.34**

Landraces are genetic resources possess tremendous genetic variability for biotic and abiotic stress tolerance. The trial was constituted with objective of pooling landraces from hill ecology to further utilisation in rice breeding programme. The trial was constituted with 15 landraces and four checks namely Thangjing, Him-HPR 2720, Him-HPR 2795 and Local check. All the test entries were in first year of testing. The landrace trial was sent to five locations and data was received from three locations namely Barapani (CAU), Almora and Malan. However, two locations namely Imphal (CAU) and Khudwani did not conduct the trial. The centres namely Barapani (CAU), Malan are in northern low elevation while Almora in medium elevation. The data pertaining to yield, flowering, plant height, panicles/m<sup>2</sup> and quality are presented in tables 6.35, 6.36, 6.37, 6.38 and 6.39. Performance of entries under overall and different elevations is discussed below.

## Overall performance

Data from three locations (CAU Barapani, Almora and Malan) was considered for assessing the performance of landraces across low and medium northern elevations. Overall mean grain yield was ranged from 271 (IET 28933) to 4089 kg/ha (IET 28052), while days to 50% flowering ranged from 82 (IET 28050) to 119 days (Thangjing).

Among the checks, local check recorded highest grain yield of 3130 kg/ha with 101 days to 50% flowering. In case of test entries, two landraces namely *IET 28052 (Brojen)* and *IET 28042 (Tolen)* recorded 28 and 12% yield superiority over the best check.

### Overall performance of promising entries Hills in Initial Variety Trial – Landraces IVT-LR (H), Kharif 2020

Rank	IET No/Designation/ Cross combination	Grain Yield (kg/ha)/ Days to 50% flowering/ Grain type	% Yield superiority over best check
1	IET 28052 (Brojen)	4089 106 SB	28
2	IET 28042 (Tolen)	3583 110 LB	12
Check 1	Him-HPR 2795	2903 98 SB	
Check 2	Him-HPR 2720	2780 106 MS	
<i>Check 3</i>	<i>Thangjing</i>	<i>3201 (BC)</i> <i>119</i> <i>SB</i>	
Check 4	Local Check	3130 101	

BC- Best check, LB-Long Bold; SB-Short Bold; MS-Medium Slender

## Low Northern Elevations

Data received from Barapani (CAU) and Malan was considered for analysis under low northern elevation. The mean grain yield ranged from was ranged from 580 (IET 28050) to 4089 kg/ha (IET 28052), while days to 50% flowering ranged from 82 (28050) to 119 days (Thangjing). Among checks, local check recorded maximum grain yield of 3912 kg/ha with 106 days to 50% flowering. However, none of the test entries recorded required yield advantage over best check under low northern elevation.

## Medium Northern Elevations

Data received from Almora was considered for analysis under medium northern elevation. Entries namely IET 28932 and Him-HPR 2720 did not germinate, while IETs 28052, 28042 and Thangjing did not flower.



The mean grain yield ranged from was ranged from 111 (IET 28933) to 1972 kg/ha (Him-HPR 2795), while days to 50% flowering ranged from 81 (28050) to 96 days (IETs 28041, 28053 and 28933). Among checks, Him-HPR 2795 recorded maximum grain yield of 1972 kg/ha with 93 days to 50% flowering. However, none of the test entries recorded required yield advantage over best check under low northern elevation.

**Table No. 4.34: Composition of entries in Initial Variety Trial-Landraces (Hills) (IVT-LR (H), Kharif 2020**

Entry No.	IET No.	Designation	Grain Type
<b>1<sup>st</sup> Year of testing:</b>			
2901	28041	Him-Begmi	MS
2902	28053	Him-Totu	MS
2903	28044	Him-RamJuwain	MS
2904	28050	Kamad	SB
2905	<b>Him-HPR 2795 (Check)</b>		SB
2906	28043	Red Rice (Zag)	LS
2907	28933	Mushkh Budji	
2908	28046	Him-Lal Narkanda	SB
2909	28051	Him-Bongal Dhan	LS
2910	28932	Chirakey	
2911	<b>Him-HPR 2720 (Check)</b>		MS
2912	28056	Him-Karad	SB
2913	28052	Brojen	SB
2914	28048	Him-Chhortu	SB
2915	<b>Thangjing (Check)</b>		SB
2916	28934	TangoHar Zag	SB
2917	28042	Tolen	LB
2918	28047	Nun-Bouel	SB
2919	<b>Local Check</b>		

**Table No. 4.35: Grain yield (kg/ha) of entries in IVT – LR (H), Kharif 2020**

Entry No	Elevation IET No	Low Northern						Medium Northern (1)		Overall (3) Mean	
		Himachal Pradesh (1)		Meghalaya (1)		Low Northern (2) Mean		Uttarakhand (1)			
		MLN		UMM-CAU				ALM			
2901	28041	4021	8	1783	8	2902	10	1528	4	2444	9
2902	28053	3275		1368		2322		1181	8	1941	
2903	28044	3661	9	1297		2479		1722	3	2227	
2904	28050	529		631		580		639	10	600	
2905	<b>Him-HPR 2795 (Check)</b>	5175	3	1562	9	3369	5	1972	1	2903	6
2906	28043	6513	1 *	26%	407	3460	4	1778	2	2899	7
2907	28933	338		365		352		111		271	
2908	28046	2425		1937	6	2181		1125	9	1829	
2909	28051	4725	4	1187		2956	9	1236	7	2383	
2910	28932			2960	2	2960	8			2960	5
2911	<b>Him-HPR 2720 (Check)</b>	3650	10	1910	7	2780				2780	8
2912	28056	3025		1024		2025		500		1516	
2913	28052	5525	2	7%	2652	5	4089	1		4089	1 *
2914	28048	4413	5		1543	10	2978	7	1319	6	2425
2915	<b>Thangjing (Check)</b>	3550			2852	3	3201	6			3201
2916	28934	1600			318		959		250		723
2917	28042	4388	6		2778	4	3583	3			3583
2918	28047	1538			376		957		417		777
2919	<b>Local Check</b>	4250	7		3573	1	3912	2	1486	5	3103
	Exp. Mean	<b>3477.71</b>			<b>1606.46</b>		<b>2528.45</b>		<b>1090.28</b>		<b>2244.87</b>
	CD	886.02			466.68		485.92		836.3		486.65
	CV%	<b>12.08</b>			<b>13.83</b>		<b>9.15</b>		<b>35.51</b>		<b>10.32</b>
	D/S		09-06-2020		06-10-2020				16-06-2020		
	D/P		06-07-2020		07-08-2020				20-07-2020		
	Local Check Name		HPR 2795		Shahsarang				Thapachini		

**Table No. 4.36: Days to 50% flowering of entries in IVT – LR (H), Kharif 2020**

Entry No	Elevation IET No	Low Northern			Medium Northern (1)	Overall (3) Mean
		Himachal Pradesh (1)	Meghalaya (1)	Low Northern (2) Mean	UK (1)	
		MLN	UMMCAU		ALM	
2901	28041	95	102	99	96	98
2902	28053	89	107	98	96	97
2903	28044	88	119	103	93	100
2904	28050	74	91	82	81	82
2905	<b>Him-HPR 2795 (Check)</b>	98	103	100	93	98
2906	28043	90	115	102	92	99
2907	28933	81	94	87	96	90
2908	28046	92	111	102	94	99
2909	28051	87	107	97	92	95
2910	28932	.	117	117	.	117
2911	<b>Him-HPR 2720 (Check)</b>	97	115	106	.	106
2912	28056	92	94	93	92	92
2913	28052	103	109	106	.	106
2914	28048	89	105	97	92	95
2915	<b>Thangjing (Check)</b>	124	115	119	.	119
2916	28934	78	113	95	84	91
2917	28042	105	115	110	.	110
2918	28047	79	90	85	91	87
2919	<b>Local Check</b>	95	117	106	91	101
Exp. Mean		<b>92</b>	<b>107</b>	<b>100</b>	<b>92</b>	<b>99</b>

**Table No. 4.37: Plant Height (cm) of entries in IVT - LR (H), Kharif 2020**

Entry No	Elevation IET No	Low Northern			Medium Northern (1)	Overall (3) Mean
		Himachal Pradesh (1)	Meghalaya (1)	Low Northern (2) Mean	Uttarakhand (1)	
		MLN	UMMCAU		ALM	
2901	28041	134.90	110.80	122.85	85	110.23
2902	28053	171.50	122.90	147.20	95	129.80
2903	28044	128.80	94.10	111.45	101	107.97
2904	28050	115.70	91.10	103.40	92	99.60
2905	<b>Him-HPR 2795 (Check)</b>	151.60	115.80	133.70	101	122.80
2906	28043	130.00	116.00	123.00	98	114.67
2907	28933	122.10	90.40	106.25	85.5	99.33
2908	28046	166.60	141.10	153.85	105.5	137.73
2909	28051	99.40	76.70	88.05	69.5	81.87
2910	28932	.	143.40	143.40	.	143.40
2911	<b>Him-HPR 2720 (Check)</b>	133.80	106.10	119.95	.	119.95
2912	28056	110.60	74.00	92.30	86	90.20
2913	28052	95.80	83.80	89.80	.	89.80
2914	28048	156.70	122.70	139.70	112	130.47
2915	<b>Thangjing (Check)</b>	84.10	89.90	87.00	.	87.00
2916	28934	139.90	82.50	111.20	78	100.13
2917	28042	198.80	88.90	143.85	.	143.85
2918	28047	129.40	94.40	111.90	86.5	103.43
2919	<b>Local Check</b>	152.90	89.50	121.20	95.5	112.63
Exp. Mean		<b>134.59</b>	<b>101.79</b>	<b>118.42</b>	<b>92.18</b>	<b>111.84</b>

**Table No. 4.38: No. of Panicles/m<sup>2</sup> of entries in IVT – LR (H), Kharif 2020**

Elevation		Low Northern			Medium Northern (1)	Overall (3) Mean
Entry No	IET No	Himachal Pradesh (1)	Meghalaya (1)	Low	Uttarakhand (1)	
		MLN	UMM-CAU	Northern (2) Mean	ALM	
2901	28041	297	116	207	188	200
2902	28053	300	96	198	133	176
2903	28044	348	173	261	211	244
2904	28050	234	126	180	139	166
2905	<b>Him-HPR 2795 (Check)</b>	249	108	179	172	176
2906	28043	297	142	220	227	222
2907	28933	270	137	204	.	204
2908	28046	216	107	162	144	156
2909	28051	291	152	222	205	216
2910	28932	.	133	133	.	133
2911	<b>Him-HPR 2720 (Check)</b>	219	101	160	.	160
2912	28056	324	156	240	.	240
2913	28052	237	154	196	.	196
2914	28048	156	88	122	116	120
2915	<b>Thangjing (Check)</b>	252	150	201	.	201
2916	28934	330	124	227	97	184
2917	28042	315	137	226	.	226
2918	28047	258	124	191	150	177
2919	<b>Local Check</b>	237	201	219	174	204
	Exp. Mean	<b>268</b>	<b>133</b>	<b>197</b>	<b>163</b>	<b>189</b>

## AEROBIC TRIALS

Decline in water resources and erratic rainfall necessitate the need for identification of high water-use efficient rice cultivars suitable for aerobic condition. Among the available water saving technologies, aerobic rice has very good potential which can increase the water productivity of the rice crop especially in water-scarce irrigated areas without any yield penalty. In this system, rice is sown by direct dry seeding and irrigation is given to keep the soil sufficiently moist but never flooded for attaining good plant growth and enhanced yields with a view to develop rice varieties suitable for aerobic conditions. Therefore, breeding cultivars suitable for aerobic condition has increasingly becoming popular to reduce the requirement for rice cultivation. Therefore, two trials were conducted viz., AVT1-Aerob and IVT-Aerob. All the two trials were conducted at - locations across India.

### ADVANCE VARIETY TRIAL 1-AEROBIC (AVT 1 AEROB)

<b>Locations:</b>	<b>19</b>	<b>Test Entries: 30</b>
<b>Checks:</b>	<b>CR Dhan 201-National, CR Dhan 202 (Northern, Eastern, North Eastern &amp; Central), AAUDR-1 (Western), MAS 946-1 (Southern)—Zonal, PA6129-Hybrid and Local Check</b>	<b>Table:5.1</b>

Advanced Varietal Trial 1 Aerobic (AVT 1 AEROB) was constituted with 30 test entries and four checks, viz., national, regional, hybrid and local checks. Among 30 test entries, 29 were in second year of testing and only one entry IET 27951 was in third year of testing; 28 were inbreds and two entries (IET 27937 and IET 28674) were hybrids. The trial was sent to 26 locations spanning in six zones (Zone- II, III, IV, V, VI & VII) across 15 states and data was received from 19 locations. The data was not received from 7 locations (Kaul, Kanpur, Bhubaneswar, Arundhutinagar, Lembucherra, Rudrur and Jagtial). The experiment was sown under direct seeded condition and maintained in aerobic condition with need based irrigation in all locations. The experiment was sown in the month of July 2020 in 16 locations where as it was sown during August 2020 at 3 locations like ICAR-NRRI Cuttack, Bikramganj and Coimbatore. The locations Ranchi (371 kg/ha), Rewa (438 kg/ha), Derol (451 kg/ha) recorded low experimental mean grain yield and the locations Masodha (CV=3.24%) and Jabalpur (CV=3.22%) recorded low experimental CV. Hence data from Ranchi, Rewa, Derol, Masodha and Jabalpur was not included for overall mean and analysis. The data from remaining 14 locations was considered for analysis. Overall performance of entries for grain yield ranged from 2525 kg/ha (IET 28654) to 4131 kg/ha (IET 27937) with mean yield of 3829 kg/ha. Among the checks, Local check recorded highest grain yield of 3829 kg/ha and hybrid check PA 6129 yielded 3662 kg/ha. The days to 50% flowering ranged from 80 days (IET 27951 and IET 27937) to 93 days (IET 28689); the plant height ranged from 85.69 cm (IET 28636) to 114.35 cm (IET 28688); and number of panicles per meter square ranged from 180 (IET 28654) to 276

(IET 27951). The data pertaining to grain yield, days to 50% flowering, plant height, number of panicles/m<sup>2</sup> and quality are presented in tables 5.2, 5.3, 5.4, 5.5 and 5.6. On over all mean basis, none of the test entries performed better than the best varietal or hybrid check, hence the results are discussed zone wise.

### Zone wise performance of entries

In Zone III, Zone IV and Zone VII, none of the test entries performed better than the respective best varietal or hybrid checks, hence results of only Zone II, Zone V and Zone VI are discussed below.

### Zone II

In Zone II, the trial was sent to Ludhiana, Kaul and Kanpur but data was received only from Ludhiana. Hence the data from only Ludhiana center was considered for analysis. Mean grain yield in Zone II was 2674 kg/ha and CV was 23.4%. The mean grain yield in Zone II ranged from 1324 kg/ha (IET 28653) to 5366 kg/ha (IET 27937); The days to 50% flowering ranged from 77 days (IET 27951) to 101 days (IET 28681); The plant height ranged from 70 cm (IET 28653) to 112 cm (IET 28664); Number of panicles per meter square ranged from 420 (IET 28635) to 587 (IET 28672). In Zone II, the two entries IET 27937 (32% against BVC and 125% against HC) and IET 28631 (13% against BVC and 93% against HC) out yielded the best BVC and Hybrid check respectively. **Hence the entries IET 27937 and IET 28631 are promoted to third year of testing.**

### Performance of entries in AVT 1 AEROB in Zone II during Kharif 2020

Rank	IET No./Designation/ Cross combination	GY/ FD/ GT	%Improvement over NC/ZC/HC/LC
<b>1</b>	<b>IET 27937</b>	5366	124
	IIRRH 124	82	113
	<i>(Hybrid)</i>	LB	125
			<b>32</b>
<b>2</b>	<b>IET 28631</b>	4597	92
	RCPR 63-IR 97034-21-2-1-3	80	83
	IR09L337 / IR09L154	LS	93
			<b>13</b>
	CR Dhan 201 (NC)	2398 80	
	CR Dhan 202 (ZC)	2514 80	
	PA 6129 (HC)	2384 91	
	<b>PR 126 (LC)</b>	<b>4069</b> <b>84</b>	

**Bold Italics:** Best check & over the best check; NC- National Check; ZC- Zonal Check; HC- Hybrid Check; LC- Local Check; GY: Grain Yield; FD- Days to 50% flowering; GT- Grain Type.

**Zone V**

In Zone V, the trial was sent to four locations viz., Rewa, Jabalpur, Raipur and Jagadapur. The data was received from all four locations. But data from Rewa had low experimental mean (483 kg/ha) and data from Jabalpur had low CV (3.22%). Hence the data from Rewa and Jabalpur was not considered for analysis and data from Raipur and Jagadapur centers was considered for analysis. The grain yield in Zone V ranged from 2037 kg/ha (IET 28674) to 5719 kg/ha (IET 27937) and average experimental grain yield was 3587 kg/ha. The days to 50% flowering ranged from 77 days (IET 27951 and IET 28634) to 101 days (IET 28689); The plant height ranged from 85.24 cm (IET 27951) to 119.01 cm (IET 28677); Number of panicles per meter square ranged from 113 (IET 28674) to 179 (IET 28672). In Zone V, only one entry, IET 27937 which is a hybrid, outperformed the BVC by 25% and Hybrid check by 40%. **Hence the entry IET 27937 (hybrid) is promoted to third year of testing.**

**Performance of entries in AVT 1 AEROB in Zone V during Kharif 2020**

<b>Rank</b>	<b>IET No./Designation/ Cross combination</b>	<b>GY/ FD/ GT</b>	<b>% Improvement over NC/ZC/HC/LC</b>
<b>1</b>	<b>IET 27937</b> IIRRH 124 <i>(Hybrid)</i>	5719	53
		78	<b>25</b>
		LB	40
			37
	CR Dhan 201 (NC)	3738 83	
	<b>CR Dhan 202 (ZC)</b>	<b>4559</b> 88	
	PA 6129 (HC)	4087 83	
	Local check (LC)	4170 81	

**Zone VI**

In Zone VI, the trial was sent to four locations viz., Parbhani, Navsari, Derol and Vyara and the data was received from all four locations. Data from Derol had low experimental mean (451 kg/ha) and hence not considered for analysis and data from remaining 3 centers was considered for analysis. The mean grain yield in Zone VI ranged from 2516 kg/ha (IET 28654) to 4561 kg/ha (IET 27937) and average experimental grain yield was 3432 kg/ha; The days to 50% flowering ranged from 81 days (PA 6129, HC) to 94 days (IET 28688); The plant height ranged from 73.58 cm (IET 28636) to 100.54 cm (IET 28688); Number of panicles per meter square ranged from 172 (IET 28637) to 271 (IET 28671). In Zone VI, totally five test entries, viz., IETs 27937, 28631, 28645, 27951 and 28636 surpassed the yield of best varietal check by 27%, 26%, 13%, 7% and 5% respectively. **Hence five test entries, viz., IETs 27937, 28631, 28645, 27951 and 28636 are promoted to third year of testing.**

**Performance of entries in AVT 1 AEROB in Zone VI during Kharif 2020**

Rank	IET No./Designation/ Cross combination	GY/ FD/ GT	% Improvement over NC/ZC/HC/LC
<b>1</b>	<b>IET 27937</b> IIRRH 124 (Hybrid)	4561	<b>27</b>
		85	40
		LB	31
			47
<b>2</b>	<b>IET 28631</b> RCPR 63-IR 97034-21-2-1-3 IR09L337 / IR09L154	4539	<b>26</b>
		86	39
		LS	30
			46
<b>3</b>	<b>IET 28645</b> YRH 2027 (Hybrid)	4052	<b>13</b>
		86	24
		LB	16
			30
<b>4</b>	<b>IET 27951</b> HURS 18-2-IR98976-20-1-2-2 IR11L152/ Sabitri	3838	<b>7</b>
		85	17
		LB	10
			24
<b>5</b>	<b>IET 28636</b> RP6361-RAF-252-GSR-IR1-DQ146-L18-Y1 GSR IR1-8-S6-S3-Y2 / GSR IR 1-9-S9-Y3-SU1	3782	<b>5</b>
		84	16
		LS	8
			22
	<b>CR Dhan 201 (NC)</b>	<b>3601</b>	
		87	
	AAUDR-1 (ZC)	3269	
		88	
	PA 6129 (HC)	3489	
		81	
	Local check (LC)	3106	
		84	

**Three years performance of IET 27951**

IET	Year	Zone rank	Yield (Kg/ha)	% increase over best check	State rank	Yield (Kg/ha)	% increase over best check
<b>IET 27951</b>	2020	Zone 6 - 4	3838	7	GU-9 TN - 6	4143 5464	7 7
	2019	Zone 2 - 1	4839	11	PU - 4 HA - 1	4495 5183	- 30
	2018	Zone 2 - - Zone 4 - 9	4890 6857	9 16	HA - - Tripura	6000 6857	9 16

### **Three years performance of IET 27951**

The entry **IET 27951** outperformed the best check in Zone II consistently for two years during 2018 and 2019. The entry out yielded the best check in Zone IV and Zone VI during 2018 and 2020 respectively. Among the states, the entry consistently performed better than the best check in Haryana consecutively for two years during 2018 and 2019. It out yielded the best check during 2019 in Punjab state. The entry also outperformed the best check in Gujarat and Tamil nadu during 2020. **Hence the entry found promising for Zone II and also for Haryana.**

#### **Entries promoted:**

**Zone II: IET 27937 and IET 28631**

**Zone V: IET 27937**

**Zone VI: IETs 27937, 28631, 28645, 27951 and 28636.**

## **INITIAL VARIETY TRIAL - AEROBIC (IVT-AEROB)**

<b>Locations:</b>	<b>26</b>	<b>Test Entries: 60</b>
<b>Checks:</b>	<b>CR Dhan 201-National, CR Dhan 202 (Northern, Eastern, North Eastern &amp; Central), AAUDR-1 (Western), MAS 946-1 (Southern)—Zonal, PA6129 (Hybrid) and Local Check</b>	<b>Table:5.7</b>

The Initial Variety Trial – Aerobic (IVT-Aerob) was constituted with 60 test entries and four checks (NC, ZC, HC and LC). The trial was sent to 26 locations but data was not received from 14 locations that included Kaul, Kanpur, Bhubaneswar, Pusa, Ranchi, Hazaribagh, Varanasi, Arundhutinagar, Rewa, Jabalpur, Jagadapur, Derol, Rudrur and Jagtial. Further, the data received from the following centres was not considered for analysis due to low mean yield at Masodha, Vyara and due to high CV % Lembucherra. Further, it is observed that more than 50 % test entries data was not obtained from Ludhiana hence the data from this centre is not considered for analysis.

CV% at experimental locations varied from 6.69% (Masodha) to 31.4% at Lembucherra. Experimental mean of grain yield ranged from 1564 kg/ha at Masodha to 4920 kg/ha at Navsari.



Over all mean yield ranged from 2021 kg/ha (IET 29434) to 3889 kg/ha (IET 29412); days to 50% flowering ranged from 80 days (IETs 29441, 29446) to 96 days (IETs 29395, 29445); plant height varied from 70.02 cm (IET 29447) to 95.58 cm (IET 29429) and number of panicles/m<sup>2</sup> ranged from 244 (IETs 29441, 29453) to 293 (IET 29421). The data pertaining to yield, flowering, plant height and panicles/m<sup>2</sup> were presented in tables 5.8, 5.9, 5.10 and 5.11. Performance of the test entries was discussed below.

On overall basis, 14 entries were found superior to Local check (3236 kg/ha) and recorded more than 5 percent yield improvement. While among the entries IET 29412 (US 393), a hybrid with a grain yield of 3889 kg/ha was out-yielded the LC (3236 kg/ha) the BVC and HC (3358 kg/ha) with a yield superiority of 20 % and 16 % respectively. The days to 50% flowering, plant height and panicles/m<sup>2</sup> of IET 29412 were 84, 80.66 cm and 275 respectively. The performance of the entries was were furnished below

### Overall performance of promoting entries in IVT-Aerobic Kharif 2020

Rank	IET No/ Designation / Cross combination	GY/ DFF/ GT	Yield adv. %		% yield increase over the best check											
			(Overall)		Zone-III			Zone-V			Zone-VI			Zone-VII		
			BVC	HC	Rank	%BVC	%HC	Rank	%BVC	%HC	Rank	%BVC	%HC	Rank	%BVC	%HC
1	IET 29412 US 393 (Hybrid)	3889 84 MB	20	16				1	124	121				1	10	44
2	IET 29427 R CPR 71- IR93827-29-2-1-3 (IR 81039-B-173- U 3-3/ IR 81063- B-94-U 3-1)	3796 84 LS	17	13										3	6	39
3	IET 29411 CR 4161-5-6-IR 14L572 (IR10L146 / IR10L149)	3788 84 LS	17	13				3	69	67	1	8	12			
4	IET 29398 RP 6112-MS-M- 27-3-9-6-5-4-2 (BPT 5204 Mutant)	3762 87 LS	16	12	1	54	47									
5	IET 29415 RP6326-278-14-1 (PSV 2090) (MTU 1010 / WGL 505)	3717 80 LS	15	11				5	52	50						
6	IET 29422 CRR 756-21 IR08L183 / MTU 1010	3660 83 LS	13	9	4	34	28									
7	IET 29424 CR 4317-2-IR 97034-21-2-1-3 (IR09L337 / IR09L154)	3659 83 LS	13	9	2	37	30									

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Rank	IET No/ Designation / Cross combination	GY/ DFP/ GT	Yield adv. %		% yield increase over the best check											
			(Overall)		Zone-III			Zone-V			Zone-VI			Zone-VII		
			BV	HC%	Rank	%BVC	%HC	Rank	%BVC	%HC	Rank	%BVC	%HC	Rank	%BVC	%HC
8	IET 29405 RCPR 70- IR 84899-B-184-16- 1-1-1(IR78877- 208-B-1-1 / IRRI 132 )	3644 84 LS	13	9				4	66	63						
9	IET 29436 CRR821-21-2-1-3 (IR09L337 / IR09L154)	3643 83 LS	13	8	3	34	28									
10	IET 29423 TRC 2020-3 (Hakuchuk 2 / Tripura Nirog)	3634 83 LS	12	8	4	34	28									
11	IET 29421 RP 6324-123-14- 4-1 (PSV 2011) (CR 691-1 / CR Dhan 202)	3571 84 LS	10	6	10	21	15									
12	IET 29396 CRR822-20-1-2-2 (IR11L152 / Sabitri)	3546 84 LS	10	6	9	21	15	2	77	75						
13	IET 29448	3446 85	6	3	8	21	16									
14	IET 29426	3408 89 SB	5	1	15	12	7	7	45	43						
	National check (NC)	3189 82														
	Zonal Check (ZC)	3180 79														
	<b>Hybrid Check (HC)</b>	<b>3358 83</b>														
	<b>Local Check (LC)</b>	<b>3236 82</b>														

**Zone wise Performance of entries in IVT Aerobic during Kharif 2020**

In zonal performance, Z-III constitutes of three locations and nineteen entries got promoted, Z-V has single location and based on the required advantage of yield eleven entries got promoted, Z-VI constituting two locations and two entries got promoted and Z-VII also constitutes two locations and three entries got promoted.

**Zone-wise performance of promising entries in IVT-Aerobic, kharif 2020**

S. No.	IET No.	Overall	Z-III	Z-V	Z-VI	Z-VII	Promoted to AVT I Zone(s)
		% BVC / % HC	% BVC / % HC	% BVC / % HC	% BVC / % HC	% BVC / % HC	
1	29394					10 / 44	Z-VII
2	29395						
3	29396	10 / 6	21 / 15	77 / 75			Over all
4	29397						
5	29398	16 / 12	54 / 47				Over all
6	29399						
7	29400						
8	29401						
9	29402			27 / 25			Z-V
10	29403						
11	29404						
12	29405	13 / 9		66 / 63			Over all
13	29406						
14	29407						
15	29408						
16	29409				6		Z-VI
17	29410		19 / 13				Z-III
18	29411	17 / 13	9/4	69 / 67	8 / 12		Over all
19	29412	20 / 16		124 / 121		10 / 44	Over all
20	29413						
21	29414						
22	29415	15 / 11		52 / 50			Over all
23	29416						
24	29417						
25	29418						
26	29419						
27	29420			24/22			Z-V
28	29421	10/6	21 / 15				Over all
29	29422	13 / 9	34 / 28	17/15			Over all
30	29423	12 / 8	34 / 28				Over all
31	29424	13 / 9	37 / 30				Over all
32	29425		24 / 19				Z-III
33	29426	5	12/7	45 / 43			Over all
34	29427	17 / 13	16/10			6 / 39	Over all
35	29428						
36	29429						
37	29430		10/5				Z-III
38	29431			47 / 45			Z-V
39	29432						
40	29433						
41	29434						
42	29435						
43	29436	13 / 8	34 / 28				Over all
44	29437						

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S. No.	IET No.	Overall	Z-III	Z-V	Z-VI	Z-VII	Promoted to AVT I Zone(s)
		% BVC / % HC	% BVC / % HC	% BVC / % HC	% BVC / % HC	% BVC / % HC	
45	29438						
46	29439		16/10				Z-III
47	29440			27 / 25			Z-V
48	29441						
49	29442						
50	29443						
51	29444		7				Z-III
52	29445						
53	29446		25 / 19				Z-III
54	29447		13/8				Z-III
55	29448	6 / 3	21 / 16				Over all
56	29449						
57	29450						
58	29451						
59	29452						
60	29453						
61	<b>BVC</b>	<b>3236</b>	<b>2988</b>	<b>3085</b>	<b>4261</b>	<b>3960</b>	
62	<b>HC</b>	<b>3358</b>	<b>3135</b>	<b>3129</b>	<b>4127</b>	<b>3038</b>	

**List of entries promoted to AVT 1- Aerobic:**

- **Overall: IETs 29412, 29427, 29411, 29398, 29415, 29422, 29424, 29405, 29436, 29423, 29421, 29396, 29448 and 29426**
- **Zone III: IETs 29396, 29398, 29424, 29436, 29422, 29423, 29446, 29425, 29448, 29421, 29410, 29427, 29439, 29447, 29426, 29430, 29433, 29444 and 29411**
- **Zone V: IETs 29396, 29412, 29411, 29405, 29415, 29431, 29426, 29402, 29440 29420 and 29422**
- **Zone VI: IETs 29411 and 29409**
- **Zone VII: IETs 29412, 29394 and 29427.**

**Table No 5.1: Composition of entries in Advance Variety Trial 1 – Aerobic (AVT 1-Aerob), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>2<sup>nd</sup> Year of testing:</b>				
5201	28636	RP 6361-RAF-252 -GSR-IR1-DQ146-L18-Y1	GSR IR1-8-S6-S3-Y2 / GSR IR 1-9-S9-Y3-SU1	LS
5202	28641	CR 3947-1-2-1-1-1	IR64 / IET 23467	LS
5203	28672	NWGR 12002	IR 17 / IET 16810	LB
5204	28658	RCPR 62-IR14L360	IR 09L272 / IR 09L337	LS
5205	28637	HKR 16-1-IR 14L521	IR09L272 / IR 10L146	LS
<b>3<sup>rd</sup> Year of testing:</b>				
5206	27951	HURS 18-2-IR98976-20-1-2-2	IR11L152 / Sabitri	LB
<b>2<sup>nd</sup> Year of testing:</b>				
5207	28675	RP 5624-413-B-12-1	Sahbhagidhan / KMR -3	LB
5208	28689	MSN 103-RP 5755-MSN 5-1	Swarna / IRGC 17390 // MTU 1081	MS
5209	28653	RP 6112-MS-M-22-3-9-8-5-4-2	BPT 5204 Mutant	MB
5210	<b>CR Dhan 201 (NC)</b>			
5211	27937 (R)	<i>IIRRH 124 (Hybrid)</i>	-	LB
5212	28655	CR 3938-2-2-1-1-1-2-1	IR 73907-753-2-3 / Prathiksya	LS
5213	28669	MSN 105- RP 5391-MSN 28-1	RP Bio 226 / IRGC 11010 // MTU 1081	MB
5214	28631	RCPR 63-IR 97034-21-2-1-3	IR09L337 / IR09L154	LS
5215	28644	HURS-19-2-IR 98976-20-1-2-2	IR11L152 / Sabitri	LS
5216	28673	CR 3847-1-1-1-2-1	IR 79643-39-2-2 / CR Dhan 201	LS
5217	26171	RP 5601-283-14-4-1	Azucena / BPT 5204	
5218	28678	CRR 808-1	IR 09L272 / IR 10L165	LS
5219	28683	IR71700-247-5-3-2CR 3727-2-2-1-1	IR 66159-164-5-3-5 / IR 64	LS
5220	28654	PAU 3391-29-3-1-3-3-1-2-1-1 (RYT 3692)	TDCD 3815 / PAU 2963-17-3-1-3	LS
5221	28634	JDP 2018	Selection from IR 86857	MS
5222	28640	NVSR 6231	NAUR-1 / IR 7664-B-25-1-2-1-3-12-4-AJY1	LB
5223	28642	UPR 4110-4-1-1-1	Jaya / Pant Dhan 10	LB
5224	28664	MSN 104- RP 5373-MSN 7-2	Sampada / IRGC 39111 // RP Bio 226	MS
5225	<b>PA 6129 (HC)</b>			
5226	28688	RP 6112-MS-M-3-1-2-3-4-6-8	BPT 5204 Mutant	MS
5227	28677	CR 3856-44-22-2-1-3-2-2	IR 73963-86-1-5-2-2 / CR 2324-1-1	LS
5228	28635	PAU 5567-32-3-1-5 (RYT 3687)	PR 120 // PAU 201 / UPR 1561-6-3	LS
5229	28681	IR 73933-8-2-2-3-3 CR 3852-1-1	IR 65629-157-3-2-3-2-1 / IR 68763-46-1-2-5-2	LS
5230	28671	CR 4115-2-2-1-1-1	Kudrat / EC 491313	SB
5231	28674	RP 6353-26-13-39-5	MTU 1010 / ST 6 // ST 12 /// MTU 1010	LS
5232	28645	<i>YRH 2027 (Hybrid)</i>	NPS 2030 A / NPS 4069	LB
5233	<b>CR Dhan 202-Northern, Eastern, North Eastern &amp; Central, AAUDR-1- Western, MAS 946-1-Southern--- ZC</b>			
5234	<b>Local Check</b>			

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Table No 5.2: Grain yield (Kg/h) of entries of AVT-1-AEROB, Kharif 2020

Entry No.	IET No.	ZONE II (1)				ZONE III					
		PU (1)				OD (1)			BI		
		LDN				CTK			BKG		
5201	28636	4005	4	#	68%	4602			2626		
5202	28641	2310				4236			3421	5	
5203	28672	1940				3466			1659		
5204	28658	2935	9		23%	5201	8	#	18%	1486	
5205	28637	1940				7634	1 *	46% #	73%	1143	
5206	27951	3912	5	#	64%	5100	9	#	16%	4147	2
5207	28675	1662				4434			3559	4	
5208	28689					4935	12%		2903		
5209	28653	1324				3667			2937		
5210	CR Dhan 201 (NC)	2398				4634			3698	3	
5211	27937	5366	1 *	32% #	125%	6832	2 *	30% #	55%	1313	
5212	28655	1477				3867			1350		
5213	28669					4667			2177		
5214	28631	4597	2	13% #	93%	5352	5	#	22%	1866	
5215	28644	1500				3864			2488		
5216	28673	1968				4970	10	#	13%	2384	
5217	26171	3620	7	#	52%	4764			3214	8	
5218	28678					4434			3145	10	
5219	28683					4734					
5220	28654					1431			1831		
5221	28634	3176	8		33%	4566			3145	10	
5222	28640	2588	10			3699					
5223	28642					2566			1970		
5224	28664	3884	6	#	63%	5333	6	#	21%	1555	
5225	PA 6129 (HC)	2384				4401			5564	1	
5226	28688					4434					
5227	28677					2965			3041		
5228	28635	1644				4767			1970		
5229	28681	1347				4434			1451		
5230	28671					6000	3 *	15% #	36%	1244	
5231	28674	1880				4832					
5232	28645	2398				5566	4	6% #	26%	3317	6
5233	Zonal Check (ZC )	2514				5236	7		3214	8	
5234	Local Check	4069	3			4566			3248	7	
<b>Exp. Mean</b>		<b>2674</b>				<b>4594</b>			<b>2569</b>		
CD		1026.84				534.53			514.92		
CV%		23.4				7.14			12.26		
D/S		20-07-2020				11-08-2020			06-08-2020		
D/P											
Local Check Name		PR 126				CR Dhan 206			Sabour Ardhajal		

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Table No 5.2 contd.: Grain yield (Kg/h) of entries of AVT-1-AEROB, Kharif 2020

Entry No.	IET No.	ZONE III									
		BI				BI (3)		JH			
		PSA		PTN		Mean		@RCI		HZB	
5201	28636	2450		3727	#	2934		511	8	2333	
5202	28641	2728		2727		2959		533	7	3694	2 #
5203	28672	4133	3	2580		2791		422	10	1472	
5204	28658	3561		3860	9 #	2969		333		2944	#
5205	28637	2922		2194		2086		118		3528	3 #
5206	27951	3944	7	3247		3779	4	556	6	3028	10 #
5207	28675	4167	2	3353		3693	6	58		1972	
5208	28689	2389		3920	8 #	3071					
5209	28653	2250		2607		2598		178		2806	#
5210	CR Dhan 201 (NC)	3433		4100	6	3744	5	400		1861	
5211	27937	3483		2753		2516		1667	1	2083	
5212	28655	3250		4047	7 #	2882		78		3278	4 #
5213	28669	3783	8	2747		2902		133		1694	
5214	28631	4061	5	4487	2 #	3471	8	711	3	2583	#
5215	28644	2411		2493		2464		89		2222	
5216	28673	3244		3847	10 #	3158	10	222		1889	
5217	26171	2594		2580		2796		511	8	3167	6 #
5218	28678	3544		4133	5 #	3607	7	244		2472	
5219	28683	2861		2700		2781		71		3083	8 #
5220	28654	4094	4	247		2057					
5221	28634	2694		2293		2711		338		4083	1 * #
5222	28640	2622		3173		2898		200		2667	#
5223	28642	3772	9	2587		2776				3083	8 #
5224	28664	3550		3173		2759		333		2472	
5225	PA 6129 (HC)	3739	10	2787		4030	2	644	5	1972	
5226	28688	4244	1 #	4293	3 #	4269	1 * 12%	92		3028	10 #
5227	28677	2306		3393	#	2913		220		1528	
5228	28635	2439		2320		2243		167		2194	
5229	28681	2189		3820	#	2487		267		1694	
5230	28671	3378		101		1574		178		1806	
5231	28674	3178		215		1697		67			
5232	28645	2283		4573	1 #	3391	9	1133	2	1750	
5233	Zonal Check (ZC)	3672		2500		3129		711	3	3250	5 #
5234	Local Check	4000	6	4173	4	3807	3	300		3139	7 #
<b>Exp. Mean</b>		<b>3217</b>		<b>2993</b>		<b>2940</b>		<b>371</b>		<b>2541</b>	
CD		430.22		604.69		335.03		404.08		544.57	
CV%		8.2		12.39		6.99		66.78		13.12	
D/S		18-07-2020		18-07-2020				09-07-2020		25-07-2020	
D/P											
Local Check Name		Rajendra Nilam		Rajendra Bhagwati				BVD-203		Sahbhagi dhan	

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Table No 5.2 contd.: Grain yield (Kg/h) of entries of AVT-1-AEROB, Kharif 2020

Entry No.	IET No.	ZONE III												
		JH (1)			UP			UP (1)			Zone III (6)			
		Mean			@MSD	VRN		Mean			Mean			
5201	28636	2333		18%		4101	6	4101	6	10%	3307			
5202	28641	3694	2	14% #	87%			4195	5	4195	5	12%	3500	
5203	28672	1472				3211		3044			3044		2726	
5204	28658	2944	#	49%		2596		4397	2 *	4397	2 *	18%	3575	8
5205	28637	3528	3	9% #	79%			4027	7	4027	7	8%	3575	8
5206	27951	3028	10	#	54%	2516		3333		3333			3800	3
5207	28675	1972				3411							3497	
5208	28689					3433							3537	
5209	28653	2806	#	42%		2824		3203		3203			2912	
5210	CR Dhan 201 (NC)	1861				3831	4	3737	8	3737	8		3577	7
5211	27937	2083				3800	5	3084		3084			3258	
5212	28655	3278	4	#	66%	3878	3	3065		3065			3143	
5213	28669	1694				3438		3046		3046			3019	
5214	28631	2583	#	31%		3478		4202	4	4202	4	12%	3759	4
5215	28644	2222			13%	3756	8	3044		3044			2754	
5216	28673	1889				3578	10	3090		3090			3237	
5217	26171	3167	6	#	61%	3731	9	3556	10	3556	10		3313	
5218	28678	2472			25%	3922	2	3623	9	3623	9		3559	10
5219	28683	3083	8	#	56%	3211		3145		3145			3305	
5220	28654					3496		3104		3104			2141	
5221	28634	4083	1 *	26% #	107%	3971	1	3061		3061			3307	
5222	28640	2667	#	35%				3044		3044			3041	
5223	28642	3083	8	#	56%			3053		3053			2839	
5224	28664	2472			25%	3476		3066		3066			3192	
5225	PA 6129 (HC)	1972				3578	10	4431	1	4431	1		3816	1
5226	28688	3028	10	#	54%	2529		3034		3034			3807	2
5227	28677	1528						3045		3045			2713	
5228	28635	2194			11%			3034		3034			2787	
5229	28681	1694						3044		3044			2772	
5230	28671	1806				3378		3042		3042			2595	
5231	28674					3796	6	3273		3273			2875	
5232	28645	1750				3778	7	4337	3 *	4337	3 *	16%	3638	6
5233	Zonal Check (ZC )	3250	5			3567		3039		3039			3485	
5234	Local Check	3139	7			3571		3289		3289			3736	5
<b>Exp. Mean</b>		<b>2541</b>				<b>3452</b>		<b>3400</b>		<b>3400</b>			<b>3238</b>	
CD		544.57				183.4		547.62		547.62			218.14	
CV%		13.12				3.24		9.87		9.87			4.13	
D/S						20-07-2020		21-07-2020						
D/P														
Local Check Name						Shushak Smart		HUR-105						



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Table No 5.2 contd.: Grain yield (Kg/h) of entries of AVT-1-AEROB, Kharif 2020

Entry No.	IET No.	ZONE V									
		MP				CH				Zone V (2)	
		@REW		@JBP		RPR		JDP		CH (2)	
5201	28636	977	2	4319		4244	9	3542		3893	
5202	28641	640	9	4462		3876		3555		3716	
5203	28672	217		3640		3149		3032		3091	
5204	28658	407		4769		4482	7	3331		3907	10
5205	28637	380		4843		2352		3755		3054	
5206	27951	1042	1	5172	7	5328	2	3064		4196	4
5207	28675	326		3877		2893		3990	2	3442	
5208	28689			2659		3347		3835	8	3591	
5209	28653	137		5540	4	4379	8	3563		3971	7
5210	CR Dhan 201 (NC)	933	4	4217		3976		3499		3738	
5211	27937	673	8	5750	2	7611	1 * #	3827	9	5719	1 * 25% # 40%
5212	28655	158		3181		2331		2997		2664	
5213	28669	412		3998		3543		3662		3603	
5214	28631	890	6	5462	5	3964		3897	3	3931	9
5215	28644	369		4199		2658		3259		2959	
5216	28673	423		3158		3846		3659		3753	
5217	26171	532	10	3854		4078		3838	7	3958	8
5218	28678	445		4027		3403		3349		3376	
5219	28683	304		4662		3375		3507		3441	
5220	28654			5846	1	1373		3851	6	2612	
5221	28634	966	3	4861	10	4221	10	3045		3633	
5222	28640	141		4298		2854		3614		3234	
5223	28642			4160		3113		3803		3458	
5224	28664	174		3632		3972		3277		3625	
5225	PA 6129 (HC)	336		4738		4645	6	3528		4087	6
5226	28688	87		4292		3845		3870	5	3858	
5227	28677	911	5	2921		2687		3088		2888	
5228	28635	477		3993		2291		3539		2915	
5229	28681	260		3515		3137		3811	10	3474	
5230	28671	456		3099		2866		3371		3119	
5231	28674	130		4999	9	569		3504		2037	
5232	28645	499		5234	6	4729	4	3886	4	4308	3
5233	Zonal Check (ZC)	803	7	5152	8	5005	3	4113	1	4559	2
5234	Local Check			5732	3	4693	5	3646		4170	5
<b>Exp. Mean</b>		<b>483</b>		<b>4361</b>		<b>3613</b>		<b>3562</b>		<b>3587</b>	
CD		474.2		228.92		874.82		1021.31		674.36	
CV%		60.01		3.22		14.85		17.59		11.53	
D/S		28-07-2020		16-07-2020		07-07-2020		07-07-2020			
D/P											
Local Check Name				JR 206		Indira Aerobic 1		Indira Aerobic 1			

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**Table No 5.2 contd.: Grain yield (Kg/h) of entries of AVT-1-AEROB, Kharif 2020**

Entry No.	IET No.	ZONE VI														
		MA (1)		GU				GU (2)			Zone VI (3)					
		PBN	NVS	@DRL	VYR	Mean		Mean								
5201	28636	2634		4798		640	7	3913	5	4356	4	13%	11%	3782	5	5%
5202	28641	2086		5256	6	242		3365	9	4311	5	11%		3569		
5203	28672	2792		4947	10	302		2636		3792				3458		
5204	28658	2594		4635		112		2552		3594				3260		
5205	28637	2873		4526		106		1791		3159				3063		
5206	27951	3229	5 # 24%	4249		1510	3	4037	4	4143	9	7%		3838	4	7% 10%
5207	28675	2947		4966	9	187		3215	10	4091	10	6%		3709	7	
5208	28689	3403	1 # 31%	4425		21		2636		3531				3488		
5209	28653	2505		4311		28		2217		3264				3011		
5210	CR Dhan 201 (NC)	3068		4969	8	357	10	2786		3868				3601	10	
5211	27937	2981	# 15%	5955	1.5	1434	4	4748	2	5352	2*	38% # 36%		4561	1*	27% # 31%
5212	28655	3126	7 # 21%	4650				2765		3708				3514		
5213	28669	3105	9 # 20%	4004				2927		3466				3345		
5214	28631	2800		5807	3	620	8	5011	1	5409	1*	40% # 37%		4539	2*	26% # 30%
5215	28644	3271	3 # 26%	5105	7	360	9	2031		3568				3469		
5216	28673	2557		4849		182		3750	6	4300	6	11%		3719	6	
5217	26171	2244		5383	4	340		3140		4262	8	10%		3589		
5218	28678	2004		4284		215		3630	7	3957				3306		
5219	28683	2323		4597		53		2431		3514				3117		
5220	28654	2347		3616				1584		2600				2516		
5221	28634	2744		4940		803	6	2655		3798				3446		
5222	28640	2866		4091		136		3110	#	3601				3356		
5223	28642	2847		4142				2350		3246				3113		
5224	28664	2383		3797		103		3514	8	3656				3231		
5225	PA 6129 (HC)	2594		5955	1.5	1013	5	1917		3936				3489		
5226	28688	2703		3963		93		1563		2763				2743		
5227	28677	3229	5 # 24%	4612		104		1951		3282				3264		
5228	28635	2668		4589		163		2615		3602				3291		
5229	28681	3403	1 # 31%	4852		135		2575		3714				3610	9	
5230	28671	3126	7 # 21%	4288		151				4288	7	11%		3707	8	
5231	28674	2994	# 15%	3784				926		2355				2568		
5232	28645	2800		5297	5	62		4059	3	4678	3*	21% # 19%		4052	3	13% # 16%
5233	Zonal Check (ZC)	3271	3	4529		1757	2	2007		3268				3269		
5234	Local Check	3100	10	4660		1845	1	1559		3110				3106		
<b>Exp. Mean</b>		<b>2812</b>		<b>4671</b>		<b>451</b>		<b>2786</b>		<b>3751</b>				<b>3432</b>		
CD		377.81		1023.06		121.54		1118.06		726.29				486.93		
CV%		8.24		13.43		16.48		24.6		11.88				8.7		
D/S		17-07-2020		25-07-2020		13-07-2020		09-07-2020								
D/P																
Local Check Name		Avishkar		NAUR-1		GR 9		NAUR-1								

## Annual Progress Report 2020 Volume I - Varietal Improvement

Table No 5.2 contd.: Grain yield (Kg/h) of entries of AVT-1-AEROB, Kharif 2020

Entry No.	IET No.	ZONE VII									Overall (14)				
		TN (1)			KA (1)		Z7 (2)								
		CBT			MND		Mean				Mean				
5201	28636	5497	4	8% #	65%	2593		4045		3648	8				
5202	28641	5472	5	8% #	64%	1428		3450		3454					
5203	28672	6478	1*	27% #	94%	1735		4107	10	12%	3076				
5204	28658	5614	3	10% #	68%	3095		4355	4	#	18%	3621	9		
5205	28637	4500	#	35%		3431		3966				3330			
5206	27951	5464	6	7% #	64%	2901		4183	7	14%	3927	3	#		
5207	28675	6028	2	19% #	81%	3885	5	4957	1	#	35%	3621	9		
5208	28689	5083	9	#	53%	2421		3752				3572			
5209	28653	4100	,		23%	3603	9	3852				3105			
5210	CR Dhan 201 (NC)	4964				2566		3765				3548			
5211	27937	4536	#	36%		3260		3898				4131	1*	8% #	13%
5212	28655	5385	7	6% #	62%	2968		4177	8	14%		3183			
5213	28669	4394	32%			2146		3270				3223			
5214	28631	4496	#	35%		3008		3752				4009	2	#	
5215	28644	3336				2201		2769				2849			
5216	28673	5006	10	#	50%	2939		3973				3428			
5217	26171	4733	#	42%		3392		4063	,	10%		3593			
5218	28678	4622	#	39%		3063		3843				3516			
5219	28683	3731	,		12%	2984		3358				3289			
5220	28654	4300	,		29%			4300	5	17%		2525			
5221	28634	3514				2881		3198				3358			
5222	28640	4742	#	42%		3757	8	4250	6	16%		3294			
5223	28642	3706	,		11%	2706		3206				3054			
5224	28664	4122	,		24%	3862	6	3992				3426			
5225	PA 6129 (HC)	3333				4024	4	3679				3662	5		
5226	28688	3717	,		12%	3844	7	3781				3545			
5227	28677	4997	#	50%		2788		3893				3048			
5228	28635	3717	,		12%	4548	1	13%	4133	9	12%	3024			
5229	28681	4361	,		31%	2172		3267				3021			
5230	28671	4847	#	45%		2251		3549				3027			
5231	28674	3671	,		10%	3516	10	3594				2695			
5232	28645	3464				2743		3104				3657	6		
5233	Zonal Check (ZC)	4400				4384	2.5	4392	3			3652	7		
5234	Local Check	5085	8			4384	2.5	4735	2			3829	4		
Exp. Mean		4571				3075		3841				3381			
CD		1063.83				526.39		644.94				207.77			
CV%		14.28				10.49		10.3				3.77			
D/S				26-08-2020											
D/P															
Local Check Name				CO 53											

**Table No 5.3.: Days to 50% flowering of entries of AVT-1-AEROB, Kharif 2020**

Entry No.	IET No.	ZONE II (1)		ZONE III						
		PU (1)	OD (1)	BI			BI (3)	JH		JH (1)
		LDN	CTK	BKG	PSA	PTN	Mean	@RCI	HZB	Mean
5201	28636	82	75	81	78	84	81	86	90	90
5202	28641	89	82	83	78	86	82	88	81	81
5203	28672	84	74	86	82	86	85	87	92	92
5204	28658	81	74	87	71	79	79	80	82	82
5205	28637	86	74	88	80	80	83	85	80	80
5206	27951	77	74	88	73	80	80	80	86	86
5207	28675	100	75	83	85	92	86	96	89	89
5208	28689		86	90	95	92	92			
5209	28653	92	71	80	80	85	82	90	81	81
5210	CR Dhan 201 (NC)	80	74	86	73	81	80	85	92	92
5211	27937	82	73	82	73	80	78	85	79	79
5212	28655	100	82	103	81	86	90	101	81	81
5213	28669		84	90	88	91	90	99	88	88
5214	28631	80	75	90	75	81	82	84	79	79
5215	28644	86	74	88	75	80	81	87	83	83
5216	28673	91	85	84	72	85	80	90	89	89
5217	26171	81	73	84	72	83	80	86	82	82
5218	28678		75	82	75	79	78	91	91	91
5219	28683		83		88	88	88	101	86	86
5220	28654		85	87	78	85	83			
5221	28634	82	72	85	74	78	79	81	81	81
5222	28640	91	74		84	89	87	89	89	89
5223	28642		82	86	93	95	91		81	81
5224	28664	91	81	87	76	85	83	96	90	90
5225	PA 6129 (HC)	91	74	81	75	84	80	88	86	86
5226	28688		87		89	94	92	102	85	85
5227	28677		85	84	85	87	86	100	96	96
5228	28635	100	75	83	76	85	81	86	83	83
5229	28681	101	88	83	82	85	83	100	88	88
5230	28671		83	85	89	89	88	99	91	91
5231	28674	91	85		88	84	86	87		
5232	28645	93	74	83	85	85	84	86	83	83
5233	Zonal Check (ZC )	80	73	84	71	79	78	86	82	82
5234	Local Check	84	75	99	76	83	86	92	79	79
<b>Exp. Mean</b>		<b>88</b>	<b>78</b>	<b>86</b>	<b>80</b>	<b>85</b>	<b>84</b>	<b>90</b>	<b>85</b>	<b>85</b>

Table No 5.3 contd.: Days to 50% flowering of entries of AVT-1-AEROB, Kharif 2020

Entry No.	IET No.	ZONE III				ZONE V				
		UP		UP (1)	Zone III (6)	MP		CH		Zone V (2)
		@MSD	VRN	Mean	Mean	@REW	@JBP	RPR	JDP	CH (2)
5201	28636		69	69	79	88	96	76	93	85
5202	28641		73	73	81	87	97	83	88	86
5203	28672	88	68	68	81	89	99	83	85	84
5204	28658	87	71	71	77	85	94	77	87	82
5205	28637		73	73	79	87	94	84	95	90
5206	27951		65	65	77	79	104	71	83	77
5207	28675	88			85	92	104	90	95	93
5208	28689	93			91	98	107	99	103	101
5209	28653	97	72	72	78	95	92	81	82	82
5210	CR Dhan 201 (NC)	86	71	71	79	84	94	77	88	83
5211	27937	86	76	76	77	83	94	72	84	78
5212	28655	86	77	77	85	94	104	88	97	93
5213	28669	86	86	86	88	95	93	89	95	92
5214	28631	85	70	70	78	83	94	75	87	81
5215	28644	89	72	72	79	88	93	78	87	83
5216	28673	88	75	75	82	85	98	78	90	84
5217	26171	87	65	65	77	83	97	84	95	90
5218	28678	84	71	71	79	84	94	78	89	83
5219	28683	84	79	79	85	92	98	90	94	92
5220	28654	88	89	89			100	97	89	93
5221	28634	83	68	68	76	79	94	73	81	77
5222	28640		68	68	81	93	101	82	95	89
5223	28642		73	73	85	96	100	93	93	93
5224	28664	91	79	79	83	95	104	85	86	86
5225	PA 6129 (HC)	87	79	79	80	92	96	79	87	83
5226	28688	88	89	89	89	97	104	96	96	96
5227	28677		77	77	86	89	101	88	93	91
5228	28635		80	80	80	93	99	84	95	90
5229	28681		85	85	85	91	101	89	97	93
5230	28671	87	85	85	87	96	101	83	96	90
5231	28674	84	79	79		96	91	90	97	94
5232	28645	88	75	75	81	93	95	79	88	84
5233	Zonal Check (ZC )	86	71	71	77	81	98	78	97	88
5234	Local Check	85	98	98	85		94	74	87	81
<b>Exp. Mean</b>		<b>87</b>	<b>76</b>	<b>76</b>	<b>82</b>	<b>89</b>	<b>98</b>	<b>83</b>	<b>91</b>	<b>87</b>

**Table No 5.3 contd.: Days to 50% flowering of entries of AVT-1-AEROB, Kharif 2020**

Entry No.	IET No.	ZONE VI						ZONE VII			Overall (14)
		MA (1)	GU			GU (2)	one VI (	TN (1)	KA (1)	Zone VII (2)	
		PBN	NVS	@DRL	VYR	Mean	Mean	CBT	MND	Mean	Mean
5201	28636	92	85	86	77	81	84	93	103	98	84
5202	28641	89	84	86	83	84	85	72	94	83	83
5203	28672	92	85	81	78	81	85	83	100	91	84
5204	28658	91	83	93	87	85	87	76	94	85	81
5205	28637	100	82	88	89	85	90	78	94	86	84
5206	27951	91	85	81	80	82	85	80	92	86	80
5207	28675	92	96	91	89	93	92	81	101	91	90
5208	28689	87	96	102	89	93	91	82	108	95	93
5209	28653	91	97	85	84	90	90	77	107	92	84
5210	CR Dhan 201 (NC)	94	81	83	84	83	87	87	89	88	83
5211	27937	88	85	104	82	83	85	74	87	81	80
5212	28655	90	84	101	92	88	89	104	108	106	91
5213	28669	93	96	86	88	92	92	93	107	100	91
5214	28631	92	86	88	81	84	86	80	91	86	82
5215	28644	96	87	91	82	84	88	74	97	85	83
5216	28673	91	83	88	84	84	86	72	94	83	84
5217	26171	102	89	84	87	88	93	78	91	85	83
5218	28678	90	90	83	84	87	88	80	102	91	83
5219	28683	91	84	95	88	86	88	93	113	103	90
5220	28654	86	86		88	87	87	90		90	87
5221	28634	87	83	82	82	82	84	81	118	100	82
5222	28640	85	96	87	80	88	87	93	100	97	87
5223	28642	86	84	95	88	86	86	101	115	108	90
5224	28664	91	94	94	86	90	91	93	94	94	87
5225	PA 6129 (HC)	78	84	87	81	83	81	95	101	98	84
5226	28688	92	96	105	95	96	94	82	100	91	92
5227	28677	88	90	96	90	90	89	85	100	93	88
5228	28635	98	86	86	84	85	90	99	109	104	89
5229	28681	90	84	95	86	85	87	93	109	101	90
5230	28671	88	86	93				99	109	104	90
5231	28674	100	84		89	87	91	81	102	92	89
5232	28645	88	95	86	77	86	86	82	107	95	85
5233	Zonal Check (ZC )	90	84	64	90	87	88	107	91	99	84
5234	Local Check	81	85	63	87	86	84	85	86	86	84
<b>Exp. Mean</b>		<b>91</b>	<b>88</b>	<b>88</b>	<b>85</b>	<b>86</b>	<b>88</b>	<b>86</b>	<b>100</b>	<b>93</b>	<b>86</b>

**Table No 5.4: Plant Height (cm) of entries of AVT-1-AEROB, Kharif 2020**

Entry No.	IET No.	ZONE II (1)		ZONE III							
		PU (1)	OD (1)	BI			BI (3)	JH		JH (1)	UP
		LDN	CTK	BKG	PSA	PTN	Mean	@RCI	HZB	Mean	@MSD
5201	28636	85.33	107.49	89.00	103.00	91.99	94.66	75.00	78.50	78.50	
5202	28641	88.67	127.29	92.33	126.00	96.71	105.01	96.00	89.00	89.00	
5203	28672	93.33	105.81	77.33	115.00	91.12	94.49	82.00	77.33	77.33	104.00
5204	28658	99.00	117.12	79.33	108.00	103.29	96.87		94.00	94.00	126.00
5205	28637	83.67	108.31	81.67	111.00	104.18	98.95		89.00	89.00	
5206	27951	89.00	102.88	82.33	97.00	84.97	88.10	72.00	84.47	84.47	
5207	28675	96.67	136.98	81.33	122.00	112.79	105.37		104.07	104.07	116.00
5208	28689		108.56	94.00	128.00	111.04	111.01				124.00
5209	28653	70.00	95.16	77.33	103.00	91.43	90.59	96.00	97.03	97.03	121.00
5210	CR Dhan 201 (NC)	95.67	109.19	100.67	128.00	94.36	107.67	80.00	86.17	86.17	138.00
5211	27937	111.00	123.22	77.67	129.00	104.06	103.57	95.00	92.17	92.17	128.00
5212	28655	103.67	130.63	89.00	136.00	112.08	112.36		110.00	110.00	135.00
5213	28669		116.14	81.00	94.00	91.82	88.94		90.33	90.33	113.00
5214	28631	93.67	113.84	94.00	116.00	94.44	101.48	86.00	104.67	104.67	111.00
5215	28644	92.67	113.70	80.33	113.00	104.96	99.43	75.00	89.47	89.47	128.00
5216	28673	87.33	112.19	81.00	116.00	98.52	98.51	75.00	76.80	76.80	123.00
5217	26171	99.33	118.80	82.33	136.00	106.11	108.15	76.00	107.67	107.67	116.00
5218	28678		103.22	83.00	116.00	108.84	102.61	84.00	83.07	83.07	106.00
5219	28683		96.39		101.00	92.11	96.56	89.00	97.17	97.17	109.00
5220	28654		108.07	75.67	110.00	92.57	92.74				121.00
5221	28634	88.67	109.06	83.67	114.00	95.01	97.56		88.33	88.33	127.00
5222	28640	86.67	106.13		120.00	93.96	106.98	84.00	75.80	75.80	
5223	28642		102.44	74.67	113.00	93.03	93.57		90.17	90.17	
5224	28664	112.00	126.53	76.33	117.00	102.37	98.57	94.00	98.13	98.13	112.00
5225	PA 6129 (HC)	78.33	99.46	89.00	114.00	85.92	96.31	83.00	81.87	81.87	125.00
5226	28688		127.73		168.00	129.13	148.57	97.00	92.17	92.17	140.00
5227	28677		101.53	93.33	130.00	130.40	117.91		75.40	75.40	
5228	28635	85.00	115.43	80.67	102.00	103.73	95.47	85.00	81.27	81.27	
5229	28681	72.00	108.70	89.33	127.00	100.00	105.44		93.40	93.40	
5230	28671		105.83	73.67	114.00	86.49	91.39	77.00	81.67	81.67	128.00
5231	28674	74.67	74.82		117.00	89.20	103.10				120.00
5232	28645	77.33	108.01	86.33	121.00	109.36	105.56	86.00	85.17	85.17	117.00
5233	Zonal Check (ZC)	99.33	120.02	79.00	98.00	101.21	92.74	87.00	82.50	82.50	108.00
5234	Local Check	76.67	116.61	92.67	127.00	102.50	107.39	87.00	101.13	101.13	123.00
<b>Exp. Mean</b>		<b>89.59</b>	<b>111.10</b>	<b>83.93</b>	<b>117.35</b>	<b>100.29</b>	<b>101.70</b>	<b>84.59</b>	<b>89.61</b>	<b>89.61</b>	<b>120.76</b>

**Table No 5.4 contd.: Plant Height (cm) of entries of AVT-1-AEROB, Kharif 2020**

Entry No.	IET No.	ZONE III			ZONE V				
		UP	UP (1)	Zone III (6)	MP		CH		Zone V (2)
		VRN	Mean	Mean	@REW	@JBP	RPR	JDP	CH (2)
5201	28636	94.30	94.30	94.05	67.00	81.80	106.89	67.50	87.20
5202	28641	116.47	116.47	107.97	93.00	86.20	136.41	82.40	109.41
5203	28672	121.07	121.07	97.94	81.00	73.60	110.25	75.90	93.07
5204	28658	119.73	119.73	103.58	71.00	84.80	129.27	66.85	98.06
5205	28637	108.53	108.53	100.45	74.00	72.20	112.91	74.90	93.91
5206	27951	95.87	95.87	91.25	71.00	75.00	113.48	57.00	85.24
5207	28675			111.43	103.00	81.80	133.32	91.50	112.41
5208	28689			110.40	74.00	70.20	137.93	78.50	108.21
5209	28653	93.73	93.73	92.95	68.00	74.80	104.68	71.30	87.99
5210	CR Dhan 201 (NC)	107.93	107.93	104.39	77.00	88.40	113.19	66.10	89.64
5211	27937	111.87	111.87	106.33	101.00	91.20	140.94	76.90	108.92
5212	28655	128.00	128.00	117.62	94.00	89.20	120.09	80.20	100.15
5213	28669	96.73	96.73	95.00	87.00	70.80	126.07	69.30	97.68
5214	28631	109.20	109.20	105.36	80.00	82.40	123.32	73.70	98.51
5215	28644	105.93	105.93	101.23	71.00	85.20	123.61	71.50	97.55
5216	28673	107.07	107.07	98.60	90.00	88.40	125.34	82.70	104.02
5217	26171	112.13	112.13	110.51	91.00	85.60	125.77	72.65	99.21
5218	28678	110.53	110.53	100.78	73.00	87.00	124.87	76.60	100.73
5219	28683	98.27	98.27	96.99	73.00	73.80	108.39	75.00	91.70
5220	28654	104.53	104.53	98.17	.	84.80	113.15	75.05	94.10
5221	28634	100.53	100.53	98.43	77.00	77.00	110.85	70.90	90.88
5222	28640	109.20	109.20	101.02	79.00	73.40	118.05	71.10	94.58
5223	28642	100.73	100.73	95.67	83.00	75.00	114.47	71.40	92.93
5224	28664	108.93	108.93	104.88	88.00	81.40	124.31	72.30	98.30
5225	PA 6129 (HC)	96.07	96.07	94.39	71.00	74.40	118.47	75.10	96.78
5226	28688	136.53	136.53	130.71	99.00	102.60	154.57	75.00	114.78
5227	28677	125.53	125.53	109.37	105.00	85.60	156.41	81.60	119.01
5228	28635	103.23	103.23	97.72	84.00	69.40	123.27	69.80	96.53
5229	28681	102.70	102.70	103.52	78.00	68.40	109.89	70.70	90.29
5230	28671	109.07	109.07	95.12	84.00	69.80	107.11	74.60	90.86
5231	28674	94.20	94.20	93.81	61.00	74.80	106.00	79.80	92.90
5232	28645	105.73	105.73	102.60	73.00	80.00	130.39	71.00	100.70
5233	Zonal Check (ZC)	111.47	111.47	98.70	81.00	74.00	126.02	71.30	98.66
5234	Local Check	107.67	107.67	107.93		77.80	107.20	76.80	92.00
<b>Exp. Mean</b>		<b>107.92</b>	<b>107.92</b>	<b>102.32</b>	<b>81.31</b>	<b>79.73</b>	<b>121.67</b>	<b>74.03</b>	<b>97.85</b>



## Annual Progress Report 2020 Volume I - Varietal Improvement

Table No 5.4 contd.: Plant Height (cm) of entries of AVT-1-AEROB, Kharif 2020

Entry No.	IET No.	ZONE VI						ZONE VII			Overall (14)
		MA (1)	GU			GU (2)	Zone VI (3)	TN (1)	KA (1)	Zone VII (2)	
		PBN	NVS	@DRL	VYR	Mean	Mean	CBT	MND	Mean	Mean
5201	28636	50.33	73.40	82.00	97.00	85.20	73.58	79.94	74.93	77.44	85.69
5202	28641	47.33	97.80	89.00	112.00	104.90	85.71	96.33	77.20	86.77	99.00
5203	28672	57.33	86.40	83.00	100.00	93.20	81.24	97.27	77.40	87.33	91.82
5204	28658	66.33	89.60	76.00	101.00	95.30	85.64	97.63	81.93	89.78	96.65
5205	28637	70.00	98.30	96.00	94.00	96.15	87.43	88.93	81.80	85.37	93.37
5206	27951	78.33	97.60	85.00	103.00	100.30	92.98	94.23	77.80	86.02	89.85
5207	28675	73.67	76.70	75.00	112.00	94.35	87.46	99.37	82.20	90.78	101.74
5208	28689	87.33	92.40	54.00	102.00	97.20	93.91	99.81	82.47	91.14	102.00
5209	28653	77.00	79.10	98.00	94.00	86.55	83.37	83.16	71.87	77.51	86.34
5210	CR Dhan 201 (NC)	77.00	99.30	103.00	107.00	103.15	94.43	86.13	73.13	79.63	95.99
5211	27937	82.00	91.30	87.00	114.00	102.65	95.77	102.77	82.40	92.58	102.81
5212	28655	77.67	95.60	79.00	110.00	102.80	94.42	107.20	92.20	99.70	106.60
5213	28669	84.00	84.50	96.00	110.00	97.25	92.83	89.80	77.00	83.40	93.13
5214	28631	62.00	89.30	85.00	116.00	102.65	89.10	99.53	74.67	87.10	97.45
5215	28644	91.33	99.50	87.00	101.00	100.25	97.28	91.23	72.47	81.85	96.48
5216	28673	87.67	93.00	75.00	104.00	98.50	94.89	95.83	89.80	92.82	96.95
5217	26171	97.67	94.70	87.00	107.00	100.85	99.79	114.61	83.20	98.90	104.14
5218	28678	84.67	86.30	85.00	105.00	95.65	91.99	94.10	86.00	90.05	97.09
5219	28683	91.67	76.40	63.00	104.00	90.20	90.69	99.80	70.93	85.37	92.59
5220	28654	96.00	75.30		95.00	85.15	88.77	98.73		98.73	94.92
5221	28634	98.33	92.20	85.00	106.00	99.10	98.84	69.30	73.27	71.28	92.87
5222	28640	102.00	77.90	80.00	108.00	92.95	95.97	88.51	77.20	82.86	94.96
5223	28642	80.33	88.30	65.00	105.00	96.65	91.21	95.07	74.80	84.94	92.57
5224	28664	88.67	87.70	101.00	109.00	98.35	95.12	94.27	76.13	85.20	99.55
5225	PA 6129 (HC)	96.00	90.10	82.00	90.00	90.05	92.03	82.93	74.47	78.70	90.84
5226	28688	100.33	98.30	108.00	103.00	100.65	100.54	103.80	83.60	93.70	114.35
5227	28677	93.00	88.70	81.00	117.00	102.85	99.57	123.40	80.33	101.87	107.43
5228	28635	92.00	95.50	83.00	113.00	104.25	100.17	79.57	81.67	80.62	94.72
5229	28681	97.33	83.50	83.00	107.00	95.25	95.94	98.12	74.80	86.46	95.32
5230	28671	87.67	80.10	94.00		80.10	83.89	88.10	88.13	88.12	91.37
5231	28674	77.67	76.60		101.00	88.80	85.09	71.49	78.93	75.21	86.78
5232	28645	87.67	84.40	79.00	108.00	96.20	93.36	63.20	73.93	68.57	93.68
5233	Zonal Check (ZC)	97.67	82.50	100.00	109.00	95.75	96.39	85.87	78.67	82.27	95.90
5234	Local Check	77.67	88.00	104.00	102.00	95.00	89.22	110.00	89.53	99.77	98.25
<b>Exp. Mean</b>		<b>82.81</b>	<b>87.95</b>	<b>85.31</b>	<b>105.03</b>	<b>96.12</b>	<b>91.72</b>	<b>93.24</b>	<b>79.24</b>	<b>86.52</b>	<b>96.27</b>

**Table No 5.5.: Panicles/m<sup>2</sup> of entries of AVT-1-AEROB, Kharif 2020**

Entry No.	IET No.	ZONE II (1)	ZONE III							
		PU (1)	OD (1)	BI			BI (3)	JH		JH (1)
		LDN	CTK	BKG	PSA	PTN	Mean	@RCI	HZB	Mean
5201	28636	493	250	242	139	173	184	95	294	294
5202	28641	423	166	256	212	134	201	125	320	320
5203	28672	587	223	252	129	141	174	86	275	275
5204	28658	507	249	238	202	187	209	99	272	272
5205	28637	493	228	242	208	139	196	49	252	252
5206	27951	473	296	221	212	163	199	141	269	269
5207	28675	470	247	217	210	175	201	61	281	281
5208	28689		179	217	224	172	204			
5209	28653	460	264	242	145	189	192	46	282	282
5210	CR Dhan 201 (NC)	533	278	273	208	254	245	140	311	311
5211	27937	513	269	207	197	212	205	114	292	292
5212	28655	450	204	263	231	223	239	90	239	239
5213	28669		250	263	241	208	237	100	219	219
5214	28631	450	257	238	236	245	239	97	250	250
5215	28644	473	236	235	191	200	209	44	205	205
5216	28673	483	274	263	235	250	249	123	254	254
5217	26171	460	272	228	197	212	212	121	283	283
5218	28678		229	245	206	267	239	113	314	314
5219	28683		329		137	181	159	116	291	291
5220	28654		244	196	225	29	150			
5221	28634	447	194	217	196	157	190	75	317	317
5222	28640	497	174		208	227	217	47	293	293
5223	28642		277	210	120	215	182		239	239
5224	28664	483	223	231	105	182	173	114	290	290
5225	PA 6129 (HC)	510	270	270	208	165	214	100	222	222
5226	28688		239		200	212	206	56	239	239
5227	28677		179	235	210	246	230	36	184	184
5228	28635	420	279	235	182	208	208	60	252	252
5229	28681	463	250	284	111	217	204	141	290	290
5230	28671		180	214	210	6	143	69	213	213
5231	28674	433	261		184	44	114	29		
5232	28645	483	237	252	220	214	229	107	288	288
5233	Zonal Check (ZC)	467	235	217	183	213	204	147	259	259
5234	Local Check	473	262	242	213	243	233	106	265	265
<b>Exp. Mean</b>		<b>478</b>	<b>241</b>	<b>238</b>	<b>192</b>	<b>185</b>	<b>203</b>	<b>92</b>	<b>266</b>	<b>266</b>

**Table No 5.5 contd.: Panicles/m<sup>2</sup> of entries of AVT-1-AEROB, Kharif 2020**

Entry No.	IET No.	ZONE III				ZONE V				
		UP		UP (1)	Zone III (6)	MP		CH		Zone V (2)
		@MSD	VRN	Mean	Mean	@REW	@JBP	RPR	JDP	CH (2)
5201	28636		367	367	244	93	216	159	119	139
5202	28641		339	339	238	87	224	131	145	138
5203	28672	255	309	309	221	73	278	158	200	179
5204	28658	225	346	346	249	60	241	149	140	145
5205	28637		256	256	221	71	206	118	124	121
5206	27951		496	496	276	111	295	167	117	142
5207	28675	222			226	130	220	121	156	139
5208	28689	286			198	71	181	120	131	125
5209	28653	245	312	312	239	42	197	142	150	146
5210	CR Dhan 201 (NC)	275	314	314	273	142	236	159	142	151
5211	27937	312	280	280	243	114	214	148	148	148
5212	28655	321	319	319	246	79	216	150	168	159
5213	28669	318	325	325	251	102	270	120	143	132
5214	28631	285	344	344	262	119	240	159	158	159
5215	28644	285	338	338	234	79	229	116	152	134
5216	28673	283	392	392	278	156	218	128	121	124
5217	26171	1166	319	319	252	108	224	176	147	161
5218	28678	339	369	369	272	119	236	153	135	144
5219	28683	241	282	282	244	128	290	122	125	123
5220	28654	294	168	168	173		258	84	156	120
5221	28634	332	359	359	240	114	224	139	142	140
5222	28640		341	341	249	147	240	161	161	161
5223	28642		273	273	222	80	220	128	169	149
5224	28664	301	289	289	220	78	195	141	138	140
5225	PA 6129 (HC)	305	231	231	228	87	205	145	143	144
5226	28688	225	346	346	247	69	178	123	161	142
5227	28677		345	345	233	121	219	116	137	126
5228	28635		337	337	249	90	278	125	142	133
5229	28681		266	266	236	178	270	137	142	139
5230	28671	247	128	128	158	36	173	120	119	120
5231	28674	283	172	172	165	24	245	104	121	113
5232	28645	303	291	291	251	98	190	128	160	144
5233	Zonal Check (ZC)	255	340	340	241	95	260	132	140	136
5234	Local Check	306	223	223	241		255	154	134	144
<b>Exp. Mean</b>		<b>316</b>	<b>307</b>	<b>307</b>	<b>236</b>	<b>97</b>	<b>231</b>	<b>136</b>	<b>144</b>	<b>140</b>

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Table No 5.5 contd.: Panicles/m<sup>2</sup> of entries of AVT-1-AEROB, Kharif 2020

Entry No.	IET No.	ZONE VI						ZONE VII			Overall (14)
		MA (1)	GU			GU (2)	Zone VI (3)	TN (1)	KA (1)	Zone VII (2)	
		PBN	NVS	@DRL	VYR	Mean	Mean	CBT	MND	Mean	Mean
5201	28636	280	195	259	122	159	199	438	371	405	260
5202	28641	265	329	265	138	234	244	323	280	302	247
5203	28672	281	238	237	127	183	215	387	371	379	263
5204	28658	245	190	184	128	159	188	333	320	327	250
5205	28637	284	151	151	81	116	172	392	338	365	236
5206	27951	338	262	275	153	208	251	368	331	350	276
5207	28675	299	158	221	107	133	188	353	320	337	240
5208	28689	378	222	128	104	163	235	362	291	326	218
5209	28653	292	166	183	101	134	186	345	362	354	247
5210	CR Dhan 201 (NC)	335	186	255	121	154	214	313	327	320	268
5211	27937	303	228	240	133	181	221	385	291	338	258
5212	28655	319	248		116	182	228	353	307	330	256
5213	28669	345	230		116	173	231	305	367	336	241
5214	28631	242	161	240	167	164	190	415	293	354	258
5215	28644	364	213	123	122	168	233	388	282	335	251
5216	28673	252	181	276	140	161	191	423	387	405	270
5217	26171	226	209	263	148	178	194	310	362	336	254
5218	28678	205	215	268	180	197	200	450	347	398	255
5219	28683	212	204	169	126	165	181	372	367	369	229
5220	28654	244	174		101	138	173	357		357	180
5221	28634	261	157	236	131	144	183	323	329	326	241
5222	28640	295	157	231	149	153	200	383	380	382	263
5223	28642	275	163		107	135	182	418	404	411	231
5224	28664	224	210	227	122	166	185	363	304	334	236
5225	PA 6129 (HC)	255	294	263	148	221	232	372	382	377	258
5226	28688	277	185	196	122	154	195	337	349	343	232
5227	28677	349	191	171	128	160	223	360	327	343	231
5228	28635	242	192	216	159	175	197	333	327	330	245
5229	28681	376	156	205	132	144	221	390	373	382	256
5230	28671	369	173	185		173	271	283	309	296	194
5231	28674	365	164		110	137	213	187	260	223	200
5232	28645	360	210	212	141	175	237	368	351	360	265
5233	Zonal Check (ZC)	368	225	228	107	166	233	343	316	329	253
5234	Local Check	330	248	277	110	179	229	410	324	367	259
<b>Exp. Mean</b>		<b>296</b>	<b>203</b>	<b>220</b>	<b>127</b>	<b>166</b>	<b>210</b>	<b>360</b>	<b>335</b>	<b>348</b>	<b>245</b>

**Table No. 5.6: Grain quality characteristics of entries in AVT 1-AEROB, Kharif 2020**

Entry No.	IET No	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
5201	28636	76.0	60.4	25.2	6.20	1.89	3.28	LS	VOC	5.0	16.72	95
5202	28641	76.7	64.6	27.3	5.91	2.07	2.85	MS	VOC	3.0	22.64	70
5203	28672	76.2	61.6	31.8	5.68	2.15	2.64	MS	VOC	4.0	24.55	22
5204	28658	76.5	62.0	32.2	6.43	1.97	3.26	LS	VOC	3.0	23.87	100
5205	28637	77.7	65.4	46.7	6.78	2.02	3.35	LS	VOC	7.0	24.05	46
5206	27951	65.0	50.5	16.4	6.39	2.23	2.86	LB	VOC	7.0	24.02	56
5207	28675	75.4	56.1	13.6	6.56	2.30	2.85	LB	OC	7.0	27.83	22
5208	28689	78.0	65.7	51.8	5.68	1.87	3.03	SS	VOC	4.0	24.05	42
5209	28653	81.0	64.4	37.6	5.36	2.55	2.1	SB	VOC	4.0	24.87	36
5210	CR Dhan-201	75.7	60.7	56.2	6.52	2.27	2.87	LB	VOC	7.0	23.78	25
5211	27937	78.5	63.5	19.2	6.52	2.31	2.82	LB	VOC	5.0	24.58	38
5212	28655	77.3	67.5	50.2	6.38	2.03	3.14	LS	VOC	4.0	25.31	54
5213	28669	78.1	62.8	41.3	6.14	1.87	3.28	LS	VOC	3.0	23.73	70
5214	28631	76.9	60.2	29.2	6.36	2.10	3.02	LS	VOC	7.0	24.43	58
5215	28644	58.7	49.4	34.6	6.34	1.94	3.26	LS	VOC	4.0	16.48	100
5216	28673	77.3	60.2	25.3	6.95	2.02	3.44	LS	VOC	7.0	27.83	22
5217	26171	79.0	68.0	38.8	5.45	2.24	2.43	SB	VOC	4.0	23.11	47
5218	28678	77.1	61.3	30.2	6.37	1.97	3.23	LS	VOC	4.0	24.72	45
5219	28683	75.3	63.6	45.9	7.05	1.92	3.67	LS	VOC	4.0	19.38	31
5220	28654	76.6	61.2	48.4	5.64	2.01	2.8	MS	OC	4.0	23.52	22
5221	28634	76.7	55.6	24.7	6.32	2.09	3.02	LS	VOC	4.0	23.87	46
5222	28640	78.4	62.0	20.9	6.43	2.41	2.66	LB	VOC	4.0	26.28	22
5223	28642	76.5	60.4	45.4	6.21	2.14	2.90	LB	VOC	5.0	22.73	45
5224	28664	77.4	62.6	31.0	5.14	2.23	2.30	SB	VOC	4.0	27.48	22
5225	PA 6129 (HC)	79.2	60.9	57.2	6.13	2.25	2.72	LB	VOC	7.0	23.20	55
5226	28688	79.8	71.8	61.1	5.56	2.03	2.73	MS	VOC	7.0	25.69	22
5227	28677	77.6	59.7	38.8	6.10	2.21	2.76	LB	OC	4.0	27.74	22
5228	28635	67.7	58.7	34.0	7.53	1.98	3.80	LS	VOC	3.0	15.72	48
5229	28681	77.5	62.7	40.2	6.59	1.96	3.36	LS	VOC	4.0	23.29	57
5230	28671	78.9	64.0	33.5	4.95	2.41	2.05	SB	VOC	4.0	26.72	22
5231	28674	77.3	64.8	38.3	6.37	1.93	3.30	LS	VOC	4.0	21.70	63
5232	28645	78.3	63.6	27.2	5.78	2.38	2.42	SB	VOC	4.0	22.44	48
5233	Zonal Check	76.8	64.6	56.4	5.67	2.06	2.75	MS	VOC	3.0	20.44	64
5234	Local Check	75.5	60.9	55.3	5.15	2.12	2.42	SB	VOC	4.0	27.77	53

**HULL:** Hulling (%); **Milling (%)**: HRR: Head Rice Recovery (%); **KL:** Kernel Length(mm); **KB:** Kernel Breadth(mm); **L/B:** Length and breadth ratio; **Grain Chalk:** Grain Chalkiness; **VOC:** Very occasionally present; **A:** Absent **ASV:** Alkali Spreading Value; **AC:** Amylose Content(%); **GC:** Gel Consistency; **LB Long Bold;** **SB::Short Bold;** **LS:** Long Slender; **MS:** Medium Slender; **SS:** Short Slender.

**Table No 5.7: Composition of entries in Initial Variety Trial – Aerobic (IVT-Aerob), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>1<sup>st</sup> Year of testing:</b>				
5301	29394	CSR 88	CSR30 / CSR36	LS
5302	29395	BPT 3031	BPT 2231 / MTU 1061	MB
5303	29396	CRR 822-20-1-2-2	IR11L152 / Sabitri	LS
5304	29397	RP Bio 4919-B-B-385	KMR 3 / O. rufipogon	SB
5305	29398	RP 6112-MS-M-27-3-9-6-5-4-2	BPT 5204 Mutant	LS
5306	29399	JDP -1-1-1695	Danteshwari / Poornima	MS
5307	29400	TRC 2020-2	Tripura Nirog / Naveen	LS
5308	29401	PAU 7179-736-4 (RYT 3834)	PR 121 / IR 96321 // PR 121 / IR 71033-121-15-B /// PR 121	LS
5309	29402	MTU 1355 (MTU 2650-60-1-1-1)	MTU 1075 / NLR 34449	LS
5310	29403	NVSR-481	(CST-7-1 / IRGC 26872) / CSR-36	MS
5311	29404	CR 3426-2-25	Apo / O. Nivara	MS
5312	29405	RCPR70- IR 84899-B-184-16-1-1-1	IR78877-208-B-1-1 / IRRI 132	LS
5313	29406	Rewa 1136-26-1	839 / IR1063-94-33	LS
5314	<b>CR Dhan 201 (NC)</b>			
5315	29407	NVSR 3093	IR-28 / GAR-13	LS
5316	29408	CR 4115-1-2-2-2-1	CR 4042-1-2-1-1-1 / CR Dhan 201	LS
5317	29409	TRC 2020-14	Hakuchuk 1 / Naveen	MB
5318	29410	RP 5594-147-23-1	MTU 1010 / RPHR 1005	LS
5319	29411	CR 4161-5-6-IR 14L572	IR10L146 / IR10L149	LS
5320	29412	<b>US 393 (Hybrid)</b>	-	MB
5321	29413	RP 6478-651-12-6-2-3	MTU 1010 / RP 1	MS
5322	29414	CSR 87	IR 5 / IR 52713-2B-8-2B-1-2	
5323	29415	RP 6326-278-14-1	MTU 1010 / WGL 505	LS
5324	29416	CR 4114-2-1-2-1	CR 3848-1-1-2-1-1 / Vandana	LS
5325	29417	PAU 7180-36-5-0-0-0 (RYT 3850)	PR 121 / IR 96321 // PR 121 / IR 71033-121-15-B /// PR 121	LS
5326	29418	RP 5593-83-27-1	MTU 1010 / N22	LS
5327	29419	RP 5977-MS-M-33-3-9-6-5-4-2	BPT 5204 Mutant	LB
5328	29420	CSR 57	CSR 21 / CSR10	
5329	29421	RP 6324-123-14-4-1	CR 691-1 / CR Dhan 202	LS
5330	29422	CRR 756-21	IR08L183 / MTU 1010	LS
5331	29423	TRC 2020-3	Hakuchuk 2 / Tripura Nirog	LS
5332	29424	CR 4317-2-IR 97034-21-2-1-3	IR09L337 / IR09L154	LS
5333	29425	RP 6482-RAF-2 – GSR IR-1-DQ62-D7-D1		LB
5334	<b>CR Dhan 202- Northern, Eastern, North Eastern &amp; Central; AAUDR-1- Western; MAS 946-1- Southern---ZC</b>			
5335	29426	CR 3564- 7-1-1-1-1-1	Vijetha / N22	SB
5336	29427	RCPR 71- IR 93827-29-2-1-3	IR 81039-B-173-U 3-3 / IR 81063-B-94-U 3-1	LS
5337	29428	NWGR-14060	GR-4 / NWGR-3019 (30-1-1-1-1-2)	MS
5338	29429	MSN 102	Double Haploid from KRH-4	MS

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Entry No.	IET No.	Designation	Cross combination	GT
5339	29430	CR 4118-1-1-2-2-1	CR Dhan201 / IR84549-B-183-13-1-1-2	LS
5340	29431	RP 6326-124-54-1	MTU 1010 / WGL 505	LS
5341	29432	Rewa 1113-3-3-1	842 / Don-10	MS
5342	<b>PA 6129 (HC)</b>			
5343	29433	CR 3985-1-3-1-2-1	Satyabhama / IET 21920	MB
5344	29434	NWGR-13065	Gurjari / NWGR-98159 (1-1-1-2-3-1)	LS
5345	29435	RP 6468- 842-5-3-1-1-1-1	Krishna Hamsa / IRBB60 // Krishna Hamsa / IR 96321-1447-561-B-1 /// Krishna Hamsa / IR 81896-96-B-B-195 // Krishna Hamsa / Tetep	
5346	29436	CRR 821-21-2-1-3	IR09L337 / IR09L154	LS
5347	29437	CBMAS 14110-19	Improved White Ponni / Apo	MS
5348	29438	CR 4114-1-3-1-2-1	CR 3848-1-1-2-1-1 / Vandana	LS
5349	29439	NVSR 2927	GR-7 / GAR-13	LS
5350	29440	CR 4339-1-3-IR 98976-20-1-2-2	IR11L152 / Sabitri	MB
5351	29441	JDP 0318-1-1	Pokkali / IR 50138	MS
5352	29442	CR 4114-2-1-2-1-2	CR 3848-1-1-2-1-1 / Vandana	LS
5353	29443	RP 6112-MS-M-114-6-2-8-4-3-4	BPT 5204 Mutant	MS
5354	29444	CRR 751-48-B-B	IR 64 Sub1*4 / IR 88287-367-B-B	LS
5355	29445	MTU 1354 (MTU 2647-1-1-1-1)	MTU 1156 / Anjali	LS
5356	29446	CR 3918-109-5-6-4-1	Savithri / Pokkali	MB
5357	29447	RP 6483-RAF-27-GSR IR-1-DQ 125-R4-Y1		LS
5358	29448	R 2272-515-2-287-1	R 1243-1224-578-1 / Danteshwari	
5359	29449	CSR 91	CSR 30 / CSR 23	
5360	29450	RP Bio 4918-B-B-158K-1	Swarna / O. nivara	MS
5361	29451	CR 3549-7-2-2-1-1-3	ADT 43 /Annapurna	MB
5362	29452	NVSR-467	(RP Bio-226 / IRGC 4059) / IET 8116	LB
5363	29453	CR 4115-2-1-2-2-1	CR 4042-1-2-1-1-1 / CR Dhan 201	LS
5364	<b>Local Check</b>			

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**Table 5.8: Grain yield (Kg/ha) of entries of IVT- AEROB, Kharif 2020**

Entry No.	IET No.	ZONE II			ZONE III						
		PU		@LDN	OD (1)			BI		PTN	
					CTK			BKG			
5301	29394	1377			4896			2188		1170	
5302	29395				4786			2552	8	235	
5303	29396	1887			6513	3 *	30% #	30%	2240		2106
5304	29397				5299	6%			1198		1308
5305	29398	1713			6383	10 *	27% #	27%			2830
5306	29399	2130			3461				2344		3270
5307	29400				3799						1509
5308	29401	2627	7	#	3156				1146		2530
5309	29402				4110				2031		2470
5310	29403				2487				2292		870
5311	29404				3253				1875		2510
5312	29405	1771			4357				1667		3030
5313	29406	2060			3000				1615		3370
5314	CR Dhan 201 (NC)	1528			5019				2240		1704
5315	29407				3864				2188		1746
5316	29408				3877				2448		1614
5317	29409				3779				1979		2520
5318	29410	3218	1	6% #	6377	*	27% #	27%	1771		2510
5319	29411	2014			3578				2813	1	3370
5320	29412	2454	10	#	3221				2240		2180
5321	29413				2221				1458		1664
5322	29414				2753				2604	6	936
5323	29415	2789	4	#	4247				2813	1	2130
5324	29416				3052				1198		963
5325	29417				3506				1354		
5326	29418	2650	6	#	2669				2031		2990
5327	29419	2546	8	#	2753				2240		1236
5328	29420				4195				2500		2460
5329	29421	2396			6565	1 *	31% #	31%	2552	8	1686
5330	29422				6390	9 *	27% #	27%	1615		
5331	29423	2303			6377	*	27% #	27%	2552	8	3080
5332	29424	2118			6461	7 *	29% #	29%	2760	3	3050
5333	29425	2523	9	#	6532	2 *	30% #	30%			903
5334	Zonal Check (ZC)	2697	5	#	3942				2135		2180
5335	29426				5506			10%	2240		2310
5336	29427				3325						3580
5337	29428				3390				2448		1625
5338	29429	1979			3734				2188		2127
5339	29430				6351	*	27% #	26%	2656	4	836
5340	29431				2260				1198		1782
5341	29432	1852			3331				1510		2068
5342	PA 6129 (HC)				5026				2188		2190
5343	29433	2188			5506			10%	2240		2036
5344	29434				3032				1406		153
5345	29435				4409				1250		1676
5346	29436	1655			6474	5*	29% #	29%	1719		3840
5347	29437				3065				2240		1758
5348	29438				2429				2188		3210
5349	29439				6474	5 *	29% #	29%	2031		1854
5350	29440				3214				2188		2900
5351	29441	2882	3	#	4305						1782
5352	29442				2409				2448		805
5353	29443				2071				2031		510
5354	29444				6305	*	26% #	25%	2135		1110
5355	29445				3156				2188		1569
5356	29446	2025			6506	4 *	30% #	29%	2396		2320
5357	29447	2211			6201	*	24% #	23%	2552	8	1401
5358	29448	1706			6448	8 *	28% #	28%	1927		2510
5359	29449				3857						1232
5360	29450				3403						2085
5361	29451				3812				2292		2750
5362	29452				3442				2500		2410
5363	29453				4032						915
5364	Local Check (LC)	3032	2	#	2156				2656	4	3180
Exp. Mean		2226			4258				2097		2011
CD		901.47			734.92				773.33		688.44
CV%		19.74			8.64				18.4		17.12
D/S			07-08-2020			18-08-2020			18-08-2020		10-08-2020
Local Check Name			PR 126			CR Dhan 206			Sabour Ardhjal		Rajendra Bhagwati



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Table 5.8 contd.: Grain yield (Kg/ha) of entries of IVT- AEROB, Kharif 2020

Entry No.	IET No.	ZONE III					ZONE IV		ZONE V (1)		
		BI (2)		UP		Zone III (3)			TR		CH (1)
		Mean		@MSD		Mean			@LMB		RPR
5301	29394	1679		1750		2751		2805		1836	
5302	29395	1394		1650		2524		3927			
5303	29396	2173		1250		3620	9 * 21% # 15%	4527		5473	2 * 77% # 75%
5304	29397	1253		2000	8	2602		2057			
5305	29398	2830	5 # 29%	2100	6	4607	1 * 54% # 47%	6031		2903	
5306	29399	2807	7 # 28%	1800		3025		5604		2725	
5307	29400	1509		1450		2654		2244		3532	14% 13%
5308	29401	1838		1700		2277		5161		1956	
5309	29402	2251		1025		2870		2057		3916	8 27% 25%
5310	29403	1581		1375		1883		2151			
5311	29404	2193		1280		2546		2525		448	
5312	29405	2349		1335		3018		5331		5111	4 * 66% # 63%
5313	29406	2493	14%	1000		2662		6078		1716	
5314	CR Dhan 201 (NC)	1972		1475		2988		6972	4	2372	
5315	29407	1967		1500		2599		3273		3207	
5316	29408	2031		1350		2646		2338		1394	
5317	29409	2250		1625		2759		6433	9	1568	
5318	29410	2141		1585		3553	* 19% 13%	4828		2860	
5319	29411	3092	2 6% # 41%	1090		3254	9%	6993	3	5226	3 * 69% # 67%
5320	29412	2210		1085		2547		5383		6907	1 * 124% # 121%
5321	29413	1561		1850		1781		2338		995	
5322	29414	1770		2150	5	2098		4208		3416	11%
5323	29415	2472	13%	1550		3063		4675		4699	5 * 52% # 50%
5324	29416	1081		1675		1738		2338		676	
5325	29417	1354		1300		2430		2057		600	
5326	29418	2511	15%	1275		2563		2338		883	
5327	29419	1738		1175		2076		6117		2843	
5328	29420	2480	13%	1590		3052		6909	5	3822	10 24% 22%
5329	29421	2119		1690		3601	10 * 21% 15%	2992		2067	
5330	29422	1615		1850		4003	4 * 34% # 28%	5998		3609	17% 15%
5331	29423	2816	6 # 29%	1505		4003	4 * 34% # 28%	4208		2933	
5332	29424	2905	4 # 33%	1700		4090	2 * 37% # 30%	5753		2309	
5333	29425	903		1730		3718	7 * 24% # 19%	2805		1748	
5334	Zonal Check (ZC)	2158		1760		2752		5161		3085	
5335	29426	2275		1375		3352	12%	6333		4460	7 * 45% # 43%
5336	29427	3580	1 * 23% # 64%	1285		3453	16% 10%	5111		3201	
5337	29428	2037		1295		2488		4492		845	
5338	29429	2158		1175		2683		4301		3450	12% 10%
5339	29430	1746		1325		3281	10%	6597	7	1277	
5340	29431	1490		1400		1747		6272		4523	6 * 47% # 45%
5341	29432	1789		1395		2303		2805		2720	
5342	PA 6129 (HC)	2189		1390		3135		5313		3129	
5343	29433	2138		1505		3261	9%	6753	6	2040	
5344	29434	780		1450		1530		1403		570	
5345	29435	1463		2165	4	2445		2338			
5346	29436	2780	8 # 27%	2300	2	4011	3 * 34% # 28%	6545	8	2122	
5347	29437	1999		995		2354		6102		2416	
5348	29438	2699	9 23%	990		2609		2992		61	
5349	29439	1943		1920	10	3453	16% 10%	2805		3184	
5350	29440	2544	10 16%	2200	3	2767		5216		3906	9 27% 25%
5351	29441	1782		1895		3044		4675		3240	5%
5352	29442	1627		1780		1887		3958		2404	
5353	29443	1271		1720		1537		4208		2074	
5354	29444	1623		1585		3183	7%	5851		3030	
5355	29445	1879		1400		2304		8209	1	1120	
5356	29446	2358		1590		3741	6 * 25% # 19%	4675		2330	
5357	29447	1977		1250		3385	13%	5610		2850	
5358	29448	2219		1305		3628	8 * 21% # 16%	3740		3103	
5359	29449	1232		1480		2545		5186		2924	
5360	29450	2085		1700		2744		2057		2277	
5361	29451	2521	15%	1675		2951		4675		2681	
5362	29452	2455	12%	2000	8	2784		2805		1491	
5363	29453	915		2350	1	2474		7349	2	2207	
5364	Local Check (LC)	2918	3	2000	8	2664		6381	10	2049	
Exp. Mean		2031		1564		2845		4521		2642	
CD		545.24		208.95		479.17		2836.69		893.88	
CV%		13.44		6.68		8.43		31.4		16.91	
D/S				24-08-2020						05-08-2020	
Local Check Name				Shushk smart						Indira Aerobic 1	

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Table 5.8 contd.: Grain yield (Kg/ha) of entries of IVT- AEROB, Kharif 2020

Entry No.	IET No.	ZONE VI									
		MA (1)			GU			GU (1)		Zone VI (2)	
		PBN	NVS	@VYR	Mean	Mean	Mean	Mean			
5301	29394	2454			3783		995		3783		3119
5302	29395	2609		15%	3257		367		3257		2933
5303	29396	1924			4463		1527		4463		3194
5304	29397	2769	#	22%	3990		348		3990		3380
5305	29398	3262	7	#	44%	4323		708		4323	3793
5306	29399	2145			6198	1	2115		6198	1	4172
5307	29400	2312			4714		1233		4714		3513
5308	29401	2644		17%	4896		1271		4896		3770
5309	29402	3052	#	35%	5189		1556		5189		4121
5310	29403	2852	#	26%	5130		1123		5130		3991
5311	29404	3276	5	#	45%	5665		2122		5665	4471 3
5312	29405	2631		16%	6035	2	2782	6	6035	2	4333 4
5313	29406	2181			5921	6	1251		5921	6	4051
5314	CR Dhan 201 (NC)	2598			5924	5	2161		5924	5	4261 8
5315	29407	2936	#	30%	5309		1691		5309		4123
5316	29408	2492		10%	5561		1792		5561		4027
5317	29409	3186	9	#	41%	5885	7	1789		5885	7 4536 2 6%
5318	29410	2057			4821		1656		4821		3439
5319	29411	3347	4	7% #	48%	5876	8	2141		5876	8 4612 1 8% 12%
5320	29412	2145			5674		2606	9	5674		3910
5321	29413	3064	#	35%	4309		392		4309		3687
5322	29414	2138			5706	10	548		5706	10	3922
5323	29415	2431			5933	4	1331		5933	4	4182 10
5324	29416	2619		16%	4218		2183		4218		3419
5325	29417	3064	#	35%	4056		1549		4056		3560
5326	29418	2799	#	24%	4766		1509		4766		3783
5327	29419	3244	8	#	43%	4724		1814		4724	3984
5328	29420	2345			4766		1366		4766		3556
5329	29421	2881	#	27%	4818		2875	4	4818		3850
5330	29422	2438			4766		2393		4766		3602
5331	29423	2887	#	28%	5659		1453		5659		4273 7
5332	29424	3161	10	#	40%	5049		1362		5049	4105
5333	29425	3378	3	8% #	49%	4859		1767		4859	4119
5334	Zonal Check (ZC)	2711			4792		1114		4792		3752
5335	29426	2163			4690		3078	2	4690		3427
5336	29427	3052	#	35%	4984		2827	5	4984		4018
5337	29428	2181			4203		835		4203		3192
5338	29429	2426			4688		2054		4688		3557
5339	29430	3051	#	35%	5422		2188		5422		4237 9
5340	29431	2484			4706		1503		4706		3595
5341	29432	2318			4870		1782		4870		3594
5342	PA 6129 (HC)	2262			5991	3	2109		5991	3	4127
5343	29433	2671		18%	4953		2025		4953		3812
5344	29434	2407			4736		409		4736		3572
5345	29435	2178			3906		459		3906		3042
5346	29436	2729	#	21%	4714		3789	1	4714		3722
5347	29437	2884	#	27%	4880		337		4880		3882
5348	29438	2256			4870		2270		4870		3563
5349	29439	3067	#	36%	5167		2310		5167		4117
5350	29440	3271	6	#	45%	4849		3052	3	4849	4060
5351	29441	2280			4969		1840		4969		3625
5352	29442	3419	1	9% #	51%	4766		2242		4766	4093
5353	29443	2951	#	30%	4505		2158		4505		3728
5354	29444	2756	#	22%	4667		1599		4667		3712
5355	29445	2356			4868		2497	10	4868		3612
5356	29446	2146			4880		2774	7	4880		3513
5357	29447	2147			4698		1411		4698		3423
5358	29448	3150	#	39%	4740		2658	8	4740		3945
5359	29449	2637		17%	3932		2124		3932		3285
5360	29450	3122	#	38%	5495		1096		5495		4309 6
5361	29451	3380	2	8% #	49%	4557		1297		4557	3969
5362	29452	2876	#	27%	5766	9	941		5766	9	4321 5
5363	29453	2156			3545		1603		3545		2851
5364	Local Check (LC)	3124			4803		1338		4803		3964
<b>Exp. Mean</b>		<b>2686</b>			<b>4920</b>		<b>1711</b>		<b>4920</b>		<b>3803</b>
CD		424.23			956.46		666.33		956.46		546.91
CV%		7.9			9.73		19.49		9.73		7.2
D/S				11-08-2020		25-08-2020		04-08-2020			
Local Check Name				Avishkar		NAUR-1		NAUR-1			

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Table 5.8 contd.: Grain yield (Kg/ha) of entries of IVT- AEROB, Kharif 2020

Entry No.	IET No.	ZONE VII									Overall (8)				
		TA (1)			KA (1)			Zone VII (2)			Mean				
		CBT			MND			Mean							
5301	29394	5177	3*	29% #	68%	3552	2	#	18%	4365	2	10% #	44%	3132	
5302	29395	4521	12% #	47%		1273				2897				2748	
5303	29396	3403	11%			2242				2823				3546	* 10%
5304	29397	3764	22%			2424				3094				2965	
5305	29398	3366				3267	5			3317				3762	4* 16% # 12%
5306	29399	3438	12%			2464				2951				3256	
5307	29400	3535	15%			777				2156				2883	
5308	29401	4158	#	35%		1680				2919				2771	
5309	29402	2556				2579				2568				3238	
5310	29403	2715				2037				2376				2626	
5311	29404	5120	4*	27% #	67%	3056	8			4088	4	#	35%	3150	
5312	29405	3569		16%		2755				3162				3644	8* 13% #
5313	29406	3333				2639				2986				2972	
5314	CR Dhan 201 (NC)	3931				1723				2827				3189	
5315	29407	2946				2292				2619				3061	
5316	29408	1736				3118	6			2427				2780	
5317	29409	3063				2913				2988				3112	
5318	29410	4370	8% #	42%		2361				3366	11%			3391	
5319	29411	3403	11%			2688				3046				3788	3* 17% # 13%
5320	29412	6155	1*	53% #	100%	2589				4372	1	10% #	44%	3889	1* 20% # 16%
5321	29413	4500	12% #	46%		526				2513				2342	
5322	29414	4257	6% #	39%		2226				3242				3005	
5323	29415	4042	#	32%		3439	3	15%		3741	10	#	23%	3717	5* 15% # 11%
5324	29416	4208	#	37%		2741				3475	14%			2459	
5325	29417	2953				995				1974				2361	
5326	29418	3368				1892				2630				2675	
5327	29419	3156				2552				2854				2844	
5328	29420	3122				1987				2555				3150	
5329	29421	4896	8*	22% #	59%	3102	7			3999	5	#	32%	3571	* 10%
5330	29422	3753		22%		3052	9			3403	12%			3660	6* 13% #
5331	29423	2792				2791				2792				3634	10* 12%
5332	29424	4809	9	19% #	56%	1674				3242				3659	7* 13% #
5333	29425	4958	7*	23% #	61%	933				2946				3330	
5334	Zonal Check (ZC)	3858				2738				3298				3180	
5335	29426	4519	12% #	47%		1372				2946				3408	5%
5336	29427	5118	5*	27% #	67%	3313	4	10%		4216	3	6% #	39%	3796	2* 17% # 13%
5337	29428	4340	8% #	41%		1335				2838				2546	
5338	29429	3368				2844				3106				3103	
5339	29430	3378				2663				3021				3204	
5340	29431					1528				1528				2640	
5341	29432	3837		25%		1233				2535				2736	
5342	PA 6129 (HC)	3073				3003	10			3038				3358	
5343	29433	2981				1812				2397				3030	
5344	29434	2587				1276				1932				2021	
5345	29435	3059				274				1667				2393	
5346	29436	5118	5*	27% #	67%	2431				3775	9	#	24%	3643	9* 13% #
5347	29437	3356				2407				2882				2876	
5348	29438	4585	14% #	49%		3003	10			3794	8	#	25%	2825	
5349	29439	3153				2113				2633				3380	
5350	29440	3128				2798				2963				3282	
5351	29441	2674				1068				1871				2903	
5352	29442	3236				2358				2797				2731	
5353	29443	4512	12% #	47%		1015				2764				2459	
5354	29444	2783				1898				2341				3086	
5355	29445	5924	2*	47% #	93%	2027				3976	6	#	31%	2901	
5356	29446	3255				2583				2919				3302	
5357	29447	3785		23%		1445				2615				3135	
5358	29448	4017	#	31%		1670				2844				3446	6%
5359	29449	2938				1640				2289				2737	
5360	29450	2451				747				1599				2797	
5361	29451	3271				1032				2152				2972	
5362	29452	4750	10	18% #	55%	1561				3156				3100	
5363	29453	4158	#	35%		2391				3275				2772	
5364	Local Check (LC)	4028				3892	1			3960	7			3236	
Exp. Mean		3751				2153				2935				3083	
CD		798.7				482.09				457.89				278.96	
CV%		10.65				11.2				7.81				4.53	
D/S			26-08-2020				03-08-2020								
Local Check Name			CO 53				KMP-175								

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**Table No 5.9: Days to 50% flowering of entries of IVT- AEROB, Kharif 2020**

Entry No.	IET No.	ZONE II		ZONE III					ZONE IV	ZONE V (1)
		PU	OD (1)	BI		BI (2)	UP	Zone III (3)	TR	CH (1)
		@LDN	CTK	BKG	PTN	Mean	@MSD	Mean	@LMB	RPR
5301	29394	86	79	79	74	77	71	77	70	87
5302	29395		82	69	107	88	64	86	78	
5303	29396	80	81	78	73	75	63	77	66	81
5304	29397		79	94	91	92	70	88	80	
5305	29398	78	80		85	85	66	83	71	80
5306	29399	77	79	95	74	84	71	83	63	76
5307	29400		86		96	96	69	91	76	95
5308	29401	79	84	79	72	75	66	78	69	80
5309	29402		75	79	90	84	65	81	79	99
5310	29403		79	73	109	91	71	87	71	
5311	29404		86	74	89	82	74	83	75	102
5312	29405	78	78	79	79	79	77	78	65	80
5313	29406	75	80	79	80	79	61	79	73	75
5314	CR Dhan 201 (NC)	79	77	74	78	76	67	76	71	80
5315	29407		81	74	85	79	66	80	71	86
5316	29408		85	76	99	87	67	87	77	103
5317	29409		81	73	77	75	73	77	69	86
5318	29410	77	78	73	70	72	75	74	65	76
5319	29411	80	80	79	78	78	68	79	69	82
5320	29412	82	76	79	77	78	67	77	62	74
5321	29413		88	71	91	81	66	83	78	100
5322	29414		85	73	74	73	65	77	59	72
5323	29415	77	81	73	72	72	61	75	68	75
5324	29416		80	74	92	83	63	82	83	97
5325	29417		82	76		76	65	79	71	97
5326	29418	80	83	79	72	75	67	78	70	82
5327	29419	81	79	79	73	76	72	77	70	81
5328	29420		81	73	113	93	72	89	66	79
5329	29421	77	83	71	83	77	67	79	71	83
5330	29422		78	79		79	61	78	69	78
5331	29423	83	85	79	75	77	63	80	70	80
5332	29424	80	79	73	73	73	64	75	70	81
5333	29425	79	77		83	83	68	80	69	79
5334	Zonal Check (ZC)	76	78	77	72	74	71	76	69	73
5335	29426		88	79	91	85	73	86	71	86
5336	29427		82		77	77	74	79	67	81
5337	29428		78	71	108	89	71	86	66	97
5338	29429	78	89	73	83	78	69	82	73	86
5339	29430		81	76	97	86	70	85	71	102
5340	29431		76	94	79	86	65	83	68	74
5341	29432	77	80	79	73	76	65	77	58	73
5342	PA 6129 (HC)		82	79	76	78	63	79	70	81
5343	29433	81	78	89	76	82	63	81	71	81
5344	29434		78	73	113	93	61	88	76	94
5345	29435		82	79	94	87	60	85	77	
5346	29436	81	80	79	74	77	68	78	68	80
5347	29437		80	79	76	77	63	78	68	81
5348	29438		82	75	107	91	71	88	79	104
5349	29439		87	73	77	75	71	79	71	80
5350	29440		79	53	78	65	73	70	70	75
5351	29441	76	82		71	71	69	76	65	69
5352	29442		80	79	98	88	68	85	79	99
5353	29443		81	72	91	81	71	81	73	88
5354	29444		78	93	75	84	71	82	67	79
5355	29445		86	92	97	94	72	91	79	102
5356	29446	77	77	71	72	71	76	73	66	83
5357	29447	87	81	77	83	80	61	80	65	79
5358	29448	81	81	79	72	75	61	77	67	80
5359	29449		80		81	81	65	80	71	77
5360	29450		79		81	81	66	80	76	86
5361	29451		81	79	82	80	66	80	72	75
5362	29452		79	79	87	83	67	81	71	84
5363	29453		78		98	98	72	88	76	96
5364	Local Check (LC)	88	78	73	87	80	67	79	69	86
<b>Exp. Mean</b>		<b>79</b>	<b>81</b>	<b>77</b>	<b>84</b>	<b>81</b>	<b>67</b>	<b>81</b>	<b>70</b>	<b>84</b>

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Table No 5.9 contd.: Days to 50% flowering of entries of IVT- AEROB, Kharif 2020

Entry No.	IET No.	ZONE VI					ZONE VII			Overall (8)
		MA (1)	GU		GU (1)	Zone VI (2)	TA (1)	KA (1)	Zone VII (2)	
		PBN	NVS	@VYR	Mean	Mean	CBT	MND	Mean	
5301	29394	97	81	87	81	89	93	102	98	86
5302	29395	100	95	91	95	97	107	113	110	96
5303	29396	102	76	74	76	89	89	92	91	84
5304	29397	88	91	92	91	89	98	106	102	92
5305	29398	90	78	86	78	84	99	96	98	87
5306	29399	90	76	92	76	83	76	91	84	82
5307	29400	86	89	80	89	87	95	109	102	93
5308	29401	90	73	80	73	81	99	91	95	83
5309	29402	96	86	90	86	91	94	101	98	90
5310	29403	95	87	89	87	91	101	101	101	92
5311	29404	99	86	79	86	92	103	100	101	92
5312	29405	96	74	91	74	85	93	91	92	84
5313	29406	85	69	77	69	77	73	88	81	78
5314	CR Dhan 201 (NC)	89	72	78	72	80	91	94	93	82
5315	29407	86	85	83	85	85	105	101	103	88
5316	29408	95	86	83	86	90	98	103	100	93
5317	29409	86	79	78	79	82	91	100	95	84
5318	29410	79	75	81	75	77	90	96	93	79
5319	29411	95	72	92	72	83	91	97	94	84
5320	29412	100	75	82	75	87	95	101	98	84
5321	29413	94	87	91	87	90	105	113	109	93
5322	29414	100	72	86	72	86	73	91	82	80
5323	29415	95	75	75	75	85	78	91	84	80
5324	29416	99	90	78	90	94	105	107	106	93
5325	29417	87	92	89	92	89	96	109	102	91
5326	29418	99	75	88	75	87	89	92	91	84
5327	29419	89	73	82	73	81	91	92	91	82
5328	29420	86	81	76	81	83	105	102	103	90
5329	29421	90	79	84	79	84	92	90	91	84
5330	29422	90	75	92	75	82	93	92	93	83
5331	29423	91	74	89	74	82	78	92	85	82
5332	29424	97	78	81	78	87	92	91	91	83
5333	29425	87	73	92	73	80	95	107	101	86
5334	Zonal Check (ZC)	85	63	68	63	74	87	101	94	79
5335	29426	89	76	82	76	82	101	107	104	89
5336	29427	90	74	75	74	82	86	101	94	84
5337	29428	99	88	88	88	93	107	115	111	95
5338	29429	91	80	81	80	85	93	96	95	86
5339	29430	89	77	95	77	83	96	102	99	90
5340	29431	102	77	79	77	89		92	92	85
5341	29432	89	71	92	71	80	73	86	79	78
5342	PA 6129 (HC)	80	80	77	80	80	87	102	94	83
5343	29433	99	73	86	73	86	89	88	89	84
5344	29434	104	92	93	92	98	87	103	95	93
5345	29435	89	92	92	92	90	103	105	104	92
5346	29436	97	75	83	75	86	87	94	91	83
5347	29437	90	77	82	77	83	89	92	91	83
5348	29438	95	81	89	81	88	107	106	107	94
5349	29439	101	80	81	80	90	94	107	101	87
5350	29440	89	75	82	75	82	88	101	95	79
5351	29441	88	72	91	72	80	88	92	90	80
5352	29442	97	88	93	88	92	100	108	104	93
5353	29443	98	84	80	84	91	109	108	108	91
5354	29444	81	85	88	85	83	78	97	88	83
5355	29445	99	80	87	80	89	101	113	107	96
5356	29446	87	72	79	72	79	87	91	89	80
5357	29447	90	80	76	80	85	97	106	102	86
5358	29448	99	75	82	75	87	100	97	99	85
5359	29449	86	78	84	78	82	93	100	96	85
5360	29450	90	79	88	79	84	85	93	89	84
5361	29451	86	80	77	80	83	90	102	96	84
5362	29452	96	77	81	77	86	105	101	103	88
5363	29453	85	86	89	86	85	106	108	107	94
5364	Local Check (LC)	77	86	85	86	81	82	88	85	82
<b>Exp. Mean</b>		<b>92</b>	<b>79</b>	<b>84</b>	<b>79</b>	<b>85</b>	<b>93</b>	<b>99</b>	<b>96</b>	<b>86</b>

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**Table No 5.10: Plant Height (cm) of entries of IVT -AEROB, Kharif 2020**

Entry No.	IET No.	ZONE II		ZONE III					ZONE IV	ZONE V (1)
		PU	OD (1)	BI		BI (2)	UP	Zone III (3)	TR	CH (1)
		@LDN	CTK	BKG	PTN	Mean	@MSD	Mean	@LMB	RPR
5301	29394	90.00	102.45	105.00	78.33	91.67	72.00	95.26	100.50	82.51
5302	29395		97.45	80.50	63.00	71.75	75.00	80.32	79.00	
5303	29396	75.00	104.95	93.00	63.33	78.17	78.00	87.09	81.00	90.82
5304	29397		129.95	86.00	75.00	80.50	83.00	96.98	100.50	
5305	29398	86.50	101.25		72.33	72.33	66.00	86.79	98.00	91.39
5306	29399	102.50	111.80	84.50	85.67	85.08	81.00	93.99	104.00	78.78
5307	29400		94.80		61.33	61.33	72.00	78.07	78.00	65.32
5308	29401	76.00	90.25	85.00	73.67	79.33	68.00	82.97	79.50	73.79
5309	29402		100.55	94.00	72.00	83.00	65.00	88.85	89.00	73.16
5310	29403		83.00	96.00	61.33	78.67	66.00	80.11	83.00	
5311	29404		108.40	93.50	99.33	96.42	78.00	100.41	84.00	80.48
5312	29405	105.50	107.15	82.50	77.33	79.92	79.00	88.99	103.50	105.70
5313	29406	88.00	88.40	92.00	85.67	88.83	81.00	88.69	100.05	88.13
5314	CR Dhan 201 (NC)	87.00	108.55	76.00	78.33	77.17	85.00	87.63	91.50	92.91
5315	29407		104.95	76.00	82.67	79.33	87.00	87.87	89.00	83.99
5316	29408		114.80	88.50	76.67	82.58	79.00	93.32	99.00	81.95
5317	29409		107.15	90.50	77.67	84.08	74.00	91.77	90.00	68.70
5318	29410	95.50	123.80	95.50	94.33	94.92	76.00	104.54	84.00	86.40
5319	29411	82.50	124.60	84.50	79.67	82.08	68.00	96.26	107.50	96.41
5320	29412	75.00	96.30	86.00	78.00	82.00	72.00	86.77	86.50	82.18
5321	29413		102.45	95.00	67.33	81.17	75.00	88.26	84.50	74.05
5322	29414		107.45	101.00	66.33	83.67	87.00	91.59	81.00	69.41
5323	29415	91.00	114.90	83.50	77.33	80.42	81.00	91.91	82.65	96.65
5324	29416		104.55	94.50	73.00	83.75	84.00	90.68	89.50	83.79
5325	29417		84.85	86.00		86.00	80.00	85.43	78.50	67.99
5326	29418	75.50	83.00	94.00	77.00	85.50	70.00	84.67	83.50	68.47
5327	29419	82.00	124.60	92.50	71.00	81.75	75.00	96.03	89.00	74.46
5328	29420		102.70	89.50	67.33	78.42	66.00	86.51	90.00	95.54
5329	29421	95.50	119.05	104.50	80.33	92.42	65.00	101.29	95.00	86.16
5330	29422		85.45	73.00		73.00	60.00	79.23	79.00	74.09
5331	29423	69.50	124.90	98.00	78.33	88.17	62.00	100.41	92.50	67.65
5332	29424	92.00	119.95	107.00	76.67	91.83	64.00	101.21	88.00	73.22
5333	29425	75.50	89.30		73.00	73.00	68.00	81.15	83.00	75.93
5334	Zonal Check (ZC)	86.50	107.00	114.50	66.67	90.58	71.00	96.06	87.00	70.52
5335	29426		96.85	80.00	69.00	74.50	73.00	81.95	110.00	88.86
5336	29427		122.00		93.00	93.00	74.00	107.50	110.50	88.50
5337	29428		88.50	92.00	69.00	80.50	59.00	83.17	81.00	74.58
5338	29429	107.50	134.40	85.00	84.67	84.83	69.00	101.36	126.00	106.07
5339	29430		100.90	94.50	72.67	83.58	67.00	89.36	99.00	86.75
5340	29431		88.10	104.00	71.67	87.83	56.00	87.92	84.50	94.93
5341	29432	83.00	99.50	95.50	80.67	88.08	87.00	91.89	93.05	80.59
5342	PA 6129 (HC)		92.00	91.00	82.67	86.83	85.00	88.56	92.50	73.97
5343	29433	92.50	124.15	91.00	82.33	86.67	78.00	99.16	112.50	91.48
5344	29434		97.15	98.50	68.00	83.25	76.00	87.88	75.00	64.74
5345	29435		99.05	87.50	61.00	74.25	71.00	82.52	87.50	
5346	29436	81.00	101.70	90.00	84.67	87.33	79.00	92.12	93.50	85.69
5347	29437		114.45	102.50	67.00	84.75	69.00	94.65	83.50	87.46
5348	29438		103.80	88.50	68.00	78.25	64.00	86.77	95.50	65.37
5349	29439		116.55	86.00	86.67	86.33	62.00	96.41	97.50	91.89
5350	29440		99.55	94.50	79.33	86.92	63.00	91.13	91.60	86.54
5351	29441	78.00	105.60		75.67	75.67	74.00	90.63	78.00	74.73
5352	29442		113.40	87.50	76.67	82.08	71.00	92.52	98.50	74.84
5353	29443		93.80	92.50	69.00	80.75	75.00	85.10	88.00	67.26
5354	29444		114.35	85.50	76.33	80.92	87.00	92.06	96.50	87.06
5355	29445		99.85	95.50	65.33	80.42	89.00	86.89	91.10	83.24
5356	29446	84.00	94.50	90.00	68.00	79.00	84.00	84.17	91.50	72.00
5357	29447	66.00	51.25	100.00	67.67	83.83	78.00	72.97	104.00	64.77
5358	29448	77.00	107.85	93.50	76.67	85.08	74.00	92.67	85.50	70.67
5359	29449		101.50		72.33	72.33	68.00	86.92	92.50	69.31
5360	29450		110.75		72.00	72.00	68.00	91.38	90.00	88.98
5361	29451		99.60	87.00	75.67	81.33	67.00	87.42	96.00	91.13
5362	29452		111.25	102.50	79.00	90.75	63.00	97.58	105.50	86.54
5363	29453		118.65		75.33	75.33	65.00	96.99	106.00	89.84
5364	Local Check (LC)	78.50		92.50	89.33	90.92	70.00	90.92	94.00	68.70
Exp. Mean		84.95	104.31	91.59	75.31	82.44	73.09	90.34	91.89	80.95

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**Table No 5.10 contd.: Plant Height (cm) of entries of IVT -AEROB, Kharif 2020**

Entry No.	IET No.	ZONE VI					ZONE VII			Overall (8) Mean
		MA (1)	GU		GU (1)	Zone VI (2)	TA (1)	KA (1)	Zone VII (2)	
		PBN	NVS	@VYR	Mean	Mean	CBT	MND	Mean	
5301	29394	60.20	77.60	107.00	77.60	68.90	90.32	90.90	90.61	85.91
5302	29395	51.50	85.20	52.00	85.20	68.35	85.31	76.20	80.76	77.02
5303	29396	40.20	85.80	94.00	85.80	63.00	84.40	77.30	80.85	79.98
5304	29397	38.50	92.80	52.00	92.80	65.65	107.40	87.40	97.40	88.15
5305	29398	62.50	71.70	85.00	71.70	67.10	88.10	72.30	80.20	79.94
5306	29399	41.20	94.90	104.00	94.90	68.05	100.70	86.60	93.65	85.52
5307	29400	47.60	64.20	83.00	64.20	55.90	73.95	83.30	78.63	70.07
5308	29401	46.80	71.50	81.00	71.50	59.15	89.40	75.40	82.40	75.73
5309	29402	85.20	71.30	83.00	71.30	78.25	81.80	82.70	82.25	82.59
5310	29403	49.80	79.40	68.00	79.40	64.60	79.95	82.70	81.33	76.03
5311	29404	65.40	98.50	117.00	98.50	81.95	109.60	92.60	101.10	93.48
5312	29405	52.60	84.60	114.00	84.60	68.60	88.80	96.50	92.65	86.90
5313	29406	55.40	78.80	91.00	78.80	67.10	67.70	96.90	82.30	81.62
5314	CR Dhan 201 (NC)	56.40	86.80	100.00	86.80	71.60	89.98	92.00	90.99	85.12
5315	29407	65.80	82.90	106.00	82.90	74.35	61.60	82.00	71.80	79.99
5316	29408	63.20	83.10	103.00	83.10	73.15	77.00	100.80	88.90	85.75
5317	29409	74.50	81.70	105.00	81.70	78.10	80.20	88.50	84.35	83.61
5318	29410	46.80	91.50	97.00	91.50	69.15	91.10	84.30	87.70	89.22
5319	29411	64.50	93.00	101.00	93.00	78.75	74.30	77.80	76.05	86.85
5320	29412	55.80	86.00	98.00	86.00	70.90	84.02	77.00	80.51	80.66
5321	29413	76.50	78.10	65.00	78.10	77.30	77.70	83.20	80.45	81.79
5322	29414	40.60	70.70	65.00	70.70	55.65	63.25	72.70	67.98	73.93
5323	29415	55.80	84.00	92.00	84.00	69.90	70.75	81.80	76.28	83.09
5324	29416	38.20	90.60	89.00	90.60	64.40	86.80	79.80	83.30	81.41
5325	29417	71.50	56.60	78.00	56.60	64.05	69.65	73.70	71.68	72.90
5326	29418	48.60	72.10	84.00	72.10	60.35	67.20	78.50	72.85	73.61
5327	29419	56.50	81.20	87.00	81.20	68.85	83.14	80.60	81.87	83.00
5328	29420	55.60	76.60	106.00	76.60	66.10	89.00	89.80	89.40	83.26
5329	29421	68.50	87.90	106.00	87.90	78.20	107.74	78.70	93.22	91.61
5330	29422	58.20	82.90	81.00	82.90	70.55	69.50	81.80	75.65	74.99
5331	29423	68.80	74.00	85.00	74.00	71.40	66.30	79.20	72.75	82.15
5332	29424	53.50	91.40	103.00	91.40	72.45	97.40	80.40	88.90	87.44
5333	29425	78.50	85.20	85.00	85.20	81.85	80.45	81.40	80.93	80.54
5334	Zonal Check (ZC)	67.90	117.00	98.00	117.00	92.45	87.10	79.70	83.40	88.80
5335	29426	69.50	99.60	100.00	99.60	84.55	78.80	91.50	85.15	84.26
5336	29427	85.50	86.90	109.00	86.90	86.20	69.00	88.70	78.85	90.51
5337	29428	61.50	81.40	84.00	81.40	71.45	89.80	74.60	82.20	78.92
5338	29429	74.50	112.30	117.00	112.30	93.40	76.00	91.70	83.85	95.58
5339	29430	58.20	100.50	102.00	100.50	79.35	86.35	87.20	86.78	85.88
5340	29431	63.50	88.10	86.00	88.10	75.80		85.30	85.30	85.09
5341	29432	44.50	85.20	92.00	85.20	64.85	69.80	83.80	76.80	79.94
5342	PA 6129 (HC)	50.80	77.90	89.00	77.90	64.35	87.25	84.60	85.93	80.02
5343	29433	61.50	95.90	104.00	95.90	78.70	104.91	82.50	93.71	91.72
5344	29434	55.20	76.10	102.00	76.10	65.65	97.95	84.70	91.33	80.29
5345	29435	64.50	72.90	80.00	72.90	68.70	77.10	87.70	82.40	78.54
5346	29436	63.20	83.30	107.00	83.30	73.25	89.00	80.50	84.75	84.76
5347	29437	74.50	88.90	53.00	88.90	81.70	79.35	85.90	82.63	87.51
5348	29438	66.50	93.70	103.00	93.70	80.10	76.30	88.60	82.45	81.35
5349	29439	70.30	81.70	103.00	81.70	76.00	89.15	77.30	83.23	87.44
5350	29440	59.80	95.00	98.00	95.00	77.40	89.40	85.50	87.45	86.20
5351	29441	67.90	76.10	83.00	76.10	72.00	54.15	65.70	59.93	74.26
5352	29442	72.50	76.20	99.00	76.20	74.35	80.60	95.20	87.90	84.61
5353	29443	86.40	88.10	101.00	88.10	87.25	67.20	82.40	74.80	80.83
5354	29444	66.00	83.10	106.00	83.10	74.55	62.35	77.90	70.13	81.57
5355	29445	59.60	93.00	101.00	93.00	76.30	93.45	78.20	85.83	83.52
5356	29446	50.20	70.30	100.00	70.30	60.25	70.20	78.90	74.55	74.26
5357	29447	65.90	71.10	87.00	71.10	68.50	70.90	68.60	69.75	70.02
5358	29448	80.50	83.70	88.00	83.70	82.10	90.70	85.20	87.95	86.10
5359	29449	50.80	78.20	93.00	78.20	64.50	96.50	79.30	87.90	78.28
5360	29450	65.40	76.20	85.00	76.20	70.80	65.28	85.30	75.29	80.56
5361	29451	77.50	87.70	96.00	87.70	82.60	95.65	85.50	90.58	87.47
5362	29452	82.60	86.30	95.00	86.30	84.45	87.40	94.50	90.95	91.26
5363	29453	81.40	94.10	108.00	94.10	87.75	68.00	90.10	79.05	88.20
5364	Local Check (LC)	71.50	77.40	106.00	77.40	74.45	89.75	94.00	91.88	83.31
<b>Exp. Mean</b>		<b>61.94</b>	<b>83.91</b>	<b>92.84</b>	<b>83.91</b>	<b>72.93</b>	<b>82.13</b>	<b>83.52</b>	<b>82.85</b>	<b>82.73</b>

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Table No 5.11: Panicles/m2 of entries of IVT -AEROB, Kharif 2020

Entry No.	IET No.	ZONE II		ZONE III					ZONE IV	ZONE V (1)
		PU	OD (1)	BI		BI (2)	UP	Zone III (3)	TR	CH (1)
		@LDN	CTK	BKG	PTN	Mean	@MSD	Mean	@LMB	RPR
5301	29394	410	289	294	203	248	160	262	310	90
5302	29395		302	247	225	236	174	258	130	
5303	29396	365	295	315	220	267	202	276	220	113
5304	29397		243	257	235	246	209	245	333	
5305	29398	420	306		214	214	202	260	264	170
5306	29399	465	221	230	224	227	174	225	200	159
5307	29400		273		231	231	184	252	188	193
5308	29401	460	290	239	254	246	178	261	220	145
5309	29402		255	251	256	253	158	254	188	129
5310	29403		176	275	221	248	159	224	153	
5311	29404		258	219	236	227	164	237	190	90
5312	29405	335	274	259	196	228	177	243	282	177
5313	29406	375	263	249	236	242	186	249	220	142
5314	CR Dhan 201 (NC)	505	260	241	202	222	190	234	240	141
5315	29407		232	243	255	249	188	243	238	192
5316	29408		254	228	244	236	204	242	243	134
5317	29409		241	255	249	252	206	248	208	127
5318	29410	415	287	257	225	241	184	256	340	130
5319	29411	415	217	234	243	239	172	231	245	167
5320	29412	415	267	296	217	256	164	260	230	154
5321	29413		258	274	210	242	166	247	130	110
5322	29414		248	238	250	244	168	245	197	112
5323	29415	420	254	237	202	220	171	231	185	182
5324	29416		258	270	227	248	163	251	270	85
5325	29417		252	266		266	162	259	160	151
5326	29418		222	287	229	258	158	246	193	143
5327	29419	390	211	249	193	221	153	218	310	135
5328	29420		288	255	216	235	151	253	253	125
5329	29421	450	320	277	243	260	154	280	198	151
5330	29422		305	239		239	162	272	298	167
5331	29423	510	293	245	243	244	179	260	233	177
5332	29424	430	270	245	232	239	205	249	238	122
5333	29425	385	281		236	236	188	258	178	161
5334	Zonal Check (ZC)	370	266	253	241	247	204	253	158	131
5335	29426		300	272	161	216	207	244	385	187
5336	29427		242		173	173	199	207	210	135
5337	29428		245	251	200	225	176	232	275	96
5338	29429	360	238	229	206	217	159	224	293	168
5339	29430		306	261	204	232	155	257	360	152
5340	29431		278	233	195	214	156	235	388	192
5341	29432	325	311	287	187	237	166	261	210	158
5342	PA 6129 (HC)		226	236	196	216	170	219	268	127
5343	29433	350	216	212	207	210	172	212	225	113
5344	29434		257	238	175	207	166	223	253	94
5345	29435		243	252	182	217	177	225	223	
5346	29436	430	277	266	254	260	161	266	298	151
5347	29437		274	255	181	218	161	236	185	122
5348	29438		251	266	197	231	166	238	340	34
5349	29439		300	265	167	216	202	244	170	151
5350	29440		250	239	186	212	170	225	255	132
5351	29441	390	260		241	241	182	250	190	144
5352	29442		260	233	186	209	191	226	285	138
5353	29443		272	244	171	207	206	229	150	143
5354	29444		294	226	212	219	221	244	195	178
5355	29445		304	266	236	251	179	268	188	138
5356	29446	390	314	262	245	253	171	273	203	111
5357	29447	370	312	253	209	231	171	258	218	158
5358	29448	455	285	277	210	243	166	257	195	126
5359	29449		302		222	222	166	262	250	149
5360	29450		268		198	198	169	233	263	146
5361	29451		297	253	190	221	179	247	205	129
5362	29452		235	271	223	247	204	243	213	185
5363	29453		270		181	181	208	225	315	123
5364	Local Check (LC)	420	205	226	202	214	210	211	158	93
Exp. Mean		408	267	254	215	233	177	245	234	140



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Table No 5.11 contd.: Panicles/m<sup>2</sup> of entries of IVT -AEROB, Kharif 2020

Entry No.	IET No.	ZONE VI					ZONE VII			Overall (8)
		MA (1)	GU		GU (1)	Zone VI (2)	TA (1)	KA (1)	Zone VII (2)	
		PBN	NVS	@VYR	Mean	Mean	CBT	MND	Mean	
5301	29394	192	234	116	234	213	368	320	344	248
5302	29395	187	322	51	322	254	333	377	355	285
5303	29396	180	305	132	305	242	370	367	368	270
5304	29397	189	287	60	287	238	383	353	368	278
5305	29398	199	322	182	322	260	359	370	364	277
5306	29399	185	244	172	244	215	313	430	371	251
5307	29400	180	295	102	295	237	430	397	413	285
5308	29401	200	304	196	304	252	438	370	404	280
5309	29402	266	263	161	263	264	495	363	429	285
5310	29403	250	274	156	274	262	348	403	375	278
5311	29404	286	259	199	259	272	320	400	360	258
5312	29405	201	280	182	280	240	368	363	365	265
5313	29406	216	274	180	274	245	244	347	295	246
5314	CR Dhan 201 (NC)	215	249	119	249	232	425	403	414	267
5315	29407	266	229	141	229	247	321	397	359	267
5316	29408	262	202	152	202	232	331	357	344	251
5317	29409	283	175	152	175	229	378	393	385	262
5318	29410	203	195	144	195	199	443	410	426	269
5319	29411	290	261	124	261	276	410	350	380	271
5320	29412	182	288	193	288	235	420	377	398	275
5321	29413	271	280	71	280	275	360	360	360	265
5322	29414	177	272	142	272	224	423	407	415	265
5323	29415	188	292	152	292	240	358	380	369	261
5324	29416	220	300	204	300	260	425	363	394	268
5325	29417	262	243	194	243	252	415	370	392	280
5326	29418	230	241	178	241	236	353	393	373	262
5327	29419	278	250	126	250	264	393	393	393	262
5328	29420	205	293	183	293	249	380	337	358	262
5329	29421	232	307	223	307	270	415	400	407	293
5330	29422	212	307	184	307	259	435	373	404	291
5331	29423	262	230	158	230	246	460	403	432	289
5332	29424	270	270	156	270	270	435	377	406	277
5333	29425	288	244	197	244	266	348	350	349	272
5334	Zonal Check (ZC)	238	256	140	256	247	338	380	359	262
5335	29426	187	276	210	276	232	395	337	366	264
5336	29427	279	244	160	244	261	365	390	377	261
5337	29428	183	259	156	259	221	418	403	410	257
5338	29429	192	229	207	229	210	388	360	374	251
5339	29430	291	233	167	233	262	398	377	387	277
5340	29431	197	313	185	313	255		340	340	249
5341	29432	196	336	198	336	266	403	350	376	278
5342	PA 6129 (HC)	189	281	165	281	235	348	360	354	245
5343	29433	200	202	130	202	201	415	343	379	238
5344	29434	236	253	92	253	244	578	423	500	282
5345	29435	181	259	116	259	220	298	370	334	255
5346	29436	217	259	196	259	238	411	327	369	270
5347	29437	290	238	118	238	264	348	383	365	261
5348	29438	204	242	116	242	223	298	403	350	237
5349	29439	281	232	140	232	256	330	407	368	266
5350	29440	292	260	184	260	276	375	357	366	261
5351	29441	186	251	181	251	218	293	337	315	244
5352	29442	304	252	113	252	278	323	377	350	259
5353	29443	275	237	160	237	256	333	363	348	255
5354	29444	262	283	157	283	273	425	357	391	279
5355	29445	228	212	241	212	220	400	363	382	268
5356	29446	190	286	142	286	238	330	430	380	271
5357	29447	208	275	161	275	241	345	353	349	264
5358	29448	270	253	218	253	261	363	373	368	269
5359	29449	242	244	243	244	243	338	400	369	271
5360	29450	268	247	185	247	258	310	433	372	267
5361	29451	278	247	144	247	262	405	413	409	276
5362	29452	262	209	202	209	235	294	343	319	253
5363	29453	202	194	127	194	198	380	357	368	244
5364	Local Check (LC)	312	225	114	225	268	385	377	381	253
Exp. Mean		231	260	160	260	246	376	376	376	266

## ADVANCE VARIETY TRIAL 1 – BIOFORTIFICATION (AVT 1-BIOFORT)

**Locations: 34** **Test Entries: 19**  
**Checks: BPT 5204 (Yield), IR 64 (Yield), DRR Dhan 45** **Table:6.1**  
**(Yield & Micronutrient) Chittimuthyalu (Micronutrient)**

AVT-Biofort trial was conducted with 19 entries along with two yield checks (BPT 5204 and IR 64), Chittimuthyalu as micronutrient check and DRR Dhan 45 as both yield and micronutrient check. The biofortification trial was sent to 34 locations across five zones (II, III, V, VI and VII) and data was received from 26 locations. Data was not received from Kaul, Bhubaneswar, Chinsurah, Masodha, Varanasi, Waraseoni, Dabhoi and Aduthurai. Data from Ludhiana, Masodha, Mugad, Brahmavar and Sirsi were not considered for analysis due to low/high CV and (or) low experimental yield. Overall, experimental yield ranged from 822.52 kg/ha (Brahmavar) to 6089.64 kg/ha (Moncompu). The mean yield of entries had a range of 3716 kg/ha (Chittimuthyalu) to 5108 g/ha (IET 28702) whereas, plant height had a wide range of 86.38 cm (IET 28710) to 119.67 (IET 28696). Highest number of panicles were observed in IET 28710 (327) while, IET 28698 had only 278. Three entries (IR 64, IET 28704 and IET 28718) flowered in 90 days and IET 28715 flowered at 104 days. The data pertaining to yield, days to 50% flowering, plant height, panicles/m<sup>2</sup> and quality are presented in tables 6.2, 6.3, 6.4, 6.5 and 6.6.

The content of micronutrients (Iron and Zinc) in polished rice samples of the test entries was estimated by X-ray fluorescence spectrophotometer (XRF) at IIRR, Hyderabad while protein content was analysed at NRRI, Cuttack utilizing the seed samples received from test locations. The data on Iron, Zinc and proteins were furnished in tables 6.7 and 6.8. As the XRF values of Zn analysed at IIRR are 4 ppm lesser than ICP values of zinc, 4 ppm is added uniformly to the Zn content for each of the test entries. Based on the criteria set during 48<sup>th</sup> ARGM, the entries possessing  $\geq 24$  ppm Zinc;  $\geq 10$  ppm protein and  $\geq 10$  ppm iron in polished rice; and yield on par or more than the best yielding check are eligible for promotion to the next tier of testing. The yield performance of entries with  $\leq 100$  days flowering duration are compared with IR 64 whereas entries with  $\geq 100$  days are compared with BPT 5204/DRR Dhan 45 for identification of best entries. The superior entries on overall mean and zonal basis are discussed below.

### Performance of entries during Kharif 2020

#### Performance of entries based on overall mean

Five entries (IET 28691, IET 28701, IET 28702, IET 28713, and IET 28718) with  $\leq 100$  days of flowering showed yield advantage (range of 7.22% to 13.11%) over IR 64. IET 28705 with  $>100$  days of flowering exhibited yield superiority of 6.25% over the BVC (DRR Dhan 45/BPT 5204). *Based on the Fe and Zn data, none of the entries exhibited the required amount of Zn ( $\geq 24$  ppm) and Fe ( $\geq 10$  ppm) therefore, no entry is promoted on overall basis.*

**Zone III**

In zone III, the trial was conducted at different locations across Odisha, Bihar, Uttar Pradesh and West Bengal. Data from Masodha was not considered due to low CV (3.56%). Six entries (IET 28691, IET 28694, IET 28696, IET 28713, IET 28717 and IET 28718) with flowering duration less than 100 days showed yield superiority over IR 64, the yield superiority ranged from 8.14% to 32.33%. Additionally, IET 28705, with flowering duration above 100 days showed yield superiority of 25.81% over the BVC. **Based on the Zn and Fe content data available, none of the entries exhibited >24.0 ppm (Zn) or 10ppm (Fe), hence none are promoted.**

**Zone V**

The trial was conducted at 5 locations across Madhya Pradesh (Waraseoni and Jabalpur), Maharashtra (Sakoli and Sindewahi) and Chhattisgarh (Raipur). IET 28702, with flowering duration  $\leq 100$  days showed yield superiority of 7.43% over IR 64. Three entries IET 28705, IET 28710 and IET 28714) with flowering duration  $>100$  days exhibited yield superiority over the BVC. The yield superiority ranged from 7.61% to 25.03%. **Based on the Zn and Fe content data available from all the locations, none of the entries exhibited >24.0 ppm Zn or >10 ppm of Fe, hence none are promoted.**

**Zone VI**

The trial was conducted at five locations across (Karjat, Shirgoan, Navsari, Dabhoi and Nawagam). Based on yield, three entries (IET 28702, IET 28705 and 28714) with flowering duration  $\leq 100$  days had yield superiority over IR 64 and the yield superiority ranged from 5.1% to 16.33%. **None of the entries with days to flowering >100 showed yield superiority over the BVC.** The quality parameters (HRR - 55%, AC - 23.6%, GC - 22.0 and ASV - 5.0) are within the desirable range. Among the best performing entries, IET 28714 exhibited a Zn content of ~24.0 ppm, hence considered for promotion to AVT 2.

Rank	IET No./Designation/Cross Combination	GY (kg/ha)/ DFF/GT	% Yield Advantage over NC/ZC/LC
<b>Zone VI</b>			
1	IET 28714 NVSr 6158 Jaya/IR 71829-3R-82-1-1	4730 97 LB	5.1 (over IR 64)
	IR 64 Chittimuthyalu BPT 5204 DRR Dhan 45	<b>4501</b> 3454 3588 4796	

**Zone VII**

The trial was conducted at 14 locations across Andhra Pradesh, Telangana, Karnataka, Kerala and Tamil Nadu. The data from Mugad, Brahmavar and Sirsi was not considered owing to high CV and low experimental mean. Eleven entries (IET 28691, IET 28694, IET 28695, IET 28696, IET 28701, IET 28702, IET 28703, IET 28706, IET 28713, IET 28718 and 28719) with

≤100 days flowering duration had yield superiority over IR 64; the yield superiority ranged from 5.62% to 23.48%. None of the entries with >100 days flowering duration had yield advantage over the BVC. The yield superiority ranged from 6.5% to 12.3%. *The entries showing yield advantage did not show the required Zn content (>24.0 ppm) or Fe content (>10 ppm) hence, none are promoted.*

No entries exhibited (>10%) grain protein in AVT1 –Biofortification.

#### Yield Performance of entries in AVT 1-Biofort, Kharif 2020

S. No	Over IR 64 (≤100 DAF)	Over BVC (>100 DAF)
<b>ZONE III</b>		
1	IET 28691 (16.64%)	IET 28706 (25.81%)
2	IET 28694 (6.04%)	
3	IET 28696 (23.94%)	
4	IET 28713 (32.33%)	
5	IET 28717 (8.14%)	
6	IET 28718 (21.14%)	
<b>ZONE V</b>		
1	IET 28702 (7.43%)	IET 28705 (7.61%)
2		IET 28710 (14.47%)
3		IET 28714 (25.03%)
<b>ZONE VI</b>		
1	IET 28702 (5.2%)	NONE
2	IET 28705 (16.33%)	
3	IET 28714 (5.1%)	
<b>ZONE VII</b>		
1	IET 28703 (13.52%)	NONE
2	IET 28719 (14.34%)	
3	IET 28694 (12.72%)	
4	IET 28702 (19.94%)	
5	IET 28696 (5.62%)	
6	IET 28713 (9.14%)	
7	IET 28718 (14.32)	
8	IET 28695 (14.15%)	
9	IET 28701 (23.48%)	
10	IET 28706 (12.18%)	
11	IET 28691 (21.08%)	
<b>OVERALL</b>		
1	IET 28702 (13.11%)	IET 28705 (6.25%)
2	IET 28713 (7.24%)	
3	IET 28718 (8.90)	
4	IET 28701 (7.22%)	
5	IET 28691 (9.03%)	

**The following entries will be repeated as they had ≥ 24 ppm though they did not exhibit yield superiority:**

**Zone VI:** IET 28703, IET 28714, IET 28694, IET 28704, and IET 28701.

## INITIAL VARIETY TRIAL – BIOFORTIFICATION (IVT-BIOFORT)

<b>Locations:</b>	<b>34</b>	<b>Test Entries:</b>	<b>31</b>
<b>Checks:</b>	<b>BPT 5204 (Yield), IR 64 (Yield), DRR Dhan 45 (Yield &amp; Micronutrient) Chittimuthyalu (Micronutrient)</b>	<b>Table:</b>	<b>6.12</b>

IVT-Biofort trial was conducted with 31 entries along with two yield checks (BPT 5204 and IR 64), Chittimuthyalu as micronutrient check and DRR Dhan 45 as both yield and micronutrient check. The biofortification trial was sent to 34 locations across five zones (II, III, V, VI and VII) and data was received from 22 locations. Data from six locations (Jeypore, Sakoli, Nawagam, Brahmavar, Gangavathi and Sirsi) were not considered for analysis due to low/high CV and (or) low experimental yield. Further, five locations (Kaul, Sabour, Chinsurah, Varanasi and Mugad) did not conduct the trial. The experimental yield ranged from 1237.83 kg/ha (Jeypore) to 5899.41 kg/ha (Moncompu). The overall mean yield of entries had a range of 3295 kg/ha (IET 29458) to 5229 g/ha (IET 29475) whereas, plant height had a wide range of 83.66 cm (BPT 5204) to 122.10 (IET 29455). Highest number of panicles were observed in IET 29458 (321) while, IET 29481 had only 270. IET 29468 flowered in 85 days and BPT 5204 flowered at 102 days. The data pertaining to yield, days to 50% flowering, plant height, panicles/m<sup>2</sup> and quality are presented in tables 6.13, 6.14, 6.15, 6.16 and 6.17.

The content of micronutrients (Iron and Zinc) in polished rice samples of the test entries was estimated by X-ray fluorescence spectrophotometer (XRF) at IIRR, Hyderabad while protein content was analysed at NRRI, Cuttack utilizing the seed samples received from test locations. The data on Iron, Zinc and proteins were furnished in tables 6.18 and 6.19. As the XRF values of Zn analysed at IIRR are 4 ppm lesser than ICP values of zinc, 4 ppm is added uniformly to the Zn content for each of the test entries. Based on the criteria set during 48<sup>th</sup> ARGM, the entries possessing  $\geq 24$  ppm Zinc;  $\geq 10$  ppm protein and  $\geq 10$  ppm iron in polished rice; and yield on par or more than the best yielding check are eligible for promotion to the next tier of testing. The yield performance of entries with  $\leq 100$  days flowering duration are compared with IR 64 whereas entries with  $\geq 100$  days are compared with BPT 5204/DRR Dhan 45 for identification of best entries. The superior entries on overall mean and zonal basis are discussed below.

### Performance of entries during Kharif 2019

#### Performance of entries based on overall mean

Eight entries (IET 29454, IET 29459, IET 29464, IET 29467, IET 29474, IET 29475, IET 29476 and IET 29483) with  $\leq 100$  days to 50% flowering exhibited a yield advantage over IR 64. *Among these eight superior performing entries none had the required Zn content ( $\geq 24$  ppm) or Fe content ( $\geq 10$  ppm), hence none of them were promoted.* Further, none of the entries with days to 50% flowering  $\geq 100$  had a yield advantage over the best variety check (BVC).

**Zone III**

In zone III, the trial was conducted at 5 locations across Uttar Pradesh, Bihar and Odisha (Bhubaneswar, Cuttack, Jeypore, Bikramganj, and Masodha). The trial was not conducted at Chinsurah, Sabour and Varanasi. *In Zone III, all the four checks had <100 days to 50% flowering, hence the entries were compared with BVC only.* Seven entries (IET 29454, IET 29458, IET 29461, IET 29466, IET 29467, IET 29472 and IET 29475) showed yield superiority over the BVC, the yield superiority ranged from 5.0% to 29.0%. *None of the entries exhibited the required Zn content ( $\geq 24$  ppm) or Fe content ( $\geq 10$  ppm).*

No entries exhibited (>10%) grain protein in IVT-Biofortification.

**Yield advantage of the rest entries over IR 64 or the best variety check (BVC)**

S. No	Over IR 64 ( $\leq 100$ DAF)	Over BVC ( $> 100$ DAF)
<b>ZONE III</b>		
1	NONE	IET 29454 (9.0%)
2		IET 29458 (5.0%)
3		IET 29461 (8.0%)
4		IET 29466 (18.0%)
5		IET 29467 (29.0%)
6		IET 29472 (7.0%)
7		IET 29475 (51.0%)
<b>ZONE V</b>		
1	IET 29464 (27.1%)	IET 29459 (59.7%) IET 29466 (46.1%)
2	IET 29465 (11.6%)	
3	IET 29471 (15.3%)	
4	IET 29474 (21.6%)	
5	IET 29476 (13.0%)	
6	IET 29482 (35.8%)	
<b>ZONE VI</b>		
	NONE	IET 29474 (10.0%)
<b>ZONE VII</b>		
1	IET 29454 (11.3%)	IET 29459 (6.7%) IET 29464 (6.4%) IET 29477 (5.0%)
2	IET 29467 (5.6%)	
3	IET 29469 (9.7%)	
4	IET 29474 (10.7%)	
5	IET 29475 (19.8%)	
6	IET 29476 (6.8%)	
7	IET 29479 (10.3%)	
8	IET 29483 (10.2%)	
<b>OVERALL</b>		
1	IET 29454 (5.9%)	NONE
2	IET 29459 (5.6%)	
3	IET 29464 (8.3%)	
4	IET 29467 (5.2%)	
5	IET 29474 (13.7%)	
6	IET 29475 (18.6%)	
7	IET 29476 (7.6%)	
8	IET 29483 (5.0%)	

### **Zone V**

The trial was conducted at 4 locations across (Waraseoni, Jabalpur, Raipur, Sakoli and Sindewahi). Six entries (IET 29464, IET 29465, IET 29471, IET 29474, IET 29476 and IET 29482) with flowering duration  $\leq 100$  days showed yield superiority over IR 64, the yield superiority ranged from 11.6% to 35.8%. Further two entries (IET 29459 and IET 29466) with flowering duration  $> 100$  days exhibited yield superiority over the BVC. The yield superiority ranged from 46.1% to 59.7%. ***None of the entries exhibited the required Zn content ( $\geq 24$  ppm) or Fe content ( $\geq 10$  ppm).***

### **Zone VI**

The trial was conducted at five locations across (Karjat, Shirgoan, Dabhoi, Navsari and Nawagam). ***In Zone VI, all the four checks had  $< 100$  days to 50% flowering, hence the entries were compared with BVC only.*** Based on yield, IET 29474 exhibited a yield superiority over the BVC by 10.0%. ***But, IET 29474 did not exhibit the required Zn ( $\geq 24$  ppm) or Fe ( $\geq 10$  ppm) content, hence IET 29474 was not promoted.***

### **Zone VII**

The trial was conducted at 13 locations across Andhra Pradesh, Telangana, Karnataka, Kerala and Tamil Nadu. The trial was not conducted at Mugad. The data was not considered for analysis from Brahmavar, Gangavathi and Sirsi owing to high CV (26.21%) at Gangavathi and low experimental mean ( $< 3000$  kg/ha) at Brahmavar and Sirsi. Eight entries (IET 29454, IET 29467, IET 29469, IET 29474, IET 29475, IET 29476, IET 29479 and IET 29483) with  $\leq 100$  days flowering duration had yield superiority over IR 64; the yield superiority ranged from 5.6% to 19.8%. Further three entries (IET 29459, IET 29464, and IET 29477) with  $> 100$  days flowering duration had yield advantage over the BVC. The yield superiority ranged from 5.0% to 6.7%. ***But, none of the entries were promoted as they did not exhibit the required Zn ( $\geq 24$  ppm) or Fe ( $\geq 10$  ppm) content.***

***The following entries will be repeated as they had  $\geq 24$  ppm though they did not exhibit yield superiority:***

**Zone III:** IET 29458, IET 29460, IET 29469, IET 29482 and IET 29484

**Zone VI:** IET 29465, IET 29482 and IET 29484

**Zone VII:** IET 29482 and IET 29484

**Overall:** IET 29482 and IET 29484.

**Table 6.1: Composition of entries in Advance Variety Trial 1– Biofortification (AVT 1-Biofort), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>2<sup>nd</sup> Year of testing:</b>				
5401	28698	CRAC 3994-2-5	Doubled haploid of CR Dhan 701	LS
5402	28703	RP 6362-IR15M1298 (GID:4289666)	IR 91145-AC 26 / IRRI 123 // OM 4498 /// IR 58 / 4 / IR 69428-6-1-1-3-3 / IR 69807-13-2-1 // IR 58	LS
5403	28705	CR 2830-PLS-79-1	Swarna / ARC 10075	SB
5404	28710	SKL RR 1	Selection from PKV HMT	MS
5405	28714	NVSR 6158	Jaya / IR 71829-3R-82-1-1	LB
5406	<b>IR 64 (Yield Check)</b>			
5407	28719	BRR 0141 (IR 128788-5-1-1-1-B)	IR 84842-35-3-1-1-2-2 / Lalat	LS
5408	28694	GNV 1906	Selection from IR 99290-11-2-2	LB
5409	28704	R-RHZ-MI-93	MTU 1010 / IR 94033	LS
5410	28717	CR 2819-1-3-B-2-B-12-3B-1	IR64 / ARC 10075	MS
5411	<b>Chittimutyalu (Micro Nutrient Check)</b>			
5412	28702	OR (CZ) 85-IR 99642-57-1-1-1-B	IR 91152-AC 438 / BR 29 /// IR 69428- 6-1-1-3-3 / IR 06A147 // IR 75862-206- 2-8-3-B-B-B / IR06A147	MS
5413	28696	RP 6364-IR 93337:50-B-20-19-13- IRGA-2RGA-1-B (GID: 4432127)	IRRI 123 / Sanhuangzhan NO 2 // IR 77298-14-1-2-10 / IR07F287 /// NSIC RC 158 / IR 4630-22-2-5-1-3 // Fedearroz 50 / IR 45427-2B-2-2B-1-1	MS
5414	28713	CSR HZR 17-41	PR 114 / BR 29 / 4 / IR 05A 193 / 2* IR 69428-6-1-1-3-3 // BR 802 – 118-4-2 (BRRI Dhan 29) /// IR 65450-173-2-1- 1-3-3 / 5 / IR 09F 164 / MTU 1064 / 4 / IR 05A193 / 2* IR 69428-6-1-1-3-3 // BR 802-118-4-2 (BRRI Dhan 29) /// IR 65450-173-2-1-1-3-3	LB
5415	28718	HURS 19-9-IR 128773-4-3-1-4-B	IR 84842-131-1-2-1-1-3 / MTU 1010	LS
5416	<b>BPT 5204 (Yield Check)</b>			
5417	28695	RP Bio 4920-BC 4-88B	BPT 5204 / O. rufipogon	MS
5418	28701	GNV 1905	Selection from IR 95097:3-B-16-11-4- GBS	LS
5419	28706	RP Bio 4920- BC 4-83B	BPT 5204 / O. rufipogon	MS
5420	<b>DRR Dhan 45 (Yield &amp; Micronutrient Check)</b>			
5421	28715	RP Bio 4920- BC 4-61-1B	BPT 5204 / O. rufipogon	MS
5422	28707	OR (CZ)-75-3-1	PB-1 Mutant	SS
5423	28691	OR (CZ) 84-IR 128773-4-3-2-4-B	IR 84842-131-1-2-1-1-3 / MTU 1010	LS



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**Table No. 6.2: Grain Yield (Kg/ha) of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE III												
		PU		OD			OD (2)		BI					
		LDN		CTK		JYP	Mean		BKG		SBR			
5401	28698			3583	4	3993		3788	8	3852		3365		
5402	28703			2998		1702		2350		4935	4	3185		
5403	28705			3297	9	2425		2861		5537	1 *	4491	3	
5404	28710					3305		3305		4363		3420		
5405	28714			3691	3 *	1555		2623		5248	2 *	4924	1 *	
5406	IR 64 (Yield Check)	1175	2	3027		3590		3309		4394	9	3293		
5407	28719			4030	1 *	3953		3992	7	9%	2468		2647	
5408	28694	1054	4	3028		3905		3467		4394	9	3842	7	
5409	28704			3146		3687		3417		3280		2886		
5410	28717			3367	6	4063	9	3715	9	4273		3764	8	
5411	Chittimutyalu (Micro Nutrient Check)	1512	1	2734		4000	10	3367		3100		2960		
5412	28702			3741	2 *	2494		3118		4243		4819	2 *	
5413	28696			3046		6248	5 *	4647	6 *	27%	4755	5	3677	9
5414	28713	1130	3	2821		8290	1 *	5556	2 *	52%	4755	5	3063	
5415	28718			2921		6791	3 *	4856	3 *	33%	4183		3433	
5416	BPT 5204 (Yield Check)			2922		4401	7	3662	10	4273		4008	5	
5417	28695			2835		4154	8	3495		3882		4006	6	
5418	28701			3217	10	3045		3131		4995	3	3395		
5419	28706			3321	7	7849	2 *	5585	1 *	53%	4273		4188	4
5420	DRR Dhan 45 (Yield & Micronutrient Check)			3205		2369		2787		4454	7	3330		
5421	28715			3457	5	5984	6 *	4721	5 *	29%	3190		3455	
5422	28707	1047	5	3312	8	1044		2178		3641		3456	10	
5423	28691			2953		6607	4 *	4780	4 *	31%	4454	7.5	2670	
<b>Exp. Mean</b>		<b>1184</b>		<b>3211</b>		<b>4150</b>		<b>3683</b>			<b>4215</b>		<b>3577</b>	
CD				471.22		504.37		354.32			622.18		658.73	
CV%				8.9		7.39		5.85			8.97		11.19	
D/S			22-07-2020		17-07-2020		16-07-2020				25-07-2020		21-07-2020	
D/P			21-08-2020		01-09-2020		14-08-2020				24-08-2020		10-08-2020	

**Table No. 6.2 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE III						ZONE V						
		BI (2)		UP		Zone III (4)		MP (1)		CH (1)				
		Mean		@MSD		Mean		JBP		RPR				
5401	28698	3609		3844	1	3698		4235	9	4524				
5402	28703	4060	9	3744	6	3205		2767		5238		4		
5403	28705	5014	2 *	21%	2116		3938	7	2451		4188			
5404	28710	3892			2200		3696		2483		4090			
5405	28714	5086	1 *	23%			3855	10	6191	4	5322	3	6%	
5406	IR 64 (Yield Check)	3844			2211		3576		6281	3	5042		6	
5407	28719	2558			2833		3275		6478	2	5798		2	15%
5408	28694	4118	8		3212	7	3792		3783		4566		10	
5409	28704	3083			3800	2	3250		5032	6	4818		7	
5410	28717	4019	10		2860		3867	9	3058		4594		9	
5411	Chittimutyalu (Micro Nutrient Check)	3030			1889		3199		3612		3796			
5412	28702	4531	3	9%	3756	5	3824		6701	1	7%	5826	1	16%
5413	28696	4216	5		2204		4432	3 *	14%	5000	7	4314		
5414	28713	3909			2891		4732	2 *	21%	4570	8	4440		
5415	28718	3808			2889		4332	4 *	11%	5044	5	4300		
5416	BPT 5204 (Yield Check)	4141	7		3178	8	3901	8			3739			
5417	28695	3944			2989	10	3719		2536		4286			
5418	28701	4195	6		2958		3663		3339		4566		10	
5419	28706	4231	4		3800	2	4908	1 *	26%	3069		3852		
5420	DRR Dhan 45 (Yield & Micronutrient Check)	3892			2978		3340		4212	10	2983			
5421	28715	3323			3073	9	4022	6	2103		2437			
5422	28707	3549			3780	4	2863				4720		8	
5423	28691	3562			2900		4171	5	7%		5140		5	
<b>Exp. Mean</b>		<b>3896</b>			<b>3005</b>		<b>3794</b>		<b>4147</b>		<b>4460</b>			
CD		512.94			176.39		329.89		857.04		1144.59			
CV%		8			3.56		5.28		12.5		15.6			
D/S					05-08-2020				16-07-2020		08-07-2020			
D/P					31-08-2020				06-08-2020		08-08-2020			

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**Table No. 6.2 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE V						ZONE VI			
		MA1		MA1 (2)		Zone V (4)		MA2			
		SKL	SND	Mean		Mean		KJT		SHR	
5401	28698	3669	3520	3595		3987		3556		4705	8
5402	28703	5428	1 4516	4972	3 7%	4487	10	3336		3704	
5403	28705	5100	3 4615	8.5 4858	5	4089		4556	3	5067	4
5404	28710	5327	2 5501	3 * 5414	1 * 16%	4350		4167	6	3855	
5405	28714	3788		3703		3746		4751	7	4833	1 4832 6.5
5406	IR 64 (Yield Check)	4660	5 4650	7 4655	8	5158	2	3889	10	4832	6.5
5407	28719	3560		3240		3400		4769	6	3000	3190
5408	28694	3735		4391		4063		4119		3389	3822
5409	28704	4930	4 4615	8.5 4773	7	4849	3	3722		4179	
5410	28717	3852		2963		3408		3617		3667	4066
5411	Chittimutyalu (Micro Nutrient Check)	3486		2800		3143		3424		3444	3561
5412	28702	4471	6 5166	6 4819	6	5541	1 7%	4556	3	5892	1
5413	28696	3555		5210	4 4383	10	4520	9	4833	1.5	4470
5414	28713	4255	7 6116	1 * 5186	2 * 11%	4845	4	4067	8	5421	3
5415	28718	3974	9 5781	2 * 4878	4	4775	5	3944	9	4386	
5416	BPT 5204 (Yield Check)	4150	8 2975		3563		3621		2833		3460
5417	28695	3856	10 3881		3869		3640		3833		4638 9
5418	28701	3637		4129		3883		3918		3561	4933 5
5419	28706	3672		3499		3586		3523		3889	10 4007
5420	DRR Dhan 45 (Yield & Micronutrient Check)	3422		4583	10 4003		3800		4167	6 5497	2
5421	28715	3402		3531		3467		2868		4417	5 3864
5422	28707	3580		3610		3595		3970		3333	4571 10
5423	28691	3696		5172	5 4434	9	4669	8	3333		3687
<b>Exp. Mean</b>		<b>4052</b>		<b>4268</b>		<b>4160</b>		<b>4196</b>		<b>3840</b>	<b>4375</b>
CD		824.68		650.12		491.98		423.36		679.44	957.37
CV%		12.37		9.26		7.19		6.13		10.75	13.3
D/S		08-07-2020		07-07-2020						14-07-2020	17-06-2020
D/P		29-07-2020		30-07-2020						02-08-2020	16-07-2020

**Table No. 6.2 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE VI									
		MA2 (2)		MA (4)				GU			
		Mean		Mean		Mean		NVS	NWG		
5401	28698	4131		3863				5686	6 4394 7		
5402	28703	3520		4246				5411	8 5310 2 *		
5403	28705	4812	4	4835	3	#7.24%		5372	9 5950 1 *		
5404	28710	4011		4713	4			4698		3609	
5405	28714	4833	2	4289	10			3946		5310 2 *	
5406	IR 64 (Yield Check)	4361	7	4508	7			4840		4443 6	
5407	28719	3095		3248				4256		3959	
5408	28694	3606		3834				4395		4287 10	
5409	28704	3951		4362	9			4147		4360 8	
5410	28717	3867		3637				3951		4473 5	
5411	Chittimutyalu (Micro Nutrient Check)	3503		3323				3653		3159	
5412	28702	5224	1 8%	5021	1 * 11.40%	#13.67%		4530		3963	
5413	28696	4652	6	4517	6			5552	7	3482	
5414	28713	4744	5	4965	2 * 10.13%	# 12.39%		4659		3355	
5415	28718	4165	10	4521	5			5834	3	4298 9	
5416	BPT 5204 (Yield Check)	3147		3355				4042		4018	
5417	28695	4236	9	4052				4696		3198	
5418	28701	4247	8	4065				5960	1	3696	
5419	28706	3948		3767				4941	10	3164	
5420	DRR Dhan 45 (Yield & Micronutrient Check)	4832	3	4417	8			5922	2	3596	
5421	28715	4141		3804				4703		3980	
5422	28707	3952		3774				5774	5	5040 4	
5423	28691	3510		3972				5825	4	3117	
<b>Exp. Mean</b>		<b>4108</b>		<b>4134</b>				<b>4904</b>		<b>4094</b>	
CD		585.68		408.33				949.28		835.09	
CV%		8.66		6.00				11.76		12.4	
D/S										16-07-2020	16-07-2020
D/P										18-08-2020	29-08-2020

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**Table No. 6.2 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE VI					ZONE VII							
		GU (2)		Zone VI (4)			AP		AP (2)		TE			
		Mean		Mean			MTU	BPT	Mean		RNR			
5401	28698	5040	5	6%	4585	7	4868	9	3298	4083	3680			
5402	28703	5361	3	13%	4440		5631	5	4173	4	4902	4	4762	
5403	28705	5661	1	19%	5236	1	4716		4376	1	4546	6	5596	2
5404	28710	4154			4082		4176		3030		3603		3853	
5405	28714	4628	9		4730	4	4277		2910		3594		4255	
5406	IR 64 (Yield Check)	4642	8		4501	10	4086		3089		3588		4010	
5407	28719	4108			3601		4125		3359		3742		4982	
5408	28694	4341			3973		6309	4	2632		4471	7	5012	10
5409	28704	4254			4102		4112		2610		3361		4662	
5410	28717	4212			4039		6390	3	4244	2	5317	1	5033	9
5411	Chittimutyalu (Micro Nutrient Check)	3406			3454		3924		3405		3665		4097	
5412	28702	4247			4735	3	3894		3500		3697		6116	1
5413	28696	4517	10		4584	8	3136		3634	9	3385		4019	
5414	28713	4007			4376		4825	10	3630	10	4228	9	5445	4
5415	28718	5066	4	6%	4616	6	3621		2798		3210		5468	3
5416	BPT 5204 (Yield Check)	4030			3588		6512	1	3834	8	5173	2	5386	6
5417	28695	3947			4091		6458	2	3413		4936	3	5424	5
5418	28701	4828	6		4538	9	5528	7	4156	5	4842	5	4755	
5419	28706	4053			4000		3634		3599		3617		5375	7
5420	DRR Dhan 45 (Yield & Micronutrient Check)	4759	7		4796	2	4938	8	3923	7	4431	8	4078	
5421	28715	4342			4241		5543	6	2818		4181		4530	
5422	28707	5407	2	14%	4680	5	3894		4107	6	4001		3422	
5423	28691	4471			3991		4210		4238	3	4224	10	5267	8
<b>Exp. Mean</b>		<b>4582</b>			<b>4317</b>		<b>4731</b>		<b>3512</b>		<b>4121</b>		<b>4749</b>	
CD		980.33			498.44		887.29		863.94		664.07		1182.82	
CV%		13			7.02		11.4		14.95		9.79		15.14	
D/S							20-07-2020		27-07-2020				02-07-2020	
D/P							20-08-2020						04-08-2020	

**Table No. 6.2 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE VII													
		TE		TE (3)			TN		TN (2)						
		WGL	JGL	Mean			ADT	CBT	Mean						
5401	28698	4176		3307		3721		5611		4208		4910			
5402	28703	5326	8	4886	4 *	4991	7	12%	5167		3825		4496		
5403	28705	5211	9	3780	10	4862	9	9%	6056	6.5	4177		5117		
5404	28710	4444		3540		3946			3750		3442		3596		
5405	28714	3525		3296		3692			6736	1	4450		5593	7	
5406	IR 64 (Yield Check)	5441	6	3970	9	4474			4875		4177		4526		
5407	28719	4904		4826	6 *	4904	8	10%	5083		6077	1	5580	8	
5408	28694	4981		3476		4490			5931	8	5269	8	5600	6	
5409	28704	4885		4950	2 *	4832	10	8%	5458		4581		5020		
5410	28717	3716		3656		4135			5931	8	4527		5229		
5411	Chittimutyalu (Micro Nutrient Check)	3908		3249		3751			4583		3542		4063		
5412	28702	4330		4928	3 *	5125	5 *	15%	5833		5979	2	5906	2	
5413	28696	4100		3444		3854			6444	3	4143		5294		
5414	28713	6169	5	4074	8	5229	3 *	17%	5736		5198	9.5	5467	10	
5415	28718	7280	1 *	5511	1 *	6086	1 *	36%	5208		5422	6	5315		
5416	BPT 5204 (Yield Check)	4789		3175		4450			5847		3602		4725		
5417	28695	6590	3 *	3568		5194	4 *	16%	5917	10	5402	7	5660	5	
5418	28701	5441	6	3481		4559			6528	2	5595	4	6062	1	5%
5419	28706	6360	4 *	3423		5053	6 *	13%	6208	5	4239		5224		
5420	DRR Dhan 45 (Yield & Micronutrient Check)	5096	10	4102	7	4425			6347	4	5198	9.5	5773	3	
5421	28715	4751		3270		4184			6056	6.5	5467	5	5762	4	
5422	28707	3870		3153		3482			5097		5856	3	5477	9	
5423	28691	6743	2 *	4831	5 *	5614	2 *	25%	5347		5188		5268		
<b>Exp. Mean</b>		<b>5045</b>		<b>3909</b>		<b>4667</b>			<b>5641</b>		<b>4764</b>		<b>5202</b>		
CD		739.34		719.81		549.71			521.93		1111.66		634.95		
CV%		8.91		11.19		7.16			5.62		14.18		7.42		
D/S		08-07-2020		09-07-2020					08-08-2020		21-07-2020				
D/P		08-08-2020		15-08-2020					10-09-2020		13-08-2020				

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**Table No.6.2 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE VII												
		KE				KE (2)			KA					
		MNC		PTB		Mean			MND		@MGD		@BRM	
5401	28698	6902	8	6259	3	6581	3	13%	4385		2815		735	
5402	28703	6386		5991	9	6189	7	6%			2667		814	
5403	28705	6919	7	6231	4	6575	4	12%	4996	10	4516	1	1004	7
5404	28710	5926		4616		5271					2476		997	8
5405	28714	7783	1	4944		6364	6	9%	4330		2526		1048	6
5406	IR 64 (Yield Check)	5426		6051	7	5739			4418		2679		530	
5407	28719	4888		6074	6	5481			6188	7	3548	3	629	
5408	28694	5847		5245		5546			5913	8	2823	9	492	
5409	28704	4916		5745		5331			4698		1972		617	
5410	28717	6891	9	5389		6140	8		5249	9	4416	2	318	
5411	Chittimutyalu (Micro Nutrient Check)	3906		5398		4652			3724		2165		145	
5412	28702	4646		5912	10	5279			7379	1*	2931	8	2301	1
5413	28696	6061		6037	8	6049	9		7227	2	2617		1960	2
5414	28713	6223		3764		4994			4491		2111		1188	4
5415	28718	4321		4935		4628			6731	4	2821	10	680	
5416	BPT 5204 (Yield Check)	7407	4	3704		5556			4857		3080	6	237	
5417	28695	5152		6343	2	5748			4336		2802		564	
5418	28701	6874	10	6213	5	6544	5	12%	6711	6	3314	4	895	9
5419	28706	7531	3	6431	1	6981	1*	19%	4436		2974	7	1318	3
5420	DRR Dhan 45 (Yield & Micronutrient Check)	6964	6	4731		5848			6719	5	2816		883	10
5421	28715	4377		5731		5054			3933		2616		403	
5422	28707	7082	5	4903		5993	10		4835		3276	5	112	
5423	28691	7632	2	5875		6754	2	15%	7061	3	2425		1049	5
<b>Exp. Mean</b>		<b>6090</b>		<b>5501</b>		<b>5795</b>			<b>5363</b>		<b>2886</b>		<b>823</b>	
CD		1886.48		689.17		1018.05			638.89		820.14		531.75	
CV%		18.83		7.61		10.68			7.22		17.27		39.29	
D/S		30-09-2020		07-09-2020					15-07-2020		22-07-2020		20-07-2020	
D/P		15-10-2020		08-10-2020					10-08-2020				05-08-2020	

**Table No. 6.2 contd.: Grain Yield (Kg/ha) of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE VII										Overall (23)		
		KA			KA (2)			Zone VII (11)				Mean		
		GNV		@SRS	Mean			Mean						
5401	28698	3779		3279	3*	4082			4588				4328	
5402	28703	6410	6	2029		6410	5	9%	5256	8			4595	9
5403	28705	6282	9	1408		5639			5304	4			4843	4 6%
5404	28710	5705		1867		5705			4248				4157	
5405	28714	5192		2254		4761			4700				4567	10
5406	IR 64 (Yield Check)	5385		1908		4902			4630				4516	
5407	28719	7731	2*	3025	8	6960	3	19%	5294	5			4557	
5408	28694	6795	5	2517		6354	7	8%	5219	9			4563	
5409	28704	6330	8	2575	10	5514			4813				4424	
5410	28717	6372	7	3121	5	5811	10		5218	10			4500	
5411	Chittimutyalu (Micro Nutrient Check)	5417		2258		4571			4105				3716	
5412	28702	8567	1*	2129		7973	1*	36%	5553	3	7%		5108	1* 12%
5413	28696	5545		4029	1	6386	6	9%	4890				4693	7
5414	28713	6026		3054	7	5259			5053				4843	4 6%
5415	28718	6923	4	3800	2	6827	4	17%	5293	6			4918	3* 8%
5416	BPT 5204 (Yield Check)	6144	10	2038		5501			5023				4367	
5417	28695	5529		3067	6	4933			5285	7			4519	
5418	28701	7609	3*	2879	9	7160	2	22%	5717	1*	10%		4842	6 6%
5419	28706	5897		2471		5167			5194				4646	8
5420	DRR Dhan 45 (Yield & Micronutrient Check)	5000		1563		5860	9		5191				4558	
5421	28715	4596		2546		4265			4643				4156	
5422	28707	4458		1804		4647			4607				4216	
5423	28691	5279		3242	4	6170	8	5%	5606	2	8%		4924	2* 8%
<b>Exp. Mean</b>		<b>5955</b>		<b>2559</b>		<b>5582</b>			<b>5024</b>				<b>4540</b>	
CD		1197.64		813.51		1764.74			437.17				290.98	
CV%		12.22		19.32		19.21			5.29				3.9	
D/S		28-07-2020		09-07-2020										
D/P		21-08-2020		28-07-2020										

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**Table No. 6.3: Days to 50% flowering of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE III									ZONE V				ZONE V		
		PU		OD		OD (2)		BI		UP	Zone III (4)		MP (1)	CH (1)	MA1	MA1 (2)	Zone V (4)
		@LDN	CTK	JYP	Mean	BKG	SBR	Mean	@MSD	Mean	JBP	RPR	SKL	SND	Mean	Mean	
5401	28698		112	105	109	89	81	85	90	97	94	98	89	90	90	93	
5402	28703		110	108	109	93	89	91	92	100	100	101	91	99	95	98	
5403	28705		127	110	119	81	91	86	86	102	107	112	106	109	108	108	
5404	28710			124	124	93	85	89	83	101	101	105	101	104	103	103	
5405	28714		119	115	117	96	95	95		106	105	108	102	107	105	105	
5406	IR 64 (Yield Check)		107	124	115	84	79	82	81	98	91	92	80	88	84	88	
5407	28719	95	110	102	106	89	77	83	95	94	91	93	86	93	90	91	
5408	28694		112	101	107	89	81	85	92	96	98	98	87	91	89	94	
5409	28704	94	106	114	110	84	76	80	88	95	91	92	78	84	81	86	
5410	28717		119	109	114	94	75	85	86	99	101	104	95	102	99	101	
5411	Chittimutyalu (Micro Nutrient Check)		114	129	122	96	111	104	83	113	104	105	105	114	110	107	
5412	28702	96	119	122	121	89	86	88	82	104	97	92	85	91	88	91	
5413	28696		114	106	110	94	85	90	93	100	98	99	88	90	89	94	
5414	28713		117	101	109	94	88	91	92	100	98	99	87	91	89	94	
5415	28718	96	108	109	109	84	76	80	95	95	92	94	83	89	86	89	
5416	BPT 5204 (Yield Check)		116	103	110	102	119	111	81	110		107	105	110	107	107	
5417	28695		114	120	117	94	94	94	84	106	106	105	105	105	105	105	
5418	28701		118	115	117	93	86	90	79	103	104	99	89	95	92	97	
5419	28706		115	110	112	96	98	97	82	105	99	107	102	105	104	103	
5420	DRR Dhan 45 (Yield & Micronutrient Check)		109	113	111	118	83	100	85	106	106	101	84	95	90	97	
5421	28715		132	104	118	102	95	98	88	108	99	111	104	99	102	103	
5422	28707		125	126	126	103	93	98	84	112		104	101	107	104	104	
5423	28691	95	108	120	114	85	80	83	82	98		91	83	91	87	88	
Exp. Mean		95	115	113	114	93	88	91	87	102	99	100	93	98	95	98	

**Table No. 6.3 contd.: Days to 50% flowering of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE VI							ZONE VII							
		MA2		MA2 (2)	GU		MA (3)	GU (2)	Zone VI (4)	AP		AP (2)	TE			TE (3)
		KJT	SHR	Mean	NVS	NWG	Mean	Mean	Mean	MTU	BPT	Mean	RNR	WGL	JGL	Mean
5401	28698	84	80	82	88	104	86	96	89	88	86	87	102	96	94	98
5402	28703	86	89	87	89	101	91	95	91	89	93	91	100	99	105	102
5403	28705	96	90	93	100	116	100	108	100	94	83	89	112	114	102	109
5404	28710	97	88	93	91	92	98	91	92	90	96	93	102	98	101	100
5405	28714	85	95	90	101	109	97	105	97	82	90	86	114	114	112	113
5406	IR 64 (Yield Check)	83	80	82	86	92	83	89	85	82	86	84	100	95	97	97
5407	28719	84	89	87	89	92	88	90	89	85	86	86	100	100	93	98
5408	28694	98	88	93	93	99	91	96	94	89	91	90	102	101	101	101
5409	28704	82	80	81	89	93	81	91	86	84	90	87	100	91	96	96
5410	28717	98	89	94	98	106	96	102	98	86	89	88	112	107	107	108
5411	Chittimutyalu (Micro Nutrient Check)	95	91	93	92	102	101	97	95	87	97	92	104	104	110	106
5412	28702	90	86	88	90	105	88	97	93	85	88	86	101	97	99	99
5413	28696	96	88	92	93	101	90	97	94	89	93	91	100	103	98	100
5414	28713	85	90	87	91	108	88	100	93	93	96	95	104	105	106	105
5415	28718	93	82	88	85	91	87	88	88	85	92	89	97	91	92	93
5416	BPT 5204 (Yield Check)	98	83	90	98	110	99	104	97	82	96	89	110	107	108	108
5417	28695	97	93	95	95	108	100	101	98	89	92	91	105	100	105	103
5418	28701	95	82	89	90	105	90	97	93	89	89	89	107	105	106	106
5419	28706	98	89	94	98	87	99	92	93	89	96	93	103	100	102	102
5420	DRR Dhan 45 (Yield & Micronutrient Check)	91	83	87	89	104	88	96	92	88	94	91	104	99	93	99
5421	28715	97	91	94	98	119	98	108	101	95	91	93	111	114	112	112
5422	28707	95	63	79	93	110	91	101	90	93	90	92	107	105	110	107
5423	28691	84	83	84	85	88	85	87	85	85	85	85	104	90	95	96
Exp. Mean		92	86	89	92	101	92	97	93	88	91	89	105	101	102	103

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**Table No. 6.3 contd.: Days to 50% flowering of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE VII													Overall (23)
		TN		TN (2)		KE		KE (2)		KA			KA (2)	Zone VII (11)	
		ADT	CBT	Mean	MNC	PTB	Mean	MND	@MGD	@BRM	GNV	@SRS	Mean	Mean	
5401	28698	90	85	88	77	94	86	114	93	84	92	100	103	93	93
5402	28703	104	96	100	85	95	90		104	88	99	107	99	97	96
5403	28705	116	103	110	93	94	94	106	111	104	114	119	110	103	103
5404	28710	115	89	102	83	95	89		101	99	91	110	91	96	97
5405	28714	119	99	109	89	95	92	106	111	99	105	110	106	102	103
5406	IR 64 (Yield Check)	98	81	89	73	96	84	83	91	83	84	92	84	89	90
5407	28719	101	82	92	78	96	87	87	91	85	91	94	89	91	91
5408	28694	94	84	89	78	95	87	91	94	88	90	103	91	92	94
5409	28704	97	82	90	75	95	85	96	92	84	85	93	90	90	90
5410	28717	120	95	107	86	94	90	108	105	102	105	111	107	101	100
5411	Chittimutyalu (Micro Nutrient Check)	94	81	88	78	96	87	95	99	88	91	105	93	94	100
5412	28702	97	88	93	75	94	85	95	93	87	92	99	94	92	94
5413	28696	97	85	91	85	94	90	93	97	94	92	100	93	94	95
5414	28713	94	83	89	77	95	86	88	93	87	92	99	90	94	95
5415	28718	94	82	88	78	95	86	90	92	85	87	94	89	89	90
5416	BPT 5204 (Yield Check)	115	100	107	92	95	93	107	106	83	107	112	107	102	103
5417	28695	103	93	98	93	94	94	104	106	100	100	110	102	98	101
5418	28701	97	89	93	83	97	90	98	106	95	98	107	98	96	97
5419	28706	115	96	106	87	95	91	108	107	96	98	110	103	99	100
5420	DRR Dhan 45 (Yield & Micronutrient Check)	95	84	89	78	95	86	97	97	93	95	116	96	93	95
5421	28715	119	97	108	93	95	94	113	115	96	110	100	111	105	104
5422	28707	102	95	99	94	95	95	108	104	95	89	116	98	99	100
5423	28691	93	84	89	78	94	86	103	92	84	93	95	98	91	91
Exp. Mean		103	89	96	83	95	89	99	100	91	96	104	97	96	97

**Table No. 6.4: Plant Height (cm) of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE III								ZONE V				
		PU		OD		OD (2)		BI		UP	Zone III (4)		MA1	
		@LDN	CTK	JYP	Mean	BKG	SBR	Mean	@MSD	Mean	JBP	RPR	SKL	SND
5401	28698		97.11	82.93	90.02	122.67	108.33	115.50	109.00	102.76	80.20	113.35	123.00	125.80
5402	28703		100.78	84.13	92.46	92.33	91.81	92.07	89.00	92.26	66.00	104.73	103.00	104.00
5403	28705		92.78	85.00	88.89	84.00	95.74	89.87	92.00	89.38	54.60	88.71	98.00	105.20
5404	28710			81.33	81.33	75.67	82.04	78.85	96.00	79.68	53.20	86.25	99.00	97.30
5405	28714		86.44	58.67	72.56	84.33	83.96	84.15		78.35	79.40	88.98	85.00	92.00
5406	IR 64 (Yield Check)		88.67	82.13	85.40	97.33	115.00	106.17	115.00	95.78	73.50	113.09	107.00	118.20
5407	28719	81.00	97.67	84.60	91.13	104.67	95.26	99.96	117.00	95.55	76.70	108.26	103.00	123.20
5408	28694		95.44	86.20	90.82	103.00	106.30	104.65	101.00	97.74	78.60	123.95	114.00	123.30
5409	28704	85.33	94.00	91.53	92.77	87.00	90.37	88.69	89.00	90.73	73.50	107.57	100.00	111.50
5410	28717		108.33	86.07	97.20	106.00	114.00	110.00	92.00	103.60	82.30	119.02	102.00	116.20
5411	Chittimutyalu (Micro Nutrient Check)		84.33	90.60	87.47	92.00	82.56	87.28	93.00	87.37	73.40	186.32	129.00	104.80
5412	28702	101.67	105.00	86.43	95.72	111.33	119.70	115.52	98.00	105.62	97.10	136.19	119.00	128.50
5413	28696		104.67	93.20	98.93	110.33	116.85	113.59	84.00	106.26	92.20	127.14	110.00	137.90
5414	28713		90.33	91.93	91.13	107.67	97.37	102.52	106.00	96.83	80.10	104.60	99.00	116.20
5415	28718	86.00	96.33	91.27	93.80	104.67	105.67	105.17	109.00	99.48	76.90	91.04	95.00	111.60
5416	BPT 5204 (Yield Check)		89.67	80.87	85.27	77.67	90.30	83.98	115.00	84.62		86.00	100.00	98.90
5417	28695		91.78	85.67	88.72	83.33	89.74	86.54	121.00	87.63	59.20	89.55	100.00	94.20
5418	28701		91.00	75.53	83.27	111.33	107.30	109.31	89.00	96.29	79.30	86.65	103.00	118.40
5419	28706		85.00	105.00	95.00	83.67	85.44	84.56	92.00	89.78	55.50	76.83	90.00	94.70
5420	DRR Dhan 45 (Yield & Micronutrient Check)		103.67	83.33	93.50	107.00	104.30	105.65	93.00	99.57	92.50	94.70	105.00	120.00
5421	28715		94.56	92.07	93.31	86.33	85.67	86.00	96.00	89.66	55.00	69.80	91.00	117.20
5422	28707		96.22	82.73	89.48	112.67	110.59	111.63	103.00	100.55		102.07	123.00	129.00
5423	28691	80.00	99.44	88.47	93.96	98.33	89.00	93.67	107.00	93.81		91.28	105.00	118.30
Exp. Mean		86.80	95.15	85.64	90.09	97.54	98.58	98.06	100.27	94.06	73.96	104.18	104.48	113.32

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**Table No. 6.4: Plant Height (cm) of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE V				ZONE VI						ZONE VII		
		MA1 (2)	Zone V (4)	MA2		MA2 (2)	MA (3)	GU		GU (2)	Zone VI (4)	AP		AP (2)
		Mean	Mean	KJT	SHR	Mean	Mean	NVS	NWG	Mean	Mean	MTU	BPT	Mean
5401	28698	124.40	110.59	118.13	119.20	118.67	121.53	126.30	121.40	123.85	121.26	133.60	95.00	114.30
5402	28703	103.50	94.43	108.73	108.10	108.42	105.96	100.20	97.20	98.70	103.56	104.07	110.00	107.03
5403	28705	101.60	86.63	111.93	111.90	111.92	106.76	100.40	87.00	93.70	102.81	114.33	106.00	110.17
5404	28710	98.15	83.94	103.87	99.70	101.78	99.97	83.50	95.20	89.35	95.57	87.60	82.00	84.80
5405	28714	88.50	86.35	130.40	96.50	113.45	100.98	81.20	92.80	87.00	100.23	94.03	97.00	95.52
5406	IR 64 (Yield Check)	112.60	102.95	106.73	109.90	108.32	110.46	107.90	106.60	107.25	107.78	113.87	103.00	108.43
5407	28719	113.10	102.79	130.73	117.10	123.92	118.51	117.70	99.60	108.65	116.28	114.60	94.00	104.30
5408	28694	118.65	109.96	106.60	121.30	113.95	116.30	112.50	113.20	112.85	113.40	124.13	107.00	115.57
5409	28704	105.75	98.14	115.00	104.20	109.60	107.68	104.10	97.40	100.75	105.18	103.67	87.00	95.33
5410	28717	109.10	104.88	148.67	123.90	136.28	122.69	106.70	118.20	112.45	124.37	143.33	135.00	139.17
5411	Chittimutyalu (Micro Nutrient Check)	116.90	123.38	108.67	113.70	111.18	114.04	92.50	96.80	94.65	102.92	101.60	93.00	97.30
5412	28702	123.75	120.20	138.80	128.80	133.80	128.78	128.30	117.00	122.65	128.23	130.40	97.00	113.70
5413	28696	123.95	116.81	127.33	135.20	131.27	127.61	140.10	121.80	130.95	131.11	115.27	204.00	159.63
5414	28713	107.60	99.98	112.40	109.20	110.80	109.20	106.20	101.20	103.70	107.25	141.80	97.00	119.40
5415	28718	103.30	93.64	113.27	109.10	111.18	107.24	104.00	96.40	100.20	105.69	113.20	95.00	104.10
5416	BPT 5204 (Yield Check)	99.45	94.97	105.40	105.80	105.60	102.53	95.40	91.40	93.40	99.50	141.47	100.00	120.73
5417	28695	97.10	85.74	98.53	104.00	101.27	99.18	96.30	92.00	94.15	97.71	102.10	97.80	99.95
5418	28701	110.70	96.84	136.27	125.30	130.78	120.74	130.70	116.20	123.45	127.12	125.67	117.00	121.33
5419	28706	92.35	79.26	104.07	93.90	98.98	95.67	82.80	72.40	77.60	88.29	115.93	90.00	102.97
5420	DRR Dhan 45 (Yield & Micronutrient Check)	112.50	103.05	130.87	116.50	123.68	118.09	112.30	93.00	102.65	113.17	137.27	95.00	116.13
5421	28715	104.10	83.25	98.40	100.40	99.40	101.75	82.50	81.40	81.95	90.68	108.67	104.00	106.33
5422	28707	126.00	118.02	138.67	132.50	135.58	130.79	130.10	105.20	117.65	126.62	137.73	132.00	134.87
5423	28691	111.65	104.86	118.67	113.90	116.28	113.97	126.30	107.40	116.85	116.57	137.20	85.00	111.10
Exp. Mean		108.90	100.03	117.92	113.05	115.48	112.19	107.30	100.90	104.10	109.79	119.20	105.34	112.27

**Table No. 6.4: Plant Height (cm) of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE VII														Overall (23)			
		TE		TE (3)	TN		TN (2)	KE		KE (2)	KA				KA (2)		Zone VII (11)		
		RNR	WGL	JGL	Mean	ADT	CBT	Mean	MNC	PTB	Mean	MND	@MGD	@BRM	GNV		@SRS	Mean	Mean
5401	28698	119.53	135.40	100.50	118.48	95.00	90.65	92.83	123.93	92.73	108.33	88.13	103.00	72.50	100.00	103.00	94.07	106.77	109.26
5402	28703	103.07	105.27	104.00	104.11	102.80	89.67	96.23	105.60	98.80	102.20	.	74.90	70.00	95.00	87.00	95.00	101.83	99.06
5403	28705	98.87	97.33	99.20	98.47	91.20	95.26	93.23	106.47	87.40	96.93	84.00	75.40	76.00	93.50	81.00	88.75	97.60	95.17
5404	28710	93.93	95.20	86.70	91.94	74.00	71.40	72.70	93.93	93.13	93.53	.	81.80	64.00	79.00	67.00	79.00	85.69	86.38
5405	28714	95.40	84.53	84.00	87.98	86.20	80.14	83.17	102.33	98.40	100.37	88.40	63.70	65.00	82.50	75.50	85.45	90.27	89.24
5406	IR 64 (Yield Check)	106.67	120.40	113.70	113.59	91.20	93.85	92.52	97.53	98.07	97.80	86.87	102.80	66.00	111.00	88.00	98.93	103.29	102.70
5407	28719	105.33	124.67	105.10	111.70	112.00	85.43	98.72	101.80	92.80	97.30	84.80	93.10	77.00	108.00	91.50	96.40	102.59	103.78
5408	28694	110.47	126.87	120.00	119.11	111.80	108.53	110.17	105.93	101.47	103.70	93.33	103.20	77.50	105.00	95.50	99.17	110.41	108.65
5409	28704	106.33	116.07	108.30	110.23	90.80	80.00	85.40	97.60	86.60	92.10	83.93	72.20	67.00	99.00	90.50	91.47	96.30	97.19
5410	28717	125.47	123.53	129.55	126.18	117.20	115.79	116.49	120.67	99.27	109.97	90.87	87.80	81.00	128.00	103.50	109.43	120.79	115.65
5411	Chittimutyalu (Micro Nutrient Check)	107.07	110.60	90.00	102.56	78.20	75.03	76.62	102.00	94.40	98.20	91.53	69.90	87.00	96.00	87.50	93.77	94.49	99.74
5412	28702	124.67	126.67	119.30	123.54	111.20	102.05	106.63	122.40	90.93	106.67	86.27	112.40	82.50	120.50	106.00	103.38	111.94	115.11
5413	28696	121.93	130.20	119.90	124.01	115.00	101.69	108.34	131.27	95.40	113.33	95.53	105.20	89.00	105.50	109.00	100.52	121.43	119.67
5414	28713	99.93	114.87	102.00	105.60	94.80	83.10	88.95	112.00	90.27	101.13	87.60	76.80	73.00	91.50	88.00	89.55	101.35	101.35
5415	28718	105.67	110.27	113.70	109.88	95.60	85.40	90.50	92.60	92.60	92.60	83.60	95.90	58.00	104.50	94.00	94.05	99.28	99.45
5416	BPT 5204 (Yield Check)	96.67	108.87	83.90	96.48	95.20	86.43	90.82	101.80	92.60	97.20	90.87	73.80	67.50	80.00	74.50	85.43	97.98	95.42
5417	28695	98.33	104.87	92.40	98.53	85.80	82.27	84.03	89.97	93.40	91.68	88.60	71.90	59.00	84.00	74.50	86.30	92.68	91.47
5418	28701	119.87	121.60	120.60	120.69	126.20	120.93	123.57	120.00	88.73	104.37	88.67	89.60	73.50	115.50	106.00	102.08	114.98	110.68
5419	28706	92.20	105.87	90.60	96.22	85.00	74.02	79.51	102.87	84.33	93.60	87.27	71.40	60.00	87.00	73.00	87.13	92.28	88.89
5420	DRR Dhan 45 (Yield & Micronutrient Check)	106.60	116.20	118.10	113.63	115.20	112.60	113.90	113.03	82.53	97.78	89.67	93.00	74.00	102.50	69.00	96.08	108.06	106.60
5421	28715	95.73	94.40	92.70	94.28	80.20	78.80	79.50	95.20	95.93	95.57	84.33	62.50	71.50	99.50	102.00	91.92	93.59	90.60
5422	28707	129.07	124.67	111.20	121.64	120.20	119.90	120.05	128.40	98.33	113.37	81.40	99.20	78.00	107.50	106.00	94.45	117.31	116.05
5423	28691	97.07	109.47	106.50	104.34	92.20	80.37	86.28	108.07	91.27	99.67	84.07	86.80	69.00	103.00	94.00	93.53	99.47	102.29
Exp. Mean		106.95	113.38	104.87	108.40	98.57	91.88	95.22	107.63	93.02	100.32	87.61	85.49	72.09	99.91	89.83	93.73	102.63	101.93

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**Table No. 6.5: Panicles/M<sup>2</sup> of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE III								ZONE V						
		PU	OD		OD (2)	BI		UP	Zone 3 (4)	MP (1)	MA1		MA1 (2)	Zone V (3)		
		@LDN	CTK	JYP	Mean	BKG	SBR	Mean	@MSD	Mean	JBP	SKL	SND	Mean	Mean	
5401	28698		246	308	277	288	204	246	296	209	246	129	204	166	193	
5402	28703		253	284	268	272	227	249	293	207	214	276	222	249	237	
5403	28705		276	329	302	275	234	255	191	223	275	285	248	267	269	
5404	28710			290	290	298	226	262	212	204	351	286	313	299	316	
5405	28714		297	322	309	272	253	262		229	238	164	241	203	214	
5406	IR 64 (Yield Check)		234	316	275	323	200	261	240	214	252	253	289	271	265	
5407	28719	345	318	326	322	255	186	220	269	217	252	234	212	223	233	
5408	28694		303	329	316	299	185	242	286	223	246	173	225	199	215	
5409	28704	321	329	347	338	259	231	245	312	233	242	136	312	224	230	
5410	28717		315	339	327	276	196	236	268	225	274	158	181	169	204	
5411	Chittimutyalu (Micro Nutrient Check)		261	364	313	276	292	284	177	239	271	177	239	208	229	
5412	28702	290	370	297	334	263	196	230	308	225	257	112	334	223	234	
5413	28696		239	288	264	297	249	273	268	215	268	123	244	184	212	
5414	28713		247	346	296	264	166	215	290	205	243	183	290	237	239	
5415	28718	312	317	335	286	242	175	208	277	214	253	152	338	245	248	
5416	BPT 5204 (Yield Check)		286	293	290	227	258	243	288	213		154	201	178	178	
5417	28695		230	288	259	267	204	236	287	198	283	102	273	187	219	
5418	28701		308	329	318	347	173	260	263	231	251	105	233	169	196	
5419	28706		319	361	340	244	254	249	314	236	287	132	314	223	244	
5420	DRR Dhan 45 (Yield & Micronutrient Check)		259	306	283	256	232	244	246	211	242	110	198	154	183	
5421	28715		271	316	294	283	305	294	260	235	306	170	303	236	259	
5422	28707		266	279	273	315	235	275	310	219		181	222	202	202	
5423	28691	356	232	314	273	275	147	211	279	194		185	242	213	213	
Exp. Mean			325	281	318	299	277	219	248	270		263	173	255	214	228

**Table No. 6.5 contd.: Panicles/M<sup>2</sup> of entries in AVT 1 – Biofort, Kharif 2020**

Entry No.	IET NO	ZONE VI							ZONE VII								
		MA2		MA2 (2)	MA (3)	GU		GU (2)	Zone VI (4)	AP		AP (2)	TE			TE (3)	
		KJT	SHR	Mean	Mean	NVS	NWG	Mean	Mean	MTU	BPT	Mean	RNR	WGL	JGL	Mean	
5401	28698	189	152	171	168	231	285	258	214	304	255	280	513	392	356	420	
5402	28703	201	171	186	218	216	295	256	221	322	226	274	507	433	343	428	
5403	28705	244	150	197	232	236	302	269	233	283	279	281	450	449	420	440	
5404	28710	169	182	176	237	209	281	245	210	296	280	288	533	418	372	441	
5405	28714	185	189	187	195	249	292	270	228	336	244	290	521	422	356	433	
5406	IR 64 (Yield Check)	167	147	157	214	236	287	261	209	295	240	268	566	441	387	465	
5407	28719	222	158	190	207	229	282	256	223	292	213	253	551	418	356	442	
5408	28694	199	168	184	191	217	286	252	218	353	233	293	462	451	354	422	
5409	28704	180	169	175	200	226	287	256	216	276	264	270	551	437	383	457	
5410	28717	242	158	200	185	249	286	268	234	366	253	309	667	442	334	481	
5411	Chittimutyalu (Micro Nutrient Check)	223	151	187	198	249	275	262	225	304	238	271	711	453	354	506	
5412	28702	161	159	160	191	218	282	250	205	290	269	279	516	438	341	431	
5413	28696	209	209	209	196	252	279	266	237	307	232	270	459	437	378	425	
5414	28713	238	151	194	215	242	278	260	227	275	288	281	601	450	370	474	
5415	28718	169	174	172	208	222	285	254	213	293	248	271	465	436	383	428	
5416	BPT 5204 (Yield Check)	234	146	190	184	230	283	257	223	365	255	310	637	443	343	475	
5417	28695	242	166	204	196	237	276	256	230	364	245	305	708	419	392	506	
5418	28701	179	182	180	175	210	281	245	213	324	212	268	548	431	312	431	
5419	28706	183	158	170	197	252	276	264	217	309	248	278	593	441	372	468	
5420	DRR Dhan 45 (Yield & Micronutrient Check)	183	156	169	161	238	279	259	214	281	208	245	533	441	356	444	
5421	28715	205	188	196	216	216	283	250	223	306	261	284	599	413	394	468	
5422	28707	182	158	170	186	208	294	251	210	286	231	259	616	430	321	456	
5423	28691	242	149	195	204	231	276	253	224	291	262	276	557	431	334	441	
Exp. Mean			202	165	183	199	231	284	257	220	310	247	278	559	433	361	451



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**Table No. 6.5 contd.: Panicles/M<sup>2</sup> of entries in AVT 1 - Biofort Kharif 2020**

Entry No.	IET NO	ZONE VII													Overall (22) Mean	
		TN		TN (2)		KE		KE (2)		KA				KA (2)		Zone VII (11)
		ADT	CBT	Mean	MNC	PTB	Mean	MND	@MGD	@BRM	GNV	@SRS	Mean	Mean		
5401	28698	240	362	301	271	359	315	251	205	326	321	363	286	329	278	
5402	28703	285	348	317	422	354	388		209	335	404	300	404	364	299	
5403	28705	271	373	322	316	428	372	213	268	345	455	360	334	358	309	
5404	28710	269	467	368	438	487	462		237	305	368	442	368	393	327	
5405	28714	354	535	445	362	436	399	233	217	270	380	452	307	380	313	
5406	IR 64 (Yield Check)	239	403	321	176	401	288	247	215	315	444	386	345	349	297	
5407	28719	263	347	305	302	367	335	240	240	290	534	383	387	353	298	
5408	28694	339	347	343	298	355	326	256	211	260	437	327	346	353	296	
5409	28704	299	378	339	249	279	264	247	161	263	444	380	345	346	297	
5410	28717	359	375	367	353	453	403	233	236	330	421	366	327	387	315	
5411	Chittimutyalu (Micro Nutrient Check)	247	365	306	298	395	346	256	200	347	427	353	341	368	310	
5412	28702	242	410	326	260	366	313	258	232	365	414	330	336	346	293	
5413	28696	249	398	324	311	327	319	227	221	309	448	406	337	343	292	
5414	28713	286	360	323	327	371	349	247	207	282	423	380	335	363	302	
5415	28718	235	423	329	293	481	387	236	217	247	522	389	379	365	304	
5416	BPT 5204 (Yield Check)	273	398	336	406	365	385	247	247	256	360	403	303	372	305	
5417	28695	342	467	404	316	338	327	229	303	271	444	360	336	388	310	
5418	28701	337	365	351	318	438	378	242	196	317	465	376	354	363	299	
5419	28706	350	480	415	462	346	404	258	247	305	366	350	312	384	318	
5420	DRR Dhan 45 (Yield & Micronutrient Check)	318	385	352	364	365	365	227	209	335	385	406	306	351	287	
5421	28715	338	430	384	302	322	312	242	221	335	369	363	306	361	310	
5422	28707	280	370	325	347	440	393	249	283	355	372	323	310	358	299	
5423	28691	262	345	304	347	462	404	238	181	315	380	350	309	355	295	
Exp. Mean		290	397	344	328	388	358	242	224	308	417	372	335	362	302	

**Table No.6.6: Grain quality characteristics of entries in AVT 1-Biofortification, kharif 2020**

Entry No.	Designation / IET	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	VER	WU	KLAC	ER	ASV	AC	GC	Aroma
5401	28698	78.2	67.3	49.0	6.61	2.07	3.19	LS	VOC	4.8	225	9.8	1.48	4.0	24.28	46	NS
5402	28703	77.5	66.6	50.7	6.25	2.00	3.12	LS	VOC	4.1	265	9.8	1.56	4.0	19.50	63	NS
5403	28705	80.2	69.9	61.4	5.12	2.22	2.30	SB	A	5.5	235	10.7	2.08	4.0	24.37	46	NS
5404	28710	77.0	64.6	41.0	5.18	1.79	2.89	MS	VOC	4.7	295	9.2	1.77	4.0	22.88	23	NS
5405	28714	78.2	65.6	54.9	6.15	2.25	2.73	LB	VOC	4.6	270	11.9	1.93	5.0	23.61	22	NS
5406	IR64	77.8	65.6	58.0	6.63	2.02	3.28	LS	VOC	4.1	280	9.8	1.47	4.0	24.14	55	NS
5407	28719	77.8	65.4	41.5	6.50	1.94	3.35	LS	VOC	5.6	270	9.8	1.50	4.0	22.29	57	NS
5408	28694	77.4	66.2	47.1	6.16	2.26	2.27	LB	VOC	4.4	275	11.3	1.83	4.0	21.91	55	NS
5409	28704	78.8	68.4	51.3	6.41	1.97	3.25	LS	VOC	4.6	235	10.4	1.62	5.0	23.58	50	NS
5410	28717	79.2	69.3	62.5	5.34	1.96	2.72	MS	A	5.5	270	6.8	1.27	5.0	25.60	22	NS
5411	Chittimutyalu	78.8	69.6	59.4	5.18	2.25	2.30	SB	VOC	5.5	220	9.0	1.73	5.0	22.58	35	NS
5412	28702	77.6	68.0	51.9	5.26	1.90	2.76	MS	VOC	4.8	265	9.8	1.86	5.0	22.44	30	NS
5413	28696	75.4	65.7	52.5	5.58	2.05	2.72	MS	A	5	265	9.3	1.66	5.0	25.54	22	NS
5414	28713	79.2	68.0	45.6	6.12	2.23	2.74	LB	VOC	5.3	270	9.7	1.58	4.0	22.17	25	NS
5415	28718	78.3	67.1	50.0	6.22	1.97	3.15	LS	VOC	5.3	290	9.6	1.54	4.0	24.28	67	NS
5416	BPT 5204	79.7	69.4	57.1	5.17	1.85	2.79	MS	VOC	4.7	285	9.1	1.76	5.0	24.22	22	NS
5417	28695	78.9	68.7	35.6	5.06	1.86	2.72	MS	VOC	5.6	290	9.0	1.77	5.0	22.73	22	NS
5418	28701	77.0	65.7	54.3	6.26	1.93	3.24	LS	A	5.5	225	10.4	1.66	3.0	16.16	85	NS
5419	28706	77.5	67.7	47.4	4.79	1.77	2.70	MS	VOC	5.5	270	8.9	1.85	4.0	23.49	22	NS
5420	DRR Dhan 45	77.4	65.4	57.5	6.50	2.06	3.15	LS	A	4.6	270	11.1	1.70	4.0	23.84	63	NS
5421	28715	78.7	68.0	49.2	4.81	1.64	2.93	MS	A	5.5	290	8.0	1.66	5.0	23.61	22	NS
5422	28707	76.2	66.5	49.4	5.57	1.67	3.33	SS	A	4.5	265	8.4	1.50	5.0	23.11	33	NS
5423	28691	77.4	65.7	40.4	6.36	1.98	3.21	LS	VOC	4.1	275	9.6	1.50	4.0	23.73	54	NS
5424		7.8	68.6	41.8	4.58	1.88	2.43	SB	A	4.7	235	8.7	1.89	7.0	26.28	22	SS

HULL: Hulling (%); MILLING (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; KLAC: Kernel Length after cooking; WU: Water uptake; VER: Volume expansion ratio; ER: Elongation ratio; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB: Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

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Table No. 6.7: Iron content in ppm for polished rice samples of entries in AVT 1-Biofortification analyzed at IIRR, Hyderabad Kharif 2020

Entry No.	IET No.	SBR	CTK	JYP	CHN	Z-3 Mean	RPR	JBP	SKL	Z-5 Mean	KJT	SHR	NVS	Z-6 Mean
5401	28698	1.6	1.3	2.15	1.9	<b>1.74</b>	1.85	1.1	1.95	<b>1.63</b>	2.6		1.55	<b>2.08</b>
5402	28703	2.35	1.8	2.15	1.7	<b>2.00</b>	2.1	1.4	3.65	<b>2.38</b>	2.7	3.45	2.4	<b>2.85</b>
5403	28705	1.75	2.3	2.8	1.9	<b>2.19</b>	1.95	1.85	2.35	<b>2.05</b>	1.9	1.1	2.1	<b>1.70</b>
5404	28710	2.8		1.9	1.9	<b>2.20</b>	1.9	2.55	2.15	<b>2.20</b>	5.2	2.45	2.25	<b>3.30</b>
5405	28714	1.05	1.1	2.8	1.4	<b>1.59</b>	1.1	1.45	1.7	<b>1.42</b>	2.7	1.5	1.35	<b>1.85</b>
5406	<b>IR 64 (Yield Check)</b>	1.6	1.3	1.55	1.8	<b>1.56</b>	1.45	1.1	2.7	<b>1.75</b>	2.4	1.75	1.15	<b>1.77</b>
5407	28719	1.55	1.8	2.95	1.8	<b>2.03</b>	2.05	1.55	1.85	<b>1.82</b>	3.3	1.9	1.65	<b>2.28</b>
5408	28694	2.15	1.5	2.35	1.4	<b>1.85</b>	1.65	1.8	2.85	<b>2.10</b>	3.1		2	<b>2.55</b>
5409	28704	2	1.9	2.1	2	<b>2.00</b>	1.7	1.6	3.55	<b>2.28</b>	3.1	1.75	1.35	<b>2.07</b>
5410	28717	1.65	0.9	3	1.1	<b>1.66</b>	2	1.4	2.2	<b>1.87</b>	3.1	1.85	2.8	<b>2.58</b>
5411	<b>Chittimutyalu (Micro Nutrient Check)</b>	2.25	2.5	1.8	1.5	<b>2.01</b>	2.4	2.35	1.95	<b>2.23</b>	3.1	2.9	2.65	<b>2.88</b>
5412	28702	1.5	2.5	2.45	2.4	<b>2.21</b>	1.5	1.5	2.2	<b>1.73</b>	2.8	2.1	1.25	<b>2.05</b>
5413	28696	1.6	1.6	2.45	1.9	<b>1.89</b>	1.4	1.1	1.6	<b>1.37</b>	1.9	1.45	1.35	<b>1.57</b>
5414	28713	1.95	4.1	2.35	1.9	<b>2.58</b>	1.4	1.25	2.4	<b>1.68</b>	3.7	2.1	1.5	<b>2.43</b>
5415	28718	1.6	1.9	2.45	1.7	<b>1.91</b>	1.4	1	2.8	<b>1.73</b>	3.2		1.2	<b>2.20</b>
5416	<b>BPT 5204 (Yield Check)</b>	2.15	2.6	1.95	2.1	<b>2.20</b>	1.8		2.15	<b>1.98</b>	2.8	2	1.95	<b>2.25</b>
5417	28695	2.3	2	3	2.8	<b>2.53</b>	1.8	3	2.9	<b>2.57</b>	3.8	2	2.3	<b>2.70</b>
5418	28701	1.55	1.4	2.6	1.6	<b>1.79</b>	1.2	1.9	2.1	<b>1.73</b>	2.8	1.6	1.75	<b>2.05</b>
5419	28706	1.8	1.7	1.65	2.2	<b>1.84</b>	2.5	2.45	2.35	<b>2.43</b>	3.3	2.6		<b>2.95</b>
5420	<b>DRR Dhan 45 (Yield &amp; Micronutrient Check)</b>	1.8	2.2	3.05	1.3	<b>2.09</b>	2.1	2	2.3	<b>2.13</b>	3.9	1.85	1.75	<b>2.50</b>
5421	28715	2.4	2.2	2.05	2.1	<b>2.19</b>	2.3	3.6	2.6	<b>2.83</b>	3.9		2.45	<b>3.18</b>
5422	28707	1.1	2.3	3.35	2.8	<b>2.39</b>	1.75		2	<b>1.88</b>	2.1	2	1.8	<b>1.97</b>
5423	28691	1.5	1.2	2.15	2.2	<b>1.76</b>	1.7		2.5	<b>2.10</b>	2.5	2.1	1.1	<b>1.90</b>
	<b>Mean</b>	<b>1.83</b>	<b>1.91</b>	<b>2.39</b>	<b>1.89</b>	<b>2.01</b>	<b>1.78</b>	<b>1.80</b>	<b>2.38</b>	<b>2.00</b>	<b>3.04</b>	<b>2.02</b>	<b>1.80</b>	<b>2.33</b>

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Table No. 6.7 contd.: Iron content in ppm for polished rice samples of entries in AVT 1-Biofortification analyzed at IIRR, Hyderabad Kharif 2020

Entry No.	ET No.	MTU	BPT	RNR	WGL	CBT	MNC	PTB	MND	BRM	MGD	GNV	Z-7 Mean	Overall Mean
5401	28698	2.25	2.45	1.3	1.6	1.55	1.5	2.3	1.3	2	2.7	1.75	1.88	1.84
5402	28703	3.05	3.05	2.05	2.6	2.45	2.7	4.5		3.7	2.95	1.95	2.90	2.64
5403	28705	1.9	2.1	1.4	1.75	2.5	1.45	2.9	2.15	2.4	2.2	1.7	2.04	2.02
5404	28710	2.05	2.5	1.7	3.45	2.1	2.05	4.55		2.5	4.25	1.2	2.64	2.60
5405	28714	1.15	2	0.95	1.95	1.25	1.4	2.2	1.2	2	2.15	0.95	1.56	1.59
5406	<b>IR 64 (Yield Check)</b>	1.45	1.8	1.35	1.75	1.95	1.5	3.05	1.65	2.6	1.9	1.25	1.84	1.76
5407	28719	1.55	1.8	1.3	2.8	1.55	1.8	2.05	1.7	2.2	1.95	1.1	1.80	1.91
5408	28694	2.3	2.05	1.2	1.9	1.4	1.75	2.8	1.9	3.9	2.1	4.65	2.36	2.24
5409	28704	1.9	2.4	1.05	1.9	1.7	1.7	2.55	2.85	4.7	2.7	1.75	2.29	2.20
5410	28717	1.9	2.1	1.6	1.25	1.9	1.45	2	1.3	2.3	1.95	1.2	1.72	1.85
5411	<b>Chittimutyalu (Micro Nutrient Check)</b>	2.6	2.5	2.2	1.95	1.85	2.35	3.9	1.85	2.3	3.5	1.75	2.43	2.39
5412	28702	2.1	1.55	1.55	2.3	2	1.65	2.7	1.8	1.5	2.25	1.3	1.88	1.95
5413	28696	1.35	1.95	1.15	1.75	1.2	1.7	2.5	1.4	1.7	2	1.45	1.65	1.64
5414	28713	1.6	1.65	1.4	1.7	2	1.65	3.2	1.75	1.9	2.2	1.4	1.86	2.05
5415	28718	1.3	1.65	0.95	1.5	1.35	2.2	2.75	1.3	2.9	1.85	1.15	1.72	1.81
5416	<b>BPT 5204 (Yield Check)</b>	2.1	2.35	1.25	1.8	2.1	2.65	2.45	1.6	2.1	3	2	2.13	2.15
5417	28695	1.95	3.1	2.25	2.8	2.95	1.55	3.55	2.35		3.05	1.85	2.54	2.57
5418	28701	1.85	1.85	1.25	2	1.35	1.35	2.45	1.7	2.2	1.7	1.45	1.74	1.79
5419	28706	2.4	2.65	2.4	1.85	2.45	1.65	2.7	2.15	2.2	3.4	1.8	2.33	2.31
5420	<b>DRR Dhan 45 (Yield &amp; Micronutrient Check)</b>	2.3	2.1	1.35	1.9	1.3	2.15	3	1.5	3	2.4	1.55	2.05	2.13
5421	28715	2.35	2.6	2.05	1.95	3.3	1.8	2.85	2.15	2.7	3.2	1.6	2.41	2.51
5422	28707	1.9	2.05	1.6	2.7	1.35	1.15	2.75	1.95	1.8	1.9	1.5	1.88	1.99
5423	28691	1.65	1.9	1.5	1.65	1.75	1.8	2.95	1.7	3	2.1	1.45	1.95	1.92
	<b>Mean</b>	<b>1.95</b>	<b>2.18</b>	<b>1.51</b>	<b>2.03</b>	<b>1.88</b>	<b>1.78</b>	<b>2.90</b>	<b>1.77</b>	<b>2.53</b>	<b>2.50</b>	<b>1.64</b>	<b>2.07</b>	<b>2.08</b>

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Table No. 6.8: Zinc content in ppm for polished rice samples of entries in AVT 1-Biofortification analyzed at IIRR, Hyderabad Kharif 2020

Entry No.	IET No.	SBR	CTK	JYP	CHN	Z-3 Mean	RPR	JBP	SKL	Z-5 Mean	KJT	SHR	NVS	Z-6 Mean
5401	28698	13.6	12.1	12.85	14.8	<b>13.34</b>	13.6	7.2	17.95	<b>12.92</b>	22.7		11.3	<b>17.00</b>
5402	28703	17.8	15	11.2	14.2	<b>14.55</b>	15.8	11.35	21	<b>16.05</b>	28.8	27.45	15.5	<b>23.92</b>
5403	28705	14	15.9	17.2	8.9	<b>14.00</b>	10.6	6.6	15.9	<b>11.03</b>	15.2	17.1	9.8	<b>14.03</b>
5404	28710	13.1		15.7	12	<b>13.60</b>	12.15	11.9	19.75	<b>14.60</b>	18.4	21.9	12.75	<b>17.68</b>
5405	28714	11.8	10.6	13.3	8.7	<b>11.10</b>	10.25	9.8	15.9	<b>11.98</b>	25.2	21.55	11.25	<b>19.33</b>
5406	<b>IR 64 (Yield Check)</b>	15.85	8.4	13.3	12.3	<b>12.46</b>	12.95	8.9	15.3	<b>12.38</b>	19.2	20.15	11.9	<b>17.08</b>
5407	28719	13.55	9.9	15.05	13.5	<b>13.00</b>	12.05	9.05	11	<b>10.70</b>	14.2	15.4	9.8	<b>13.13</b>
5408	28694	19.9	13.4	12.65	13.3	<b>14.81</b>	16.3	11.9	22	<b>16.73</b>	25.6		14.2	<b>19.90</b>
5409	28704	14.15	12.6	16.25	5.9	<b>12.23</b>	15.9	11	19.05	<b>15.32</b>	21.4	22.75	14.6	<b>19.58</b>
5410	28717	12.75	9.2	15.95	8.6	<b>11.63</b>	13.85	8.15	14.9	<b>12.30</b>	16.6	18.25	11.2	<b>15.35</b>
5411	<b>Chittimutyalu (Micro Nutrient Check)</b>	20.15	14.3	12.15	13.2	<b>14.95</b>	15.5	15.3	16.55	<b>15.78</b>	18.7	25	16.25	<b>19.98</b>
5412	28702	16.15	13.7	13	11.8	<b>13.66</b>	13.35	10.2	14.3	<b>12.62</b>	16.4	16.9	12.2	<b>15.17</b>
5413	28696	15.05	10.4	13.05	11.4	<b>12.48</b>	15.5	10.65	15.5	<b>13.88</b>	15.6	21.2	11.2	<b>16.00</b>
5414	28713	16.05	14.7	12.95	13.3	<b>14.25</b>	13.55	11.5	18.35	<b>14.47</b>	18.9	20.5	16.55	<b>18.65</b>
5415	28718	13	12.1	13.8	15.1	<b>13.50</b>	10.7	6.95	13.6	<b>10.42</b>	15		10.7	<b>12.85</b>
5416	<b>BPT 5204 (Yield Check)</b>	15.35	11.7	11	12	<b>12.51</b>	14.15		14.6	<b>14.38</b>	15	19.8	12.5	<b>15.77</b>
5417	28695	13.2	14.5	13.45	12.9	<b>13.51</b>	14.4	14.35	19.2	<b>15.98</b>	16.9	20.15	12.2	<b>16.42</b>
5418	28701	15.15	14.3	16.25	12.5	<b>14.55</b>	11.45	10.55	19.05	<b>13.68</b>	24.3	21.25	13.9	<b>19.82</b>
5419	28706	14.3	14.1	8.9	12.2	<b>12.38</b>	13.7	13.1	15.4	<b>14.07</b>	17	18.05		<b>17.53</b>
5420	<b>DRR Dhan 45 (Yield &amp; Micronutrient Check)</b>	17.8	12.4	11.15	12.6	<b>13.49</b>	13.25	8.85	18.6	<b>13.57</b>	17.4	19.5	9.05	<b>15.32</b>
5421	28715	13.4	14	12.55	11.8	<b>12.94</b>	12.45	11.9	15.95	<b>13.43</b>	15		12.5	<b>13.75</b>
5422	28707	12.45	12	14.75	9.9	<b>12.28</b>	11		12.65	<b>11.83</b>	17.3	17.45	9.95	<b>14.90</b>
5423	28691	14.3	11.6	12.45	13.7	<b>13.01</b>	12.8		13.7	<b>13.25</b>	14.9	15.1	10.15	<b>13.38</b>
	<b>Mean</b>	<b>14.91</b>	<b>12.59</b>	<b>13.43</b>	<b>11.94</b>	<b>13.23</b>	<b>13.27</b>	<b>10.46</b>	<b>16.53</b>	<b>13.54</b>	<b>18.68</b>	<b>19.97</b>	<b>12.25</b>	<b>16.81</b>

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Table No. 6.8 contd.: Zinc content in ppm for polished rice samples of entries in AVT 1-Biofortification analyzed at IIRR, Hyderabad Kharif 2020

Entry No.	ET No.	MTU	BPT	RNR	WGL	CBT	MNC	PTB	MND	BRM	MGD	GNV	Z-7 Mean	Overall Mean
5401	28698	17.9	6.65	9.4	10.4	12.45	18.1	22.05	9.8	24.5	16.7	10.4	14.40	14.22
5402	28703	21.5	10.05	8.6	11.9	20.95	20.6	26.95		33.2	20.75	11.85	18.64	18.22
5403	28705	16.5	5.5	6.75	11.7	22.05	16.55	20.1	10.1	24.2	14.4	9.05	14.26	13.72
5404	28710	13.35	8.95	8.35	17.7	16.2	20.05	27.9		26.2	22.8	9.55	17.11	16.25
5405	28714	13.85	8.15	10.55	15.35	22.4	15.6	19.7	11.05	21.7	15.65	10.2	14.93	14.41
5406	<b>IR 64 (Yield Check)</b>	15.1	6.2	7.2	9.55	15.05	19.25	21.7	10.65	27	21.6	8.8	14.74	14.30
5407	28719	13.35	5.05	9.9	9.5	15.05	15.7	21.25	9.3	26.5	15.8	8.15	13.60	13.00
5408	28694	20.05	7.2	9.9	11.3	11.65	23.8	21.6	11.95	35	22	10.9	16.85	16.73
5409	28704	18.85	5.8	8.95	12	18.75	21.8	23.65	13.4	21.1	22.65	12.15	16.28	15.84
5410	28717	13.5	6.05	8.35	12.5	18.1	15.15	19.65	11.05	29.2	14.9	8.8	14.30	13.65
5411	<b>Chittimutyalu (Micro Nutrient Check)</b>	17.8	6.35	13.25	12.15	12.9	23.85	27.1	13.7	28.4	19.6	10.05	16.83	16.77
5412	28702	16.7	6.45	8.75	15.45	9.35	18.75	22.35	8.05	23.8	20.05	9.55	14.48	14.15
5413	28696	17.1	8.85	7.2	11.35	14.05	17.4	19.8	12	22.1	16.65	9.75	14.20	14.09
5414	28713	11.5	6.7	13.2	13.15	15.6	20.95	32.6	14.1	25.2	17.7	11.8	16.59	16.14
5415	28718	14.2	6.15	6.7	10.5	12.55	14.95	19.65	7.45	24.1	17.75	8.45	12.95	12.67
5416	<b>BPT 5204 (Yield Check)</b>	13.9	8.8	6.35	9.95	24.2	17.7	19.85	8.85	24.4	14.25	9.2	14.31	14.18
5417	28695	13.05	8.65	10	9.8	26.15	20.95	20.8	11.65		17.25	11.2	14.95	15.04
5418	28701	17.2	9.35	10	14.45	22.5	17.3	20.65	11.6	24.9	15.35	11.55	15.90	15.88
5419	28706	16.95	5.65	8.6	9.2	18.05	18.25	20.15	10.9	22.4	15.7	10.75	14.24	14.17
5420	<b>DRR Dhan 45 (Yield &amp; Micronutrient Check)</b>	17.85	5.1	8.2	11.75	5.7	20.25	23.3	10	14.2	17.4	9.85	13.05	13.53
5421	28715	12.85	9.15	10.75	12.55	18.1	15.5	17.8	10.7	24.2	15.5	10.4	14.32	13.85
5422	28707	13.15	4.8	8.95	11.2	17.35	10.7	15.75	10	25.1	12.05	7.8	12.44	12.72
5423	28691	14.05	5.1	10.9	7.3	12.9	16.2	18.65	7.65	22.3	16.05	8.5	12.69	12.92
	<b>Mean</b>	<b>15.66</b>	<b>6.99</b>	<b>9.17</b>	<b>11.77</b>	<b>16.61</b>	<b>18.23</b>	<b>21.87</b>	<b>10.66</b>	<b>24.99</b>	<b>17.50</b>	<b>9.94</b>	<b>14.87</b>	<b>14.63</b>

**Table No. 6.9: The soil characteristics details of AICRIP centres that conducted AVT 1 and IVT-Biofortification trials during kharif 2020**

S. No.	Centre Name	Rep.	Soil Sample Details	pH Values	EC Values
1	Mandya	R1	IVT Biofortification after harvest	8.54	0.3
2	Mandya	R2	AVT Biofortification before planting	8.83	0.5
3	Mandya	R3	AVT-1- Biofortification after harvesting-R3	8.42	0.42
4	Mandya	R1	AVT-1- Biofortification after harvesting - R1	7.11	0.35
5	Mandya	R2	AVT-1- Biofortification after harvesting-R2	8.35	0.4
6	Mandya	R3	AVT-1- Biofortification before planting	8.02	0.36
7	Mandya	R1	IVT Biofortification before planting	8.94	0.47
8	Mandya	R2	IVT Biofortification after harvesting	8.28	0.6
9	Mandya	R1	AVT Biofortification before planting	6.96	0.38
10	Mandya	R2	AVT Biofortification before planting	8.51	0.45
11	Mandya		No Label	8.03	0.4
12	Raipur		AVT-1	7.27	0.33
13	Raipur		AVT-2	6.93	0.4
14	Raipur		AVT-3	6.86	0.35
15	Raipur		AVT-4	6.95	0.37
16	Gangavathi		Before planting Biofortification trial - IVT, AVT before sowing	7.81	0.46
17	Gangavathi		After harvest Biofortification trial A5 plot	7.69	0.51
18	Chinsurah		Before transplanting	6.67	0.37
19	Chinsurah		After harvesting	6.89	0.28
20	Nawagam		IVT-Bio-fortification after transplanting	7.74	0.79
21	Nawagam		AVT-Bio-fortification before transplanting	8	0.72
22	Nawagam		IVT-Bio-fortification before transplanting	8.04	0.61
23	Nawagam		AVT-Bio-fortification after transplanting	7.94	0.85
24	Sakoli		IVT- Biofortication before transplanting	6.8	0.39
25	Sakoli		IVT- Biofortication after harvesting	7.4	0.41
26	Navsari		IVT-Biofort after harvesting 0-20cm	7.88	0.81
27	Navasri		IVT-Biofort before transplanting 0-20cm	7.67	0.56
28	Navasri		AVT-1-Biofort after harvesting 0-20cm	7.75	0.92
29	Navasri		AVT-1-Biofort before transplanting 0-20cm	7.63	0.51
30	Karjat		IVT- Biofort- soil before	7.43	0.37
31	Karjat		AVT-1- Biofort- soil after	6.96	0.26
32	Karjat		AVT-1- Biofort- soil before	6.8	0.2
33	Bapatla		Collected at the time of transplanting	8.12	0.78
34	Bapatla		Collected after harvesting	7.58	0.4
35	Sakoli		AVT-1-Biofort before transplanting wt-250gms	6.79	0.55
36	Sakoli		AVT-1-Biofort after harvesting wt-250gms	7.34	0.39
37	Moncompu		AVT Biofort after trials	4.62	0.6
38	Moncompu		IVT Biofort after trials	4.4	0.67

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S. No.	Centre Name	Rep.	Soil Sample Details	pH Values	EC Values
39	Brahmavar		AVT-1-Biofort	4.98	0.3
40	Brahmavar		No label	4.7	1.1
41	Brahmavar		No label	5.43	0.24
42	Rajendranagar		H 10 -R2 P07	7.63	1.06
43	Rajendranagar		H10 - R2 PE6	7.7	1.02
44	Mugad	R1	After harvest AVT-1- Biofort soil	7.32	0.59
45	Mugad	R2	Before sowing AVT-1- Biofort soil	6.79	0.43
46	Maruteru		Before transplanting AVT-1-Biofort A2	6.8	0.51
47	Maruteru		Before transplanting IVT-Biofort M1	6.22	0.42
48	Maruteru		After harvest AVT-Biofort A2	6.55	0.7
49	Maruteru		After harvest IVT-Biofort M1	6.79	52
50	Pattambi		Initial varieties trial after planting	5.39	0.17
51	Pattambi		Advanced varieties trial before planting	5.36	0.4
52	Pattambi		Advanced varieties trial after planting	5.33	0.41
53	Pattambi		Initial varieties trial before planting	4.9	0.25
54	Jabalpur		No label	7.52	0.65
55	Warangal		IVT-Biofort after harvesting (stage-2)	7.65	1.1
56	Warangal		AVT-1-Biofort after harvesting (stage-2)	7.11	1.1
57	Cuttack		AVT-1-Biofort during flowering	6.12	0.23
58	Cuttack		IVT-Biofort during flowering	5.82	0.19
59	Cuttack		IVT-Biofort after harvesting	5.83	0.32
60	Cuttack		AVT-1-Biofort after harvesting	6.11	0.27
61	Shirgaon		IVT-Biofort Before Transplanting	6	0.17
62	Shirgaon		AVT-1-Biofort After harvesting	5.6	0.32
63	Shirgaon		AVT-1-Biofort Before Transplanting	5.03	0.31
64	Shirgaon		IVT-Biofort After harvesting	4.97	0.33
65	Sabour		No label	8.15	0.47
66	Moncompu		AVT-Biofort before trials	5.08	0.58
67	Moncompu		IVT-Biofort before trials	4.81	0.89
68	Sirsi		GPB=06 AVT-1-Biofort-2	5.5	0.3
69	Sirsi		GPB=18 IVT-Biofort-2	5.4	0.39
70	Sirsi		GPB=18 IVT-Biofort-1	5.43	0.3
71	Sirsi		GPB=06 AVT-1-Biofort-1	5.21	0.53
72	Coimbatore		F.NO : E5b -IVT-Biofortification before planting	7.93	0.55
73	Coimbatore		F.NO : C4b AVT-1-Biofortification before planting	8.09	0.63
74	Coimbatore		F.NO : E5b -IVT-Biofortification after harvesting	8.14	0.59
75	Coimbatore		F.NO : C4b AVT-1-Biofortification before planting	7.62	0.83

**Table No. 6.10: Soil zinc and iron content at different centres conducted Biofortification trials during kharif 2020**

S.No.	Centre Name	Fe (ppm)	Zn (ppm)
1	Mandya	121.17	14.78
2	Raipur	72.38	1.81
3	Gangavathi	15.04	3.50
4	Chinsurah	137.86	1.93
5	Nawagam	69.48	8.64
6	Sakoli	56.28	3.66
7	Navsari	34.43	0.93
8	Karjat	76.49	1.11
9	Bapatla	48.70	3.26
10	Moncompu	246.71	1.99
11	Brahmavar	95.90	0.48
12	Rajendranagar	32.18	1.82
13	Mugad	81.43	0.96
14	Maruteru	96.16	5.36
15	Pattambi	246.71	5.45
16	Jabalpur	27.09	1.87
17	Warangal	94.41	6.29
18	Cuttack	246.71	0.61
19	Shirgaon	52.65	2.31
20	Sabour	45.69	0.87
21	Sirsi	198.56	0.84
22	Coimbatore	13.01	17.32

Fe- all soils are in high range; Zn-Except Brahmavar and Cuttack, which are in low range, all others are in high range

**Table No. 6.11: Protein (%) for polished rice samples of entries in AVT 1-Biofortification analyzed at NRRI, Cuttack, Kharif 2020**

Entry No.	IET No.	BPT	CTK	JBP	JGL	JYP	MGD	MNC	MND	MTU	NVS	NWG	RNR	SKL	WGL	Mean
5401	28698	12.85	11.55	7.46	6.63	13.16	7.12	9.72	5.49	9.14	7.08	9.57	11.26	4.65	11.03	<b>9.05</b>
5402	28703	11.59	8.80	7.59	6.74	10.98	6.42	7.88	-	7.56	5.90	6.53	8.24	6.09	10.10	<b>8.03</b>
5403	28705	12.16	9.95	7.00	6.33	12.14	6.54	8.25	5.35	10.33	6.47	6.14	9.64	5.29	10.31	<b>8.28</b>
5404	28710	12.75	-	8.77	6.86	10.45	9.94	8.33	-	8.36	6.46	7.75	10.00	7.00	11.86	<b>9.04</b>
5405	28714	10.94	9.31	5.67	7.60	12.08	9.14	9.76	7.03	9.64	8.37	10.85	10.35	9.03	10.74	<b>9.32</b>
5406	IR64	10.18	9.87	5.59	5.75	10.03	8.39	8.76	5.58	6.80	4.72	7.68	6.81	4.21	6.35	<b>7.19</b>
5407	28719	12.60	8.58	6.86	5.84	8.92	7.47	5.55	4.38	7.02	8.34	7.08	8.73	5.51	12.93	<b>7.84</b>
5408	28694	11.02	8.84	7.88	5.65	9.87	6.84	7.51	4.67	7.76	6.14	6.35	6.93	3.23	8.62	<b>7.24</b>
5409	28704	9.06	10.22	6.53	5.62	10.59	7.52	8.22	5.48	7.70	6.75	6.62	8.61	4.55	8.92	<b>7.60</b>
5410	28717	12.14	9.65	8.25	4.88	8.27	5.41	6.97	4.58	7.94	6.18	6.87	8.08	4.38	9.52	<b>7.37</b>
5411	Chittimutyalu	11.64	10.47	8.27	6.83	10.18	8.28	9.57	6.37	7.92	8.34	6.42	9.18	6.59	10.68	<b>8.63</b>
5412	28702	11.25	8.96	5.14	6.36	10.90	7.22	6.72	4.17	7.90	5.76	7.03	8.61	4.37	11.08	<b>7.53</b>
5413	28696	13.06	9.86	6.00	5.43	10.09	6.23	5.91	4.80	6.92	5.56	5.13	8.13	4.29	6.71	<b>7.01</b>
5414	28713	12.27	11.91	5.71	5.90	8.62	6.59	8.22	5.69	7.43	7.69	9.35	8.22	3.94	8.77	<b>7.88</b>
5415	28718	11.04	9.66	5.25	6.32	8.11	6.91	7.63	4.72	7.38	5.71	6.97	7.04	4.57	7.49	<b>7.06</b>
5416	BPT 5204	13.35	9.06	-	6.97	10.95	6.03	8.68	5.58	6.80	7.32	9.99	7.22	5.57	9.98	<b>8.27</b>
5417	28695	10.90	8.17	10.30	6.37	8.11	7.22	8.13	5.45	6.99	6.08	9.07	8.74	5.46	8.19	<b>7.80</b>
5418	28701	9.33	9.76	6.73	6.86	9.20	6.18	7.47	4.84	7.35	5.87	7.33	7.88	4.36	8.10	<b>7.23</b>
5419	28706	9.87	8.44	6.08	5.43	6.98	6.48	7.64	5.34	6.97	-	6.53	8.42	4.02	6.42	<b>6.82</b>
5420	DRR Dhan 45	9.02	8.69	4.60	6.17	10.69	6.48	8.34	4.55	7.56	5.74	7.62	5.42	4.83	9.22	<b>7.07</b>
5421	28715	9.17	11.15	8.17	5.99	9.72	6.64	7.94	5.68	7.23	6.86	7.50	8.94	6.07	9.53	<b>7.90</b>
5422	28707	11.65	9.41	-	4.81	11.72	5.79	5.39	5.36	6.49	5.39	7.47	8.55	3.97	10.29	<b>7.41</b>
5423	28691	12.21	9.15	-	5.29	8.03	7.66	7.82	4.41	8.08	5.27	8.12	8.94	4.83	7.30	<b>7.47</b>



**Table 6.12: Composition of entries in Initial Variety Trial – Biofortification (IVT-Biofort), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>1<sup>st</sup> Year of testing:</b>				
5501	29454	CSR HZR 17-23	IR 68144-2B-2-2-3-1-166 / Joryeongbyeo // BR 802-118-4-2 (BRR1 Dhan 29) /// Basmati 370 (ACC 6426) / 4 / IR 72967-12-2-3 / 5 / IR05A193 / IR 75862-206-2-8-3-B // IR 69428-6-1-1-3-3 /// IR05A199 / Joryeongbyeo // IR 69428-6-1-1-3-3 / 4 / IR00A117 / 6 / IR07F289 / 2* IR 69428-6-1-1-3-3 // IR09	LS
5502	29455	BPT 3137	RP Bio 226*1 / IRGC 48493	MS
5503	29456	R-RHP-IK-120	IR94040 / Karma Mahsuri	SB
5504	29457	RP6207-IJ / RIL-M66	IR64 / Jalpriya	LS
5505	29458	JDP 2520-2-4-1	Selection from K-1528-1-1-2	MS
5506	29459	MTU 1356 (MTU 2646-15-1-2)	Chittimutyalu / MTU 1121	MS
5507	29460	NVSR-522	NVSR-303 / IRRI-AMT-301	LB
5508	29461	RTN 1410-11-1-3-8-1-2-2	RTN RR-1 / HTTMS 16	SS
5509	29462	CR 2829-PLN-197-2	Naveen / ARC 10075	LB
5510	<b>BPT 5204 (Yield Check)</b>			
5511	29463	RP 6211-PR/RIL-Q8	PR116 / Ranbir Basmati	SB
5512	29464	RP 6354-RMS-5-13-21-29	Samba Mahsuri*2 / ST12	MS
5513	29465	CSR HZR 17-8	Fedearroz 50 / IR 77298-14-1-2-10 // IRR123 / IR07F287 /// Sanhuangzhan No 2 / NSIC RC 158 // IR 45427-2B-2-2B-1-1 / IR 4630-22-2-5-1-3 / 4 / IRR123 / Sanhuangzhan No 2 // IR 77298-14-1-2-10 / IR07F287 /// NDIC RC 158 / IR 4630-22-2-5-1-3 // Fedearroz 50 / IR 45427-2B-2-2B-1-1 / 5 / FED	MS
5514	29466	RP Bio 4920-16-1B	BPT 5204 / O. rufipogon (WR119)	MS
5515	29467	RNR 29301	VPRI2012-8 / Sumathi	LS
5516	29468	NVSR 2773	Jaya/Lalkada	LS
5517	29469	CSR HZR 17 -42	Fedearroz 50 / IR07F287 // IR 45427-2B-2-2B-1-1 / NSIC RC 158 /// Sanhuangzhan No 2 / IR 4630-22-2-5-1-3 // IRR123 / IR 77298-14-1-2-10 / 4 / Fedearroz 50 / IR 4630-22-2-5-1-3 // IRR123 / Sanhuangzhan No 2 /// IR 77298-14-1-2-10 / NSIC RC 158 // IR 45427-2B-2-2B-1-1 / IR07F287 / 5 / FED	LS
5518	29470	BPT 3144	RP Bio226*1 / IRGC 18195	SB

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Entry No.	IET No.	Designation	Cross combination	GT
5519	<b>IR 64 (Yield Check)</b>			
5520	29471	NVSR 2764	Jaya / Lalkada	LS
5521	29472	RP 5977-MS-M-52-2-6-9-8-6-11	BPT 5204 Mutant	LS
5522	29473	R-RGY-RH-116	RKVY-211 / HMT-4	LS
5523	29474	NVSR-532	NVSR-303-6 / IET 22121	LB
5524	29475	KPS - 4329	MTU -1010 / NLR-145	MS
5525	29476	RP 5507-38-2-1-1-1-1	RP 5507: Swarna / IRGC 63248 // Swarna Sub 1	LS
5526	29477	CSR HZR 17-22	IR 68144-2B-2-2-3-1-166 / Joryeongbyeo // BR 802-118-4-2 (BRRI Dhan 29) /// Basmati 370 (ACC 6426) / 4 / IR 72967-12-2-3 / 5 / IR05A193 / IR 75862-206-2-8-3-B // IR 69428-6-1-1-3-3 /// IR05A199 / Joryeongbyeo // IR 69428-6-1-1-3-3 / 4 / IR00A117 / 6 / IR07F289 / 2* IR 69428-6-1-1-3-3 // IR09	MS
5527	29478	NVSR-569	(RP Bio-226 / IRGC 69910) / IET 22071	MS
5528	<b>DRR Dhan 45 (Yield &amp; Micro-nutrient Check)</b>			
5529	29479	RTN 1403-60-1-1-2-4	PLU-1 / RP 4-14	LS
5530	29480	MTU 1357 (MTU 2698-19-1)	MTU 1075 / Chittimutyalu	SS
5531	29481	R-RGY-RH-122	RKVY-211 / HMT-2	SB
5532	<b>Chittimutyalu (Micro-nutrient Check)</b>			
5533	29482	RP6211-PR/RIL-Q181	PR116 / Ranbir Basmati	MB
5534	29483	CSR HZR 17 -21	IR 64 / IR07T115 // IR 64 / IR 75395-2B-B-19-2-1-1 /// IR02A127 / Ketan merah // NSIC RC 158 / Negro	LS
5535	29484	RP6204-MB/RIL-J159	MTU 1010 / BR 2655	SS

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**Table 6.13: Grain Yield (Kg/ha) of entries in IVT- Biofort, Kharif 2020**

Entry No	IET No.	ZONE III													
		OD		OD (1)		BI (1)		UP (1)		Zone III (3)					
		CTK	@JYP	Mean		BKG		MSD		Mean					
5501	29454	3117	1570	3117		4531	8	4150	19%	3933	4	9%			
5502	29455	3006	2693	3	3006	4375	10			3691	10				
5503	29456	2620	2941	2	2620					2620					
5504	29457	3359	6	1062	3359	6	10%	1771		4650	2 *	33%	3260		
5505	29458		620			4844	4	2775		3810	7	5%			
5506	29459	2520	1092		2520	2604		4350	6	25%	3158				
5507	29460	2689	602		2689	2500		4200	10	21%	3130				
5508	29461	2686	869		2686	4688	5	4325	8	24%	3900	5	8%		
5509	29462	3273	9	1880	7	3273	9	7%	1771		4380	5	26%	3141	
5510	BPT 5204 (Yield Check)	2809	1068		2809	4427	9				3618				
5511	29463	2916	948		2916	2813		4125	18%	3285					
5512	29464	3245	10	1039	3245	10	6%	2083		2500			2609		
5513	29465	2766	698		2766	1719					2243				
5514	29466	2930	690		2930	5677	1 *	22%	4215	9	21%	4274	3 *	18%	
5515	29467		644			5104	3	10%	4200	10	21%	4652	2 *	29%	
5516	29468	2810	1322		2810	3490		3750	8%	3350					
5517	29469	3105	1092		3105	3021		3815	9%	3314					
5518	29470	3105	547		3105	2813		3375		3098					
5519	IR 64 (Yield Check)	3052	555		3052	3281		3485		3273					
5520	29471	3451	4	635	3451	4	13%	3385		4350	6	25%	3729	8	
5521	29472		1853	8		4167		3550		3859	6	7%			
5522	29473	3365	5	3218	1	3365	5	10%	1823		2594				
5523	29474	2935	1040		2935	3646		4150	19%	3577					
5524	29475		631			5469	2 *	18%		5469	1 *	51%			
5525	29476	2801	2055	4	2801	3177		3750	8%	3243					
5526	29477	3057	1422		3057	1042		4450	3 *	28%	2850				
5527	29478	3638	1	714	3638	1	19%	4583	7	2950			3724	9	
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	2628	815		2628	4635	6	2550		3271					
5529	29479	3463	3	1690	9	3463	3	13%	1510		3300			2758	
5530	29480	2869	624		2869	2656		2650		2725					
5531	29481	3345	7	1897	5	3345	7	10%	2917		3250			3171	
5532	Chittimutyalu (Micro-nutrient Check)	3587	2	1645	10	3587	2	18%	2240		4850	1 *	39%	3559	
5533	29482	2855	677		2855	4063		3550		3489					
5534	29483	3034	584		3034	3542		2200		2925					
5535	29484	3335	8	1897	5	3335	8	9%	2031		4450	3 *	28%	3272	
Exp. Mean		<b>3044</b>	<b>1238</b>		<b>3044</b>	<b>3306</b>		<b>3734</b>		<b>3388</b>					
CD		746.36	308.2		746.36	532.37		901.86		564.93					
CV%		<b>12</b>	<b>12.25</b>		<b>12</b>	<b>7.92</b>		<b>11.79</b>		<b>8.21</b>					
D/S		07-08-2020	11-08-2020			08-08-2020		05-08-2020							
D/P		05-09-2020	04-09-2020			27-08-2020		31-08-2020							

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**Table 6.13 contd.: Grain Yield (Kg/ha) of entries in IVT- Biofort, Kharif 2020**

Entry No	IET No.	ZONE V									
		M (1)		MA1 (1)			MA1 (1)		Zone V (2)		
		WRS		@SKL	SND		Mean		Mean		
5501	29454	1689		3432		3871	7	3871	7	2780	
5502	29455			1821		3892	6	3892	6	3892	
5503	29456					2784		2784		2784	
5504	29457	4774		4028		2741		2741		3758	
5505	29458	851		1736		1797		1797		1324	
5506	29459	5598	9	4910		3068		3068		4333	8
5507	29460	1144		3338		3203		3203		2174	
5508	29461	1769		1926		2855		2855		2312	
5509	29462			2975		2457		2457		2457	
5510	BPT 5204 (Yield Check)	2699		3073		2727		2727		2713	
5511	29463	5372	10	3113		2457		2457		3915	
5512	29464	8138	1 * 36%			2813		2813		5476	2 * 27%
5513	29465	6157	5			3459		3459		4808	6 12%
5514	29466	4721				2557		2557		3639	
5515	29467	2766				2315		2315		2541	
5516	29468	2301		3419		2678		2678		2490	
5517	29469	2686				2820		2820		2753	
5518	29470	598				2571		2571		1585	
5519	IR 64 (Yield Check)	5971	6			2642		2642		4307	9
5520	29471	6755	3 13%			3175		3175		4965	4 15%
5521	29472	572				2862		2862		1717	
5522	29473					3594	10	3594	10	3594	
5523	29474	6303	4 6%			4169	4 9%	4169	4 9%	5236	3 22%
5524	29475					2784		2784		2784	
5525	29476	5957	7			3778	9	3778	9	4868	5 13%
5526	29477	5798	8			2599		2599		4199	10
5527	29478	2566				2607		2607		2587	
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	3790		3790		3814	8	3814	8	3802	
5529	29479	1316				2763		2763		2040	
5530	29480	1968				1861		1861		1915	
5531	29481	1157				2841		2841		1999	
5532	Chittimutyalu (Micro-nutrient Check)	3777				4411	2 16%	4411	2 16%	4094	
5533	29482	7327	2 23%			4368	3 15%	4368	3 15%	5848	1 * 36%
5534	29483					4474	1 17%	4474	1 17%	4474	7
5535	29484	3737				3913	5	3913	5	3825	
<b>Exp. Mean</b>		<b>3733</b>		<b>3130</b>		<b>3078</b>		<b>3078</b>		<b>3371</b>	
CD		1420.58				1164.33				942.99	
CV%		<b>18.58</b>				<b>18.62</b>				<b>13.77</b>	
D/S		05-08-2020		04-08-2020		05-07-2020					
D/P		26-08-2020		25-08-2020		31-07-2020					

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**Table 6.13 contd.: Grain Yield (Kg/ha) of entries in IVT- Biofort, Kharif 2020**

Entry No	IET No.	ZONE VI															
		MA2		MA2 (2)		MA (3)		GU		GU (1)		Zone VI (3)					
		KJT	SHR	Mean		Mean		NVS	@NWG	Mean		Mean					
5501	29454	3583		4347		3965		3934	7	6059	4	3907	9	6059	4	4663	9
5502	29455	1833		4000		2917		3242		5573	9	2606		5573	9	3802	
5503	29456	3208		4792		4000		3595		5340		4072	8	5340		4447	
5504	29457	4125	6	4597		4361	9	3821		6209	2	4341	5	6209	2	4977	4
5505	29458	2542		4097		3320		2812		4013		848		4013		3551	
5506	29459	3583		3653		3618		3435		5363		3814		5363		4200	
5507	29460	4458	3	2903		3681		3521		4235		2428		4235		3865	
5508	29461	2917		4764		3841		3512		3825		4095	7	3825		3835	
5509	29462	3708		3833		3771		3333		5599	8	4138	6	5599	8	4380	
5510	BPT 5204 (Yield Check)	4125	6	5028	9	4577	6	3960	6	3547		3238		3547		4233	
5511	29463	2542		5042	8	3792		3347		4275		2449		4275		3953	
5512	29464	5125	1	4111		4618	5	4016	5	4910		5316	1	4910		4715	7
5513	29465	2792		3194		2993		3148		5490	10	2256		5490	10	3825	
5514	29466	3250		3861		3556		3223		5671	7	1326		5671	7	4261	
5515	29467	3417		5556	3	4487	7	3763		5324		4884	2	5324		4766	5
5516	29468	3917	10	5556	3	4737	2	4050	4	4791		3129		4791		4755	6
5517	29469	3792		3931		3862		3514		5174		3109		5174		4299	
5518	29470	4000	9	4958	10	4479	8	3843	10	4568		2218		4568		4509	10
5519	IR 64 (Yield Check)	3500		5208	6	4354		3783		4690		3896	10	4690		4466	
5520	29471			3167		3167		3171		4676		1391		4676		3922	
5521	29472	3542		5167	7	4355	10	3857	9	4033		3568		4033		4247	
5522	29473	3167		4306		3737		3689		3386		2382		3386		3620	
5523	29474			5361	5	5361	1 15%	4765	1 9%	6059	4	2399		6059	4	5710	1 10%
5524	29475			4347		4347		3566				3016				4347	
5525	29476	3625		5694	2	4660	4	4366	3	5799	6	4451	3	5799	6	5039	3
5526	29477	4042	8	3056		3549		3232		4738		2576		4738		3945	
5527	29478	2792		4361		3577		3253		4826		1042		4826		3993	
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	4375	4	4958	10	4667	3	4382	2	6293	1	4443	4	6293	1	5209	2
5529	29479	4875	2	3833		4354		3824		5324		1739		5324		4677	8
5530	29480	2792		5875	1	4334		3509		3848		3103		3848		4172	
5531	29481	4125	6	3667		3896		3544		3931				3931		3908	
5532	Chittimutyalu (Micro-nutrient Check)	3708		2597		3153		3572		3114		1638		3114		3140	
5533	29482	3083		3819		3451		3757		4226		826		4226		3709	
5534	29483	3208		4028		3618		3903	8	6073	3	2494		6073	3	4436	
5535	29484	2458		4889		3674		3753		5074		3847		5074		4140	
<b>Exp. Mean</b>		<b>3507</b>		<b>4359</b>		<b>3966</b>		<b>3657</b>		<b>4884</b>		<b>2970</b>		<b>4884</b>		<b>4278</b>	
CD		911.17		1329.93		780.26		669		1057.41		887.91		1057.41		684.67	
CV%		<b>12.74</b>		<b>15.01</b>		<b>9.68</b>		<b>9</b>		<b>10.64</b>		<b>14.69</b>		<b>10.64</b>		<b>7.88</b>	
D/S		03-08-2020		04-08-2020						01-08-2020		08-08-2020					
D/P		02-09-2020		25-08-2020						31-08-2020		11-09-2020					

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Table 6.13 contd.: Grain Yield (Kg/ha) of entries in IVT- Biofort, Kharif 2020

Entry No	IET No.	ZONE VII																
		AP			AP (2)		TE			TE (2)		TA						
		MTU	BPT		Mean	RNR	WGL		Mean	CBT	ADT							
5501	29454	5669	3	4033		4851	4	4686	5820	9	5253	8	4520	5139				
5502	29455	3929		4198		4064		2617	5379		3998		5078	5167				
5503	29456			2878		2878		3525	5291		4408		4891					
5504	29457	3131		4096		3614		1416	5467		3442		3836	4778				
5505	29458	2769		3000		2885		3732	4145		3939		3443					
5506	29459	5507	5	3463		4485	9	4211	6966	3	5589	4	5504	6028	7			
5507	29460	4436		5022	4	4729	6	3730	4586		4158		5922	8	5000			
5508	29461	3829		4220		4025		3521	4145		3833		6516	5 *	5511			
5509	29462	4179		3778		3979		5552	2 *	4586	5069	10	5695	10	5639			
5510	BPT 5204 (Yield Check)	4857		5357	2	5107	2	2512	6085	8	4299		5168		6000	8		
5511	29463	4468		4028		4248		4518	3086		3802		6273	6 *	4889			
5512	29464	5155	7	3925		4540	7	5087	7	5732	10	5410	5	5246		6778	1	
5513	29465	4095		3176		3636		4063	4850		4457		4191		4972			
5514	29466	3702		4163		3933		3518	5115		4317		3891		5556			
5515	29467	4962	10	5250	3	5106	3	5140	5	3704		4422		5113		5142		
5516	29468	3661		3832		3747		3286	3439		3363		3453		5111			
5517	29469	5079	8	4393	10	4736	5	5124	6	3263	4194		7086	3 *	5750			
5518	29470			4282		4282		3257	6878	4	5068		3676		4417			
5519	IR 64 (Yield Check)	4357		4330		4344		4593	6173	7	5383	7	4023		5417			
5520	29471	3548		2957		3253		3243	3439		3341		3762		5583			
5521	29472	3833		2373		3103		5041	8	3792	4417		6258	7 *	6139	4		
5522	29473			3805		3805		4223	4850		4537		5242					
5523	29474	5588	4	5588	1	5588	1	9%	5251	3 *	6614	5	5933	3	10%	5742	9	5306
5524	29475			2844		2844		6355	1 *		6355	1 *	18%	8652	1 *			
5525	29476	5007	9	3587		4297		5022	9	4586	4804		4578		6139	4		
5526	29477	5776	1	3115		4446	10	4724	10	7407	1 *	6066	2 *	13%	4707		6103	6
5527	29478	4214		4585	6	4400		4170	3616		3893		4242					
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	4169		4897	5	4533	8	3887	3351		3619		4926		5417			
5529	29479	3452		4400	8	3926		5235	4 *	3086	4161		7564	2 *	6167	3		
5530	29480	5263	6	2890		4077		3624	7143	2	5384	6	3639		6361	2		
5531	29481			3158		3158		3769			3769		4641		5028			
5532	Chittimutyalu (Micro-nutrient Check)	4657		3855		4256		3294	3880		3587		5029		5797	10		
5533	29482			4395	9	4395		3860	5644		4752		4090		4944			
5534	29483	5690	2	2863		4277		4052	6437	6	5245	9	6582	4 *	5917	9		
5535	29484	4190		4480	7	4335		2776	4674		3725		4395		5556			
Exp. Mean		4454		3920		4111		4075	4946		4514		5074		5525			
CD		1060.27		796.98		672.29		609.54	1215.1		645.29		963.66		1000.47			
CV%		11.62		10		8.05		7.36	12.06		7.03		9.35		8.85			
D/S		06-08-2020		02-08-2020				27-07-2020	29-07-2020				31-07-2020		27-08-2020			
D/P		25-08-2020		08-09-2020				29-08-2020	28-08-2020				01-09-2020		29-09-2020			

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**Table 6.13 contd.: Grain Yield (Kg/ha) of entries in IVT- Biofort, Kharif 2020**

Entry No	IET No.	ZONE VII												
		TA (2)		KE			KE (2)		KA					
		Mean		MNC	PTB		Mean		MND	@BRM				
5501	29454	4830		7861	2	6140	8	7001	1	10%	4147		38	7
5502	29455	5123		6713		5979	10	6346	9		3920		10	
5503	29456	4891		2009		4244		3127			2788		80	4
5504	29457	4307		5602		6417	2	6010			5032	2	13	
5505	29458	3443		3685		5558		4622			2167		5	
5506	29459	5766	8	6833	10	5987	9	6410	5		3913		43	6
5507	29460	5461		6870	9	5403		6137			2922		14	
5508	29461	6014	6	8%	7954	1	5890	6922	2	8%	3535		6	
5509	29462	5667	9		6491		4650	5571			4519	5	158	2
5510	BPT 5204 (Yield Check)	5584	10		6898	8	5874	6386	7		2615		8	
5511	29463	5581			5241		4785	5013			2606		9	
5512	29464	6012	7	8%	7472	4	5569	6521	4		3303		11	
5513	29465	4582			4222		4653	4438			3305		20	10
5514	29466	4724			4787		5049	4918			1864		7	
5515	29467	5128			7472	4	5305	6389	6		3481		12	
5516	29468	4282			5083		4181	4632			2926		30	8
5517	29469	6418	3 *	15%	7343	6	4699	6021			4580	4	8	
5518	29470	4047			6694		4681	5688			3440			
5519	IR 64 (Yield Check)	4720			5324		5011	5168			3913		8	
5520	29471	4673			6157		6473	1	6315	10	2487		12	
5521	29472	6199	5	11%	6417		5382	5900			4191	10	5	
5522	29473	5242			5630		4688	5159			4048		12	
5523	29474	5524			4491		4360	4426			4807	3	6	
5524	29475	8652	1 *	55%	7806	3	4951	6379	8		3852			
5525	29476	5359			5185		5972	5579			5998	1 *	66	5
5526	29477	5405					6174	6	6174		4198	9	21	9
5527	29478	4242					4799		4799		3045		7	
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	5172			6065		6380	3	6223		4372	6	6	
5529	29479	6866	2 *	23%	7139	7	6247	5	6693	3	4285	7	5	
5530	29480	5000			6185		5396	5791			3318		14	
5531	29481	4835			5148		6174	6	5661		3606		6	
5532	Chittimutyalu (Micro-nutrient Check)	5413			5241		5813	5527			2842		16	
5533	29482	4517			4315		6361	4	5338		3775		121	3
5534	29483	6250	4	12%	6190		5530	5860			4268	8	208	1
5535	29484	4976			4157		5563	4860			2429		15	
<b>Exp. Mean</b>		<b>5283</b>			<b>5899</b>		<b>5438</b>	<b>5657</b>			<b>3614</b>		<b>30</b>	
CD		717.29			1562.88		905.6	873.88			709.51		11.94	
CV%		<b>6.68</b>			<b>13.01</b>		<b>8.19</b>	<b>7.6</b>			<b>9.66</b>		<b>19.39</b>	
D/S					25-09-2020		24-08-2020				31-07-2020		03-08-2020	
D/P					13-10-2020		30-09-2020				19-08-2020		24-08-2020	

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**Table 6.13 contd.: Grain Yield (Kg/ha) of entries in IVT- Biofort, Kharif 2020**

Entry No	IET No.	ZONE VII									Overall (17)	
		KA			KA (1)			Zone VII (9)				
		@GNV		@SRS	Mean			Mean			Mean	
5501	29454	5019	6	3771	5	4147		5335	4 *	6%	4668	5
5502	29455	4109	10	2470		3920		4776			4377	
5503	29456					2788		3661			3698	
5504	29457	6199	2	2700		5032	2 15%	4419			4235	
5505	29458	1170		821		2167		3562			3295	
5506	29459	3853		3000	10	3913		5379	2 *	7%	4656	6
5507	29460	3128		1580		2922		4877			4072	
5508	29461	2667		1830		3535		5013			4291	
5509	29462	2901		2431		4519	5	5010			4382	
5510	BPT 5204 (Yield Check)	2122		2430		2615		5041			4421	
5511	29463	2696		1621		2606		4433			4084	
5512	29464	4295	7	3180	9	3303		5363	3 *	6%	4776	3 * 6%
5513	29465	3311		2170		3305		4170			3944	
5514	29466	2304		2951		1864		4183			4149	
5515	29467	2638		3861	4	3481		5063			4641	7
5516	29468	2087		2030		2926		3886			3780	
5517	29469	3077		3700	6	4580	4	5257	9		4451	10
5518	29470	4218	9	3290	8	3440		4666			3957	
5519	IR 64 (Yield Check)	5240	5	3880	3	3913		4793			4410	
5520	29471	4109	10	2821		2487		4183			4163	
5521	29472	5830	3	4461	1	4191	10	4825			4207	
5522	29473			3471	7	4048		4641			4010	
5523	29474	6676	1	4140	2	4807	3 10%	5305	5	5%	5023	2 * 12%
5524	29475					3852		5743	1 *	14%	5229	1 * 16%
5525	29476	5279	4	2051		5998	1 * 37%	5119	10		4744	4 5%
5526	29477	4263	8	2750		4198	9	5276	8		4437	
5527	29478	2644				3045		4096			3800	
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	3894		2141		4372	6	4829			4500	9
5529	29479	3962		2391		4285	7	5286	6		4351	
5530	29480	3747		2720		3318		4869			4020	
5531	29481	1372		960		3606		4503			3784	
5532	Chittimutyalu (Micro-nutrient Check)	1231		1390		2842		4490			4041	
5533	29482	1349		1720		3775		4673			4417	
5534	29483	3436		1891		4268	8	5281	7		4631	8
5535	29484	2917		710		2429		4247			4006	
<b>Exp. Mean</b>		<b>3492</b>		<b>2542</b>		<b>3614</b>		<b>4750</b>			<b>4276</b>	
CD		1866.55		899.05		709.51		269.41			248.26	
CV%		<b>26.21</b>		<b>17.34</b>		<b>9.66</b>		<b>2.79</b>			<b>2.86</b>	
D/S		05-08-2020		29-07-2020								
D/P		31-08-2020		20-08-2020								



**Table 6.14: Days to 50% Flowering of entries in IVT- Biofort Kharif 2020**

Entry No.	IET No.	ZONE III						ZONE V				
		OD		OD (1)	BI (1)	UP (1)	Zone III (3)	M (1)	MA1		MA1 (1)	Zone V (2)
		CTK	@JYP	Mean	BKG	MSD	Mean	WRS	@SKL	SND	Mean	Mean
5501	29454	94	118	94	82	99	91	104	98	103	103	103
5502	29455	101	125	101	82		91	99	93	95	95	97
5503	29456	83	99	83			83	91		84	84	87
5504	29457	82	120	82	78	96	85	91	77	86	86	88
5505	29458		96		78		78	80	75	102	102	91
5506	29459	79	121	79	77	101	85	97	100	106	106	102
5507	29460	96	128	96	104	96	98	91	96	102	102	97
5508	29461	101	122	101	79	93	91	106	95	108	108	107
5509	29462	93	96	93	106	91	97	78	91	89	89	84
5510	BPT 5204 (Yield Check)	97	130	97	78		87	104	92	105	105	104
5511	29463	98	124	98	108	79	95	91	88	104	104	98
5512	29464	92	120	92	107	79	93	89		111	111	100
5513	29465	83	81	83	106		95	72		79	79	75
5514	29466	78	130	78	76	76	76	104		105	105	104
5515	29467		122		104	80	92	91		100	100	95
5516	29468	84	87	84	78	77	80	73	85	79	79	76
5517	29469	89	100	89	76	77	81	73		92	92	82
5518	29470	96	109	96	82	78	85	84		100	100	92
5519	IR 64 (Yield Check)	83	101	83	76	79	79	73		90	90	81
5520	29471	82	98	82	100	82	88	81		89	89	85
5521	29472		99		103	84	93	97		105	105	101
5522	29473	78	83	78	78		78	104		79	79	91
5523	29474	80	105	80	90	85	85	83		93	93	88
5524	29475		87		81		81	87		98	98	92
5525	29476	83	118	83	104	82	89	77		92	92	84
5526	29477	89	96	89	81	81	83	64		100	100	82
5527	29478	92	113	92	78	71	80	83		102	102	93
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	82	87	82	82	75	80	75	82	85	85	80
5529	29479	87	115	87	78	79	81	79		95	95	87
5530	29480	100	123	100	109	83	97	103		108	108	105
5531	29481	83	96	83	83	85	83	80		95	95	87
5532	Chittimutyalu (Micro-nutrient Check)	87	89	87	83	87	85	78		90	90	84
5533	29482	85	121	85	83	87	85	79		82	82	81
5534	29483	93	117	93	104	85	94	78		93	93	85
5535	29484	103	103	103	120	87	103	93		93	93	93
<b>Exp. Mean</b>		<b>89</b>	<b>108</b>	<b>89</b>	<b>89</b>	<b>84</b>	<b>87</b>	<b>86</b>	<b>89</b>	<b>95</b>	<b>95</b>	<b>91</b>

**Table 6.14 contd.: Days to 50% Flowering of entries in IVT- Biofort Kharif 2020**

Entry No.	IET No.	ZONE VI								ZONE VII					
		MA2		MA2 (2)	MA (3)	GU		GU (1)	Zone VI (3)	AP		AP (2)	TE		TE (2)
		KJT	SHR	Mean	Mean	NVS	@NWG	Mean	Mean	MTU	BPT	Mean	RNR	WGL	Mean
5501	29454	85	91	88	93	89	95	89	88	90	94	92	114	97	105
5502	29455	107	81	94	94	87	96	87	91	86	107	96	114	95	105
5503	29456	86	93	89	87	73	83	73	84		97	97	86	96	91
5504	29457	91	85	88	87	82	86	82	86	87	114	100	86	86	86
5505	29458	89	94	91	95	72	75	72	85	85	96	90	105	79	92
5506	29459	116	85	100	102	68	101	68	89	88	113	100	116	106	111
5507	29460	106	78	92	95	89	99	89	91	91	110	100	115	102	109
5508	29461	106	91	99	102	98	105	98	98	92	108	100	109	101	105
5509	29462	88	89	88	88	82	86	82	86	87	117	102	100	91	95
5510	BPT 5204 (Yield Check)	106	80	93	97	101	110	101	95	86	109	98	116	111	114
5511	29463	106	86	96	99	89	100	89	93	92	91	91	111	97	104
5512	29464	103	92	97	102	92	111	92	95	89	99	94	114	99	106
5513	29465	88	86	87	84	79	84	79	84	75	92	83	97	86	91
5514	29466	106	85	95	98	93	108	93	94	95	90	92	112	109	110
5515	29467	101	79	90	93	85	93	85	88	89	115	102	111	100	105
5516	29468	101	86	94	89	72	84	72	86	88	101	94	87	80	83
5517	29469	89	90	89	90	80	87	80	86	85	94	90	105	89	97
5518	29470	106	91	98	99	86	101	86	94		111	111	114	95	105
5519	IR 64 (Yield Check)	88	85	86	87	78	96	78	83	82	96	89	96	86	91
5520	29471		80	80	84	81	95	81	80	83	95	89	99	91	95
5521	29472	104	88	96	99	91	101	91	94	89	91	90	108	105	106
5522	29473	85	86	85	83	72	83	72	81		101	101	94	106	100
5523	29474		92	92	92	84	94	84	88	83	102	92	91	93	92
5524	29475		90	90	94		100		90		88	88	101		101
5525	29476	90	86	88	89	80	97	80	85	82	95	89	100	89	94
5526	29477	109	92	100	100	77	102	77	92	88	116	102	98	103	100
5527	29478	111	92	101	102	84	104	84	95	83	101	92	97	90	93
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	88	91	89	88	79	86	79	86	84	99	91	87	82	85
5529	29479	96	81	88	90	84	89	84	87	81	101	91	100	90	95
5530	29480	119	86	103	104	95	103	95	100	93	93	93	115	113	114
5531	29481	101	94	97	96	84		84	93		99	99	98		98
5532	Chittimutyalu (Micro-nutrient Check)	90	94	92	91	81	90	81	88	89	91	90	90	82	86
5533	29482	95	85	90	87	79	86	79	86		90	90	89	84	86
5534	29483	89	94	91	92	85	95	85	89	82	101	91	104	92	98
5535	29484	109	86	97	96	89	94	89	94	82	101	92	108	100	104
<b>Exp. Mean</b>		<b>98</b>	<b>87</b>	<b>92</b>	<b>93</b>	<b>83</b>	<b>94</b>	<b>83</b>	<b>89</b>	<b>86</b>	<b>100</b>	<b>94</b>	<b>102</b>	<b>95</b>	<b>99</b>

**Table 6.14 contd.: Days to 50% Flowering of entries in IVT- Biofort Kharif 2020**

Entry No.	IET No.	ZONE VII											Overall (17)			
		TA		TA (2)		KE		KE (2)		KA				KA (1)	Zone VII (9)	
		CBT	ADT	Mean	MNC	PTB	Mean	MND	@BRM	@GNV	@SRS	Mean		Mean	Mean	
5501	29454	96	97	97	83	93	88	93	107	97	104	93	95	94		
5502	29455	71	104	87	85	95	90	93	109	96	102	93	94	94		
5503	29456	82		82	81	91	86	78	118			78	87	86		
5504	29457	94	101	98	79	93	86	83	110	86	96	83	91	89		
5505	29458	81		81	79	94	87	81	109	85	90	81	87	87		
5506	29459	107	101	104	91	102	96	99	109	83	110	99	102	97		
5507	29460	101	102	102	88	95	91	101	106	103	110	101	100	98		
5508	29461	105	119	112	94	95	95	104	107	103	110	104	103	100		
5509	29462	91	95	93	79	93	86	91	118	91	96	91	94	92		
5510	BPT 5204 (Yield Check)	111	121	116	100	109	105	108	107	83	112	108	108	102		
5511	29463	101	103	102	85	94	89	99	107	101	108	99	97	96		
5512	29464	109	120	114	94	94	94	107	110	101	111	107	103	99		
5513	29465	95	100	97	79	92	85	81	116	86	92	81	88	87		
5514	29466	61	118	89	97	103	100	108	102	108	112	108	99	95		
5515	29467	98	101	99	81	95	88	93	102	91	98	93	98	95		
5516	29468	85	100	93	81	91	86	80	90	85	90	80	88	85		
5517	29469	92	92	92	79	93	86	88	89	87	100	88	91	87		
5518	29470	99	100	100	85	94	89	93	109	101	105	93	99	94		
5519	IR 64 (Yield Check)	94	101	97	83	93	88	89	118	85	94	89	91	86		
5520	29471	96	100	98	81	92	86	93	106	99	98	93	92	89		
5521	29472	103	115	109	86	96	91	99	107	108	106	99	99	97		
5522	29473	84		84	79	92	85	85	89		96	85	91	87		
5523	29474	98	104	101	85	93	89	95	107	92	104	95	94	90		
5524	29475	100		100	83	94	88	95	96			95	93	92		
5525	29476	100	96	98	79	95	87	94	94	102	100	94	92	89		
5526	29477	104	119	112		92	92	101	109	100	106	101	102	94		
5527	29478	100		100		94	94	97	107	90		97	95	92		
5528	DRR Dhan 45 (Yield & Micro-nutrient Che	91	101	96	80	94	87	91	106	89	94	91	90	86		
5529	29479	102	103	103	85	94	89	101	110	102	111	101	95	90		
5530	29480	62	120	91	93	126	109	107	112	108	112	107	102	101		
5531	29481	100	99	99	84	93	88	99	107	100	108	99	96	92		
5532	Chittimutyalu (Micro-nutrient Check)	91	94	92	78	94	86	92	110	89	96	92	89	87		
5533	29482	85	94	90	81	92	86	91	112	87	97	91	88	86		
5534	29483	96	101	99	77	93	85	91	96	87	98	91	93	91		
5535	29484	98	101	99	81	93	87	93	107	101	104	93	95	96		
Exp. Mean		94	104	98	84	95	90	94	106	94	102	94	95	92		

**Table 6.15: Plant Height of entries in IVT- Biofort Kharif 2020**

Entry No.	IET No.	ZONE III						ZONE V				
		OD		OD (1)	BI (1)	UP (1)	Zone III (3)	M (1)	MA1 (1)		MA1 (1)	Zone V (2)
		CTK	@JYP	Mean	BKG	MSD	Mean	WRS	@SKL	SND	Mean	Mean
5501	29454	97.83	65.60	97.83	106.00	103.00	102.28	102.20	83.00	98.35	98.35	100.28
5502	29455	125.33	64.80	125.33	116.00		120.67	124.40	105.00	131.90	131.90	128.15
5503	29456	106.33	73.90	106.33			106.33	118.00		122.55	122.55	120.28
5504	29457	116.00	76.90	116.00	110.50	107.00	111.17	134.00	128.00	121.45	121.45	127.73
5505	29458		52.30		117.00		117.00	87.40	53.00	75.40	75.40	81.40
5506	29459	98.50	58.60	98.50	83.00	78.00	86.50	108.75	83.00	78.00	78.00	93.38
5507	29460	85.83	56.70	85.83	78.00	82.00	81.94	117.20	83.00	83.35	83.35	100.28
5508	29461	72.67	57.60	72.67	90.00	84.00	82.22	118.00	85.00	84.95	84.95	101.48
5509	29462	108.83	67.80	108.83	85.50	98.00	97.44	123.00	98.00	107.40	107.40	115.20
5510	BPT 5204 (Yield Check)	87.17	51.60	87.17	103.00		95.08	96.40	64.00	72.55	72.55	84.48
5511	29463	107.33	52.40	107.33	67.50	82.00	85.61	106.80	76.00	89.70	89.70	98.25
5512	29464	87.00	53.90	87.00	76.50	102.00	88.50	108.80		72.40	72.40	90.60
5513	29465	97.33	61.40	97.33	81.50		89.42	126.20		112.40	112.40	119.30
5514	29466	91.00	57.20	91.00	106.00	105.00	100.67	86.40		69.75	69.75	78.08
5515	29467		65.00		89.00	98.00	93.50	118.00		97.30	97.30	107.65
5516	29468	70.17	60.00	70.17	95.00	92.00	85.72	102.20	71.00	93.80	93.80	98.00
5517	29469	110.67	66.50	110.67	120.50	94.00	108.39	115.80		107.55	107.55	111.68
5518	29470	96.67	64.50	96.67	99.50	96.00	97.39	117.40		107.35	107.35	112.38
5519	IR 64 (Yield Check)	92.50	60.30	92.50	99.00	97.00	96.17	118.60		98.50	98.50	108.55
5520	29471	87.83	57.50	87.83	76.50	98.00	87.44	116.00		90.00	90.00	103.00
5521	29472		63.70		94.50	99.00	96.75	84.25		95.55	95.55	89.90
5522	29473	93.17	55.70	93.17	97.50		95.33	111.80		101.65	101.65	106.73
5523	29474	91.67	62.60	91.67	92.50	102.00	95.39	115.00		99.10	99.10	107.05
5524	29475		74.30		84.50	101.00	92.75	104.80		98.95	98.95	101.88
5525	29476	93.00	50.40	93.00	88.00	98.00	93.00	99.20		113.30	113.30	106.25
5526	29477	107.67	76.40	107.67	98.50	89.00	98.39	132.60		84.35	84.35	108.48
5527	29478	97.33	79.30	97.33	112.50	105.00	104.94	131.60		82.45	82.45	107.03
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	101.67	76.50	101.67	73.50	109.00	94.72	123.60	99.00	103.75	103.75	113.68
5529	29479	90.00	72.50	90.00	75.00	111.00	92.00	110.80		106.30	106.30	108.55
5530	29480	100.00	57.80	100.00	91.00	115.00	102.00	106.00		68.75	68.75	87.38
5531	29481	90.33	63.70	90.33	66.50	126.00	94.28	103.80		89.15	89.15	96.48
5532	Chittimutyalu (Micro-nutrient Check)	77.33	61.60	77.33	87.00	111.00	91.78	97.00		92.55	92.55	94.78
5533	29482	92.17	53.70	92.17	106.00	121.00	106.39	118.20		106.50	106.50	112.35
5534	29483	89.33	62.90	89.33	94.00	119.00	100.78	135.40		115.95	115.95	125.68
5535	29484	88.00	62.30	88.00	107.50		97.75	114.00		97.05	97.05	105.53
<b>Exp. Mean</b>		<b>95.18</b>	<b>62.80</b>	<b>95.18</b>	<b>93.19</b>	<b>100.79</b>	<b>96.85</b>	<b>112.39</b>	<b>85.67</b>	<b>96.29</b>	<b>96.29</b>	<b>104.34</b>

**Table 6.15 contd.: Plant Height of entries in IVT- Biofort Kharif 2020**

Entry No.	IET No.	ZONE VI								ZONE VII				
		MA2		MA2 (2)	MA (3)	GU		GU (1)	Zone VI (3)	AP		AP (2)	TE	
		KJT	SHR	Mean	Mean	NVS	@NWG	Mean	Mean	MTU	BPT	Mean	RNR	WGL
5501	29454	81.20	88.30	84.75	89.28	99.10	97.00	99.10	89.53	114.80	107.00	110.90	88.40	94.40
5502	29455	117.40	89.80	103.60	113.03	136.00	113.00	136.00	114.40	140.90	114.00	127.45	112.40	110.50
5503	29456	85.40	95.80	90.60	101.25	111.70	110.90	111.70	97.63		110.00	110.00	82.80	109.00
5504	29457	97.00	109.90	103.45	109.45	126.50	105.60	126.50	111.13	127.10	114.00	120.55	54.30	112.90
5505	29458	72.50	104.20	88.35	84.03	107.00	83.10	107.00	94.57	79.40	121.00	100.20	83.50	74.10
5506	29459	87.90	100.60	94.25	88.83	103.80	85.20	103.80	97.43	122.90	125.00	123.95	83.90	93.30
5507	29460	87.40	113.40	100.40	94.72	104.10	90.80	104.10	101.63	117.90	117.00	117.45	73.40	95.00
5508	29461	107.10	106.00	106.55	99.35	95.70	82.30	95.70	102.93	116.25	118.00	117.13	71.40	86.70
5509	29462	94.70	95.20	94.95	99.10	117.80	102.10	117.80	102.57	117.30	93.00	105.15	85.60	107.70
5510	BPT 5204 (Yield Check)	78.00	105.50	91.75	85.35	72.70	66.10	72.70	85.40	90.30	112.00	101.15	58.30	72.90
5511	29463	94.00	93.90	93.95	92.53	96.40	85.40	96.40	94.77	96.40	128.00	112.20	70.60	96.75
5512	29464	84.90	106.30	95.60	87.87	85.20	71.80	85.20	92.13	96.00	89.00	92.50	74.20	85.10
5513	29465	95.90	97.00	96.45	101.77	114.70	103.20	114.70	102.53	103.00	115.00	109.00	91.90	106.90
5514	29466	86.00	106.10	96.05	87.28	79.70	78.90	79.70	90.60	85.70	125.00	105.35	64.50	78.30
5515	29467	88.10	109.00	98.55	98.13	94.10	85.60	94.10	97.07	92.00	119.00	105.50	82.10	86.20
5516	29468	90.00	95.90	92.95	93.23	93.80	91.10	93.80	93.23	100.60	107.00	103.80	66.20	83.65
5517	29469	95.00	116.10	105.55	106.22	102.40	93.50	102.40	104.50	108.10	127.00	117.55	81.20	108.20
5518	29470	88.30	97.20	92.75	97.62	106.20	90.20	106.20	97.23		120.00	120.00	82.30	101.20
5519	IR 64 (Yield Check)	94.80	106.30	100.55	99.87	104.80	83.00	104.80	101.97	109.60	120.00	114.80	78.70	105.20
5520	29471		96.10	96.10	93.05	92.50	82.40	92.50	94.30	117.80	108.00	112.90	73.60	88.80
5521	29472	94.10	97.40	95.75	95.68	95.30	80.30	95.30	95.60	116.40	132.00	124.20	79.50	90.80
5522	29473	81.50	116.70	99.10	99.95	94.20	83.80	94.20	97.47		109.00	109.00	80.00	111.20
5523	29474		104.10	104.10	101.60	91.80	50.20	91.80	97.95	117.50	120.00	118.75	74.60	95.10
5524	29475		98.30	98.30	98.63		48.50		98.30		68.00	68.00	83.30	
5525	29476	87.00	105.40	96.20	101.90	86.60	54.10	86.60	93.00	110.00	124.00	117.00	76.90	97.70
5526	29477	93.90	104.90	99.40	94.38	101.80	51.50	101.80	100.20	136.60	103.00	119.80	89.50	108.80
5527	29478	112.50	105.80	109.15	100.25	123.10	55.50	123.10	113.80	138.70	110.00	124.35	101.90	115.70
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	92.50	81.70	87.10	92.65	109.40	57.20	109.40	94.53	122.20	115.00	118.60	88.10	113.10
5529	29479	91.50	106.90	99.20	101.57	98.60	54.20	98.60	99.00	100.40	110.00	105.20	72.20	93.70
5530	29480	90.00	95.70	92.85	84.82	95.20	49.30	95.20	93.63	108.50	130.00	119.25	88.50	96.80
5531	29481	92.40	85.30	88.85	88.95	92.20		92.20	89.97		141.00	141.00	70.30	
5532	Chittimutyalu (Micro-nutrient Check)	78.10	124.10	101.10	98.25	91.70	50.70	91.70	97.97	119.20	103.00	111.10	68.90	108.70
5533	29482	88.50	92.40	90.45	95.80	121.20	59.40	121.20	100.70		122.00	122.00	77.10	90.00
5534	29483	83.70	98.70	91.20	99.45	111.20	57.80	111.20	97.87	115.30	113.00	114.15	79.80	97.80
5535	29484	93.00	93.60	93.30	94.55	98.20	52.90	98.20	94.93	114.30	113.00	113.65	77.40	88.20
<b>Exp. Mean</b>		<b>90.76</b>	<b>101.25</b>	<b>96.38</b>	<b>96.30</b>	<b>101.61</b>	<b>76.66</b>	<b>101.61</b>	<b>98.01</b>	<b>111.56</b>	<b>114.34</b>	<b>112.96</b>	<b>79.07</b>	<b>97.10</b>

**Table 6.15 contd.: Plant Height of entries in IVT- Biofort, Kharif 2020**

Entry No.	IET No.	ZONE VII												Overall (17) Mean	
		TE (2)	TA		TA (2)	KE		KE (2)	KA				KA (1)		Zone VII (9)
		Mean	CBT	ADT	Mean	MNC	PTB	Mean	MND	@BRM	@GNV	@SRS	Mean		Mean
5501	29454	91.40	94.43	94.00	94.22	109.20	95.60	102.40	83.20	79.50	92.00	86.30	83.20	97.89	97.47
5502	29455	111.45	128.50	133.00	130.75	137.60	132.60	135.10	103.20	99.00	143.00	104.20	103.20	123.63	122.10
5503	29456	95.90	98.30		98.30	104.00	84.00	94.00	91.90	77.50			91.90	97.14	101.52
5504	29457	83.60	100.25	86.60	93.43	115.90	105.70	110.80	87.70	59.00	122.50	103.50	87.70	100.49	107.46
5505	29458	78.80	63.90		63.90	78.90	68.50	73.70	84.10	38.50	76.00	62.80	84.10	81.68	86.92
5506	29459	88.60	93.41	103.20	98.31	99.70	95.50	97.60	80.00	77.00	87.50	80.80	80.00	99.66	96.20
5507	29460	84.20	82.85	78.40	80.63	109.10	91.00	100.05	84.10	69.00	92.00	78.10	84.10	94.31	94.12
5508	29461	79.05	101.10	86.20	93.65	118.10	96.00	107.05	91.60	74.50	92.50	84.00	91.60	98.37	96.69
5509	29462	96.65	111.40	96.00	103.70	110.00	101.90	105.95	94.10	84.50	109.00	94.90	94.10	101.89	102.79
5510	BPT 5204 (Yield Check)	65.60	74.72	65.40	70.06	88.10	86.80	87.45	74.80	59.00	68.00	62.00	74.80	80.37	83.66
5511	29463	83.68	103.85	95.00	99.43	101.90	94.40	98.15	91.20	74.50	84.50	76.00	91.20	97.57	95.04
5512	29464	79.65	90.69	92.80	91.75	92.40	88.90	90.65	85.50	62.50	84.00	84.60	85.50	88.29	89.28
5513	29465	99.40	105.30	75.00	90.15	115.30	95.00	105.15	95.20	73.00	103.50	80.70	95.20	100.29	101.73
5514	29466	71.40	55.89	92.60	74.25	78.80	80.60	79.70	76.60	74.50	66.50	75.80	76.60	82.00	86.35
5515	29467	84.15	84.48	84.80	84.64	117.20	86.00	101.60	94.00	63.50	91.50	82.40	94.00	93.98	96.21
5516	29468	74.93	84.10	82.80	83.45	95.20	93.50	94.35	76.80	66.00	83.50	88.00	76.80	87.76	89.57
5517	29469	94.70	94.74	85.40	90.07	111.60	98.40	105.00	83.60	76.00	95.00	92.00	83.60	99.80	103.54
5518	29470	91.75	103.10	94.80	98.95	118.40	105.10	111.75	90.50	77.50	102.50	90.10	90.50	101.93	101.50
5519	IR 64 (Yield Check)	91.95	96.16	85.00	90.58	107.60	90.30	98.95	93.10	75.50	95.50	92.60	93.10	98.41	99.83
5520	29471	81.20	110.05	76.80	93.43	109.70	96.30	103.00	85.40	79.50	92.50	82.30	85.40	96.27	95.21
5521	29472	85.15	93.68	88.00	90.84	107.50	87.20	97.35	97.30	73.00	103.00	79.20	97.30	99.15	97.03
5522	29473	95.60	85.68		85.68	102.20	78.10	90.15	96.20	69.50		81.90	96.20	94.63	97.06
5523	29474	84.85	86.80	82.00	84.40	94.90	88.10	91.50	108.80	66.50	105.00	78.70	108.80	96.42	97.75
5524	29475	83.30	94.20		94.20	112.80	95.00	103.90	89.50	65.50			89.50	90.47	93.67
5525	29476	87.30	87.45	85.20	86.33	100.50	98.40	99.45	112.10	71.50	95.50	90.10	112.10	99.14	97.81
5526	29477	99.15	99.58	99.20	99.39		86.70	86.70	93.80	77.00	101.50	87.50	93.80	102.15	101.87
5527	29478	108.80	121.00		121.00		97.00	97.00	120.20	83.00	120.00		120.20	114.93	111.65
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	100.60	106.75	85.20	95.98	111.10	98.00	104.55	84.00	81.00	101.00	86.70	84.00	102.61	101.09
5529	29479	82.95	57.25	83.80	70.53	105.80	86.50	96.15	90.60	85.00	86.00	80.00	90.60	88.92	93.55
5530	29480	92.65	76.85	85.80	81.33	96.50	96.45	96.48	84.90	62.50	90.00	85.60	84.90	96.03	95.64
5531	29481	70.30	92.50	85.40	88.95	99.20	86.10	92.65	74.50	76.50	93.00	75.00	74.50	92.71	92.98
5532	Chittimutyalu (Micro-nutrient Check)	88.80	79.20	71.80	75.50	101.60	87.80	94.70	79.70	62.50	102.50	72.10	79.70	91.10	92.86
5533	29482	83.55	82.63	83.20	82.92	107.90	91.50	99.70	81.60	78.00	101.50	85.20	81.60	91.99	98.87
5534	29483	88.80	87.66	84.60	86.13	107.10	93.90	100.50	95.60	65.00	100.50	88.80	95.60	97.20	101.30
5535	29484	82.80	94.06	85.00	89.53	102.10	91.50	96.80	86.70	68.00	92.00	86.20	86.70	94.70	96.48
Exp. Mean		87.50	92.07	87.57	90.18	105.09	92.81	98.57	89.77	72.13	96.03	83.69	89.77	96.40	97.62

**Table 6.16: Panicle/m2 of entries in IVT- Biofort, Kharif 2020**

Entry No.	IET No.	ZONE III						ZONE V					ZONE VI	
		OD		OD (1)	BI (1)	UP (1)	Zone III (3)	M (1)	MA1		MA1 (1)	Zone V (2)	MA2	
		CTK	@JYP	Mean	BKG	MSD	Mean	WRS	@SKL	SND	Mean	Mean	KJT	SHR
5501	29454	217	271	217	276	291	261	294	205	289	289	291	234	148
5502	29455	262	276	262	288		275	317	160	169	169	243	198	144
5503	29456	306	306	306			306	226		220	220	223	285	162
5504	29457	206	301	206	204	306	239	235	258	253	253	244	218	146
5505	29458		263		249	173	211	273	185	283	283	278	168	166
5506	29459	209	316	209	268	276	251	325	271	245	245	285	254	151
5507	29460	283	328	283	215	289	262	397	253	225	225	311	297	137
5508	29461	276	366	276	277	272	275	300	231	276	276	288	254	136
5509	29462	289	292	289	239	282	270	280	228	188	188	234	282	153
5510	BPT 5204 (Yield Check)	202	295	202	254		228	469	245	258	258	363	224	127
5511	29463	229	293	229	202	271	234	295	251	282	282	288	196	141
5512	29464	277	304	277	211	171	219	289		254	254	271	233	171
5513	29465	225	286	225	225		225	278		269	269	273	218	134
5514	29466	305	243	305	313	269	295	368		211	211	290	259	151
5515	29467		350		278	281	279	368		230	230	299	276	139
5516	29468	190	300	190	307	249	248	236	240	262	262	249	208	135
5517	29469	282	260	282	300	258	280	410		260	260	335	211	159
5518	29470	295	390	295	259	250	268	288		249	249	268	274	145
5519	IR 64 (Yield Check)	279	230	279	255	219	251	272		187	187	229	208	156
5520	29471	153	240	153	239	279	223	258		185	185	221		146
5521	29472		226		256	269	263	204		190	190	197	259	152
5522	29473	248	363	248	280		264	270		271	271	270	213	131
5523	29474	157	290	157	254	278	229	267		258	258	262		163
5524	29475		330		307		307	229		281	281	255		147
5525	29476	297	261	297	272	251	273	252		205	205	229	203	148
5526	29477	229	230	229	233	267	243	305		200	200	252	185	149
5527	29478	172	288	172	260	249	227	269		286	286	277	177	135
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	204	332	204	229	241	225	270	235	185	185	228	259	147
5529	29479	159	319	159	226	266	217	283		231	231	257	256	165
5530	29480	264	333	264	233	194	230	408		314	314	361	183	168
5531	29481	133	323	133	217	234	195	247		203	203	225	256	177
5532	Chittimutyalu (Micro-nutrient Check)	134	306	134	229	274	212	531		248	248	389	191	148
5533	29482	223	260	223	250	269	247	331		191	191	261	195	126
5534	29483	269	296	269	258	231	252	303		262	262	283	272	149
5535	29484	250	317	250	213	274	245	348		225	225	287	248	128
<b>Exp. Mean</b>		<b>233</b>	<b>297</b>	<b>233</b>	<b>252</b>	<b>256</b>	<b>249</b>	<b>305</b>	<b>230</b>	<b>238</b>	<b>238</b>	<b>272</b>	<b>231</b>	<b>148</b>

**Table 6.16 contd.: Panicle/m<sup>2</sup> of entries in IVT- Biofort, Kharif 2020**

Entry No.	IET No.	ZONE VI						ZONE VII							
		MA2 (2)	MA (3)	GU		GU (1)	Zone VI (3)	AP		AP (2)	TE		TE (2)	TA	
		Mean	Mean	NVS	@NWG	Mean	Mean	MTU	BPT	Mean	RNR	WGL	Mean	CBT	ADT
5501	29454	191	224	219	261	219	200	314	270	292	400	434	417	373	279
5502	29455	171	170	228	252	228	190	279	232	255	382	442	412	393	270
5503	29456	224	222	210	264	210	219		319	319	382	465	424	400	
5504	29457	182	205	207	263	207	190	285	302	294	560	431	495	368	292
5505	29458	167	206	249	160	249	194	276	264	270	471	426	448	535	
5506	29459	202	216	264	261	264	223	320	250	285	431	444	437	393	289
5507	29460	217	220	237	252	237	224	300	262	281	533	439	486	388	324
5508	29461	195	222	219	261	219	203	277	240	259	529	441	485	350	322
5509	29462	218	208	249	261	249	228	290	225	258	502	441	471	383	275
5510	BPT 5204 (Yield Check)	176	203	261	257	261	204	373	176	274	480	439	459	345	279
5511	29463	168	206	249	249	249	195	366	238	302	502	429	466	455	279
5512	29464	202	219	219	219	219	207	340	267	303	418	417	418	325	317
5513	29465	176	207	204	252	204	185	320	181	251	502	436	469	358	281
5514	29466	205	207	240	203	240	217	277	240	259	564	452	508	365	292
5515	29467	207	215	210	266	210	208	363	280	321	551	431	491	373	318
5516	29468	171	201	228	253	228	190	305	234	269	507	436	471	498	290
5517	29469	185	210	142	253	142	171	340	276	308	467	444	455	375	296
5518	29470	209	222	222	232	222	214		260	260	458	441	449	360	280
5519	IR 64 (Yield Check)	182	183	237	261	237	200	323	249	286	444	442	443	318	311
5520	29471	146	166	213	173	213	180	299	331	315	587	444	515	443	274
5521	29472	205	200	219	257	219	210	300	216	258	618	408	513	365	339
5522	29473	172	205	231	253	231	192		249	249	458	432	445	395	
5523	29474	163	210	207	249	207	185	330	232	281	444	424	434	348	263
5524	29475	147	214		256		147		264	264	382		382	350	
5525	29476	175	185	249	264	249	200	327	272	299	587	459	523	395	299
5526	29477	167	178	246	252	246	193	360	276	318	471	437	454	385	341
5527	29478	156	199	228	165	228	180	307	303	305	453	451	452	340	
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	203	197	222	264	222	209	290	284	287	453	426	440	378	319
5529	29479	210	217	246	200	246	222	299	303	301	516	424	470	338	334
5530	29480	175	221	261	253	261	204	310	292	301	507	441	474	295	320
5531	29481	216	212	216		216	216		290	290	453		453	353	321
5532	Chittimutyalu (Micro-nutrient Check)	169	195	270	178	270	203	323	239	281	524	454	489	371	263
5533	29482	160	170	228	134	228	183		268	268	449	431	440	408	265
5534	29483	211	228	261	257	261	227	353	312	333	453	432	443	405	288
5535	29484	188	200	249	272	249	208	302	307	304	507	396	451	383	278
<b>Exp. Mean</b>		<b>186</b>	<b>205</b>	<b>231</b>	<b>238</b>	<b>231</b>	<b>201</b>	<b>315</b>	<b>263</b>	<b>286</b>	<b>484</b>	<b>436</b>	<b>460</b>	<b>380</b>	<b>296</b>



**Table 6.16 contd.: Panicle/m<sup>2</sup> of entries in IVT- Biofort, Kharif 2020**

Entry No.	IET No.	ZONE VII										Overall (17)	
		TA (2)		KE		KE (2)		KA			KA (1)		Zone VII (9)
		Mean	MNC	PTB	Mean	MND	@BRM	@GNV	@SRS	Mean	Mean		Mean
5501	29454	326	217	389	303	287	148	442	356	287	329	290	
5502	29455	331	183	428	305	283	135	517	360	283	321	281	
5503	29456	400	287	318	302	257	147			257	347	295	
5504	29457	330	180	482	331	270	125	383	347	270	352	291	
5505	29458	535	563	373	468	343	45	317	380	343	406	321	
5506	29459	341	263	439	351	273	115	396	304	273	345	300	
5507	29460	356	373	439	406	303	145	378	363	303	373	320	
5508	29461	336	297	517	407	310	138	352	399	310	365	311	
5509	29462	329	263	361	312	270	125	330	340	270	334	292	
5510	BPT 5204 (Yield Check)	312	393	435	414	287	143	354	373	287	356	313	
5511	29463	367	347	241	294	317	138	385	360	317	353	296	
5512	29464	321	363	330	347	270	125	363	343	270	339	286	
5513	29465	319	207	364	285	263	151	456	396	263	323	279	
5514	29466	328	400	327	363	290	145	370	389	290	356	313	
5515	29467	345	293	432	363	297	135	405	370	297	371	320	
5516	29468	394	313	369	341	280	138	323	416	280	359	297	
5517	29469	336	270	367	318	327	138	370	389	327	351	305	
5518	29470	320	190	324	257	283	108	360	337	283	324	286	
5519	IR 64 (Yield Check)	314	257	419	338	310	133	365	360	310	341	287	
5520	29471	358	237	527	382	313	143	436	366	313	384	308	
5521	29472	352	220	377	298	277	140	385	396	277	347	292	
5522	29473	395	350	373	361	270	115		333	270	361	298	
5523	29474	305	177	404	290	273	108	465	406	273	322	280	
5524	29475	350	393	366	379	277	105			277	339	299	
5525	29476	347	260	456	358	277	123	468	363	277	370	306	
5526	29477	363		459	459	273	124	345	386	273	375	301	
5527	29478	340		424	424	303	95	446		303	369	290	
5528	DRR Dhan 45 (Yield & Micro-nutrient Check)	348	267	396	331	287	105	355	340	287	344	286	
5529	29479	336	310	386	348	273	80	345	330	273	354	295	
5530	29480	308	400	313	356	320	90	423	432	320	355	307	
5531	29481	337	240	441	340	273	88	320	366	273	339	270	
5532	Chittimutyalu (Micro-nutrient Check)	317	397	379	388	297	65	426	380	297	361	310	
5533	29482	336	217	471	344	290	115	333	333	290	350	288	
5534	29483	346	247	428	337	280	55	355	353	280	355	306	
5535	29484	330	283	391	337	283	145	387	353	283	348	298	
<b>Exp. Mean</b>		<b>346</b>	<b>293</b>	<b>398</b>	<b>350</b>	<b>288</b>	<b>119</b>	<b>386</b>	<b>366</b>	<b>288</b>	<b>352</b>	<b>298</b>	

**Table No. 6.17: Grain quality characteristics of entries in IVT-Biofort, Kharif 2020**

Entry No.	IET No	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	VER	WU	KLAC	ER	ASV	AC	GC	Aroma
5501	29454	74.3	62.6	53.6	6.63	1.90	3.48	LS	VOC	5.6	295	10.6	1.59	4.0	22.55	55	NS
5502	29455	75.3	58.3	42.3	4.78	1.66	2.87	MS	VOC	5.6	310	8.8	1.84	7.0	24.05	65	NS
5503	29456	78.8	68.0	24.4	5.24	2.39	2.19	SB	VOC	5.6	220	11.1	2.11	5.0	27.54	22	NS
5504	29457	76.5	65.6	47.1	6.64	2.15	3.08	MS	VOC	5.1	235	9.9	1.49	4.0	18.83	91	NS
5505	29458	77.2	65.4	49.4	4.44	1.83	2.42	SB	VOC	5.6	325	9.3	2.09	7.0	26.95	22	NS
5506	29459	79.0	67.1	55.9	4.74	1.80	2.63	MS	VOC	4.2	340	8.4	1.77	7.0	26.16	22	NS
5507	29460	76.5	64.2	51.1	5.17	2.29	2.25	SB	VOC	4.8	235	10.5	2.03	7.0	24.75	22	NS
5508	29461	78.1	63.3	51.7	4.68	1.75	2.67	MS	A	4.2	290	7.6	1.62	7.0	26.31	22	NS
5509	29462	77.5	67.3	52.3	5.31	2.05	2.59	MS	VOC	5.5	285	10.2	1.92	7.0	26.75	41	NS
5510	BPT 5204 (YC)	76.5	62.9	57.3	4.49	1.72	2.61	MS	A	4.8	315	9.4	2.09	5.0	24.43	22	NS
5511	29463	77.5	65.9	63.3	3.84	1.95	1.97	SB	A	4.1	205	8.1	2.10	5.0	22.99	30	NS
5512	29464	80.5	71.0	53.2	4.61	1.78	2.58	MS	A	4.1	250	9.1	1.97	7.0	23.99	51	NS
5513	29465	77.4	64.3	35.9	5.04	1.95	2.58	MS	A	5.6	355	8.5	1.68	7.0	27.39	22	NS
5514	29466	76.4	63.3	55.1	4.48	1.65	2.71	MS	VOC	5.6	295	9.9	2.20	7.0	25.40	56	NS
5515	29467	76.1	63.6	54.2	6.66	1.87	3.56	LS	VOC	5.3	340	11.4	1.71	7.0	19.82	83	SS
5516	29468	78.6	62.3	39.2	5.72	2.10	2.72	MS	VOC	4.7	370	10.4	1.81	7.0	20.53	74	NS
5517	29469	77.5	63.3	48.1	6.19	1.82	3.40	LS	VOC	4.8	300	11.5	1.85	4.0	27.86	52	NS
5518	29470	78.6	60.9	48.6	5.04	2.11	2.38	SB	VOC	5.5	290	8.9	1.76	5.0	24.49	54	NS
5519	IR 64 (YC)	76.0	61.9	56.3	6.13	2.01	3.04	LS	VOC	5.5	310	11.3	1.84	5.0	25.52	55	NS
5520	29471	78.7	64.1	48.3	6.51	2.06	3.16	LS	VOC	5.1	320	11.5	1.76	7.0	24.34	22	NS
5521	29472	80.3	65.9	54.0	5.53	1.83	3.02	SS	VOC	4.1	350	9.6	1.73	7.0	26.92	41	NS
5522	29473	76.4	63.4	37.9	6.19	2.12	2.91	LB	VOC	4.7	250	9.7	1.56	4.0	23.20	77	NS
5523	29474	78.4	63.3	16.0	5.73	2.44	2.34	SB	VOC	4.1	315	11.3	1.97	7.0	27.28	43	NS
5524	29475	81.0	67.1	49.3	5.00	1.82	2.74	MS	A	4.0	360	8.5	1.70	5.0	25.66	39	NS
5525	29476	79.4	66.4	54.6	5.96	2.18	2.73	MS	VOC	5.5	295	10.1	1.69	4.0	25.75	60	MS
5526	29477	76.5	65.7	57.7	5.29	2.05	2.58	MS	A	4.6	335	10.2	1.92	7.0	28.16	48	NS
5527	29478	76.7	65.4	54.6	4.96	1.96	2.53	MS	A	4.1	300	9.3	1.87	7.0	21.17	45	NS
5528	DRR Dhan 45	75.9	61.2	56.6	6.08	2.17	2.8	LB	VOC	4.8	340	10.9	1.79	4.0	24.46	43	NS
5529	29479	77.7	65.9	32.9	5.48	2.37	2.31	SB	VOC	5.3	290	10.6	1.93	4.0	21.50	52	NS
5530	29480	76.3	63.7	42.8	4.50	1.78	2.52	MS	VOC	4.1	300	8.1	1.80	7.0	26.42	22	NS
5531	29481	76.8	63.8	46.8	4.84	2.09	2.31	SB	VOC	4.8	325	8.7	1.79	7.0	25.31	22	NS
5532	Chittimutyalu	75.4	64.9	56.8	3.85	1.97	1.95	SB	VOC	4.8	255	6.8	1.76	5.0	21.06	22	NS
5533	29482	76.4	62.5	50.5	5.69	2.01	2.83	MS	VOC	4.1	370	10.1	1.77	5.0	23.58	22	SS
5534	29483	70.8	51.2	18.3	6.77	2.01	3.36	LS	VOC	4.7	335	9.2	1.35	4.0	24.99	63	NS
5535	29484	75.4	55.7	36.7	5.66	1.78	3.17	SS	A	5.3	300	9.6	1.69	7.0	24.49	73	NS

**HULL:** Hulling (%); **Milling (%)**: HRR: Head Rice Recovery (%); **KL:** Kernel Length(mm); **KB:** Kernel Breadth(mm); **L/B:** Length and breadth ratio; **Grain Chalk:** Grain Chalkiness; **VOC:** Very occasionally present; **A:** Absent; **KLAC:** Kernel Length after cooking; **WU:** Water uptake; **VER:** Volume expansion ratio; **ER:** Elongation ratio; **ASV:** Alkali Spreading Value; **AC:** Amylose Content(%); **GC:** Gel Consistency; **LB Long Bold;** **SB::Short Bold;** **LS:** Long Slender; **MS:** Medium Slender; **SS:** Short Slender.

**Table No. 6.18: Iron content in ppm for polished rice samples of entries in IVT-Biofortification analyzed at IIRR, Hyderabad Kharif 2020**

Entry No.	IET No.	CTK	JYP	Z-3 Mean	SKL @	KJT	SHR	NVS	Z-6 Mean
5501	29454	1.8	3.2	2.5	1.95	4.5	2.45	1.75	2.9
5502	29455	2.3	2.5	2.4	2.35	5.7	2.05	1.75	3.2
5503	29456	2.3	3	2.7		3.4	2.3	1.2	2.3
5504	29457	1.5	2.6	2.1	1.85	1.8	2.25	1.5	1.9
5505	29458		4	4.0	2.65	3.8	1.9	2.25	2.7
5506	29459	2.1	3	2.6	1.45	3.7	2.1	2.4	2.7
5507	29460	1.5	2.6	2.1	1.95	2.5		1.2	1.9
5508	29461	1.9	2.8	2.4	1.75	2	1.6	1.5	1.7
5509	29462	2	3	2.5	2.5	3	2.85	1.2	2.4
5510	<b>BPT 5204 (Yield Check)</b>	2.9	2.3	2.6	2.25	3.1	1.7	2.25	2.4
5511	29463	1.9	2.9	2.4	1.3		2.45	2.8	2.6
5512	29464	2.4	3.9	3.2		2.8	1.7	1.55	2.0
5513	29465	1.5	3.1	2.3		4.2	2.75	1.6	2.9
5514	29466	2.1	4.1	3.1		4.2	1.85	1.65	2.6
5515	29467		2.8	2.8		2.4	1.3	0.95	1.6
5516	29468	1.2	3.3	2.3	2.1	1.9	1.9	0.9	1.6
5517	29469	2.3	2.8	2.6		1.8	2.35	1.6	1.9
5518	29470	0.9	1.9	1.4		3.5	1.3	0.9	1.9
5519	<b>IR 64 (Yield Check)</b>	1.6	2.6	2.1		2.7	1.7	1.25	1.9
5520	29471	2	2.5	2.3				1.75	1.8
5521	29472		2.6	2.6		2.8	1.6	1.65	2.0
5522	29473	2.4	3.1	2.8		3.2	1.45	1.25	2.0
5523	29474	1.7	3.9	2.8				1.2	1.2
5524	29475		4.2	4.2			1.7		1.7
5525	29476	1.5	3.3	2.4		2.7	1.9	1.25	2.0
5526	29477	2.3	3.5	2.9		1.8		1.8	1.8
5527	29478	1.7	2.3	2.0		2.6	1.95	1.5	2.0
5528	<b>DRR Dhan 45 (Yield &amp; Micro-nutrient Check)</b>	1.9	3.2	2.6	1.7	2.6	2.7	1.45	2.3
5529	29479	2.2	3.2	2.7		2.1	2.15	1	1.8
5530	29480	3	3.1	3.1			1.35	1.7	1.5
5531	29481	2.4	3	2.7		3.4	1.6	1.3	2.1
5532	<b>Chittimutyalu (Micro-nutrient Check)</b>	2.1	3.3	2.7		4.4		2.2	3.3
5533	29482	1.4	4.3	2.9		3.2	1.55	1.95	2.2
5534	29483	1.9	3.6	2.8		3.1	2.35	1.5	2.3
5535	29484	2.1	2.4	2.3			2.8	2.1	2.5
	<b>Mean</b>	<b>2.0</b>	<b>3.1</b>	<b>2.6</b>	<b>2.0</b>	<b>3.1</b>	<b>2.0</b>	<b>1.6</b>	<b>2.1</b>

**Table No. 6.18 contd.: Iron content in ppm for polished rice samples of entries in IVT-Biofortification analyzed at IRR, Hyderabad Kharif 2020**

Entry No.	IET No.	MTU	BPT	RNR	WGL	CBT	MNC	PTB	MND	BRM	GNV	Z-7 Mean	Overall Mean
5501	29454	2.25	2.6	2	2.05	1.8	1.9	1.7	1.6	2.3	1.35	2.0	2.2
5502	29455	1.95	2.45	1.05	1.3	0.9	2.05	2.5	1.35	2.7	1.55	1.8	2.1
5503	29456		2.15	2	1.7	1.25		2.3	1.25	1.7		1.8	2.0
5504	29457	1.6		2.4	1.3	1	1.8	1.5	0.95	3	1.15	1.6	1.7
5505	29458	2.5	1.6	1.25	2.6	2.3	2.95	4.1	2.1	2.7	2.05	2.4	2.6
5506	29459	1.65	2.2	1.2	1.85	2.1	1.55	2	1.45	1.9	1.8	1.8	2.1
5507	29460	1.75	1.35	1.45	1.8	1.25	1.55	1.7	1.75	5.9	1.5	2.0	2.0
5508	29461	2.15	1.5	1.9	1.6	1.55	1.5	2.4	1.4	4.4	1.55	2.0	2.0
5509	29462	1.85	2.05	1.5	1.75	1.5	1.95	1.7	1.6	1.6	0.85	1.6	1.9
5510	<b>BPT 5204 (Yield Check)</b>	2.45	1.35	1.8	2.6	1.6	1.7	1.85	1.8	3.5	2.85	2.2	2.3
5511	29463	2.6	1.75	1.85	3.2	2.05	2.15	2.1	2.1	4.6	1.75	2.4	2.4
5512	29464	2.2	2.35	1.35	1.65	2.1	1.55	1.7	1.3	2.4	1.8	1.8	2.1
5513	29465	2	2.4	1.85	1.6	2.15	2.8	1.9	1.55	2.7	2.25	2.1	2.3
5514	29466	3.5	2.1	2	2.2	2.1	2.1	2.6	2.15	4.6	2.35	2.6	2.6
5515	29467	2.6	2.05	1.3	1.45	1.3	1.45	1.8	0.95		1.3	1.6	1.7
5516	29468	1.4	1.75	0.8	1.7	1.15	1.3	1.1	1.25	2.9	1	1.4	1.6
5517	29469	2.2	1.6	1.55	2.2	1.85	1.9	2.5	1.25		1.8	1.9	2.0
5518	29470	2	2.1	0.9	1.3	1.15	1.35	1	0.65		1.25	1.3	1.4
5519	<b>IR 64 (Yield Check)</b>	2.35	1.65	2.45	1.4	1.6	2.15	1.75	1.65		1.45	1.8	1.9
5520	29471	2.25	2.2	1.55	2	1.3	1.9	1.4	2.05	3.3	1.55	2.0	2.0
5521	29472	2.8	1.65	1.45	2.1	1.9	2.25	1.75	1.75	3.4	1.65	2.1	2.1
5522	29473		2.4	1.35	1.5	1.5	1.65	1.55	1.5	3.3		1.8	2.0
5523	29474	2	1.8	1.4	2.35	1.2	2.6	2.35	1.05	3.4	1.55	2.0	2.0
5524	29475		2.55	1.15		1.3	2	2.5	1.15			1.8	2.1
5525	29476	2.3	2.55	1.4	1.25	1.6	1.65	1.95	1.1	2.7	1.35	1.8	1.9
5526	29477	1.45	2.1	1.2	1.35	2		2.3	1.75	3.3	1.5	1.9	2.0
5527	29478	1.85	2.25	1.45	1.7	1.4		2	1.5		1.15	1.7	1.8
5528	<b>DRR Dhan 45 (Yield &amp; Micro-nutrient Check)</b>	1.9	1.7	1.8	1.8	1.4	2	1.45	1.3		1.45	1.6	1.9
5529	29479	2.5	2.15	1.5	1.8	1.3	1.9	1.95	1.6		1.35	1.8	1.9
5530	29480	2.35	2.4	1.6	1.65	1.7	1.6	2.65	1.65	3.6	1.65	2.1	2.1
5531	29481		1.7	1.45	2.8	2.4	2.3	2.3	1.2		1.35	1.9	2.1
5532	<b>Chittimutyalu (Micro-nutrient Check)</b>	2.55	2.3	2.2	3.45	2.2	2.3	2.6	2.35	2.7	2.05	2.5	2.6
5533	29482		1.9	1.4	2.2	2	2.85	2.75	1.55	5.5	1.4	2.4	2.4
5534	29483	2.2	2.25	1.85	1.9	1.4	2.15	2.2	1.55	3.8	1.15	2.0	2.2
5535	29484	2.7	1.9	2.4	2.45	3.25	3.1	2.6	2.45	4	2.1	2.7	2.6
	<b>Mean</b>	<b>2.2</b>	<b>2.0</b>	<b>1.6</b>	<b>1.9</b>	<b>1.7</b>	<b>2.0</b>	<b>2.1</b>	<b>1.5</b>	<b>3.3</b>	<b>1.6</b>	<b>1.9</b>	<b>2.1</b>

**Table No.6.19: Zinc content in ppm for polished rice samples of entries in IVT-Biofortification analyzed at IIRR, Hyderabad Kharif 2020**

Entry No.	IET No.	CTK	JYP	Z-3 Mean	SKL @	KJT	SHR	NVS	Z-6 Mean
5501	29454	13.6	16.3	15.0	22.5	14.5	18.7	14.4	15.8
5502	29455	9.8	12.0	10.9	18.3	12.2	21.4	10.3	14.6
5503	29456	15.6	17.3	16.5		15.1	21.1	10.3	15.5
5504	29457	11.7	21.8	16.8	13.5	7.7	23.2	10.0	13.6
5505	29458		23.8	23.8	22.9	19.2	15.3	18.2	17.6
5506	29459	11.5	15.5	13.5	12.5	12.3	21.0	11.6	15.0
5507	29460	11.2	27.2	19.2	19.8	14.7		13.3	14.0
5508	29461	9.9	18.9	14.4	13.3	14.2	11.9	12.1	12.7
5509	29462	14.3	19.4	16.9	20.8	14.5	22.9	8.9	15.4
5510	<b>BPT 5204 (Yield Check)</b>	11.3	20.6	16.0	19.9	12.9	21.0	15.3	16.4
5511	29463	17.3	18.2	17.8	14.4		18.1	13.8	15.9
5512	29464	11.9	18.9	15.4		10.5	20.2	11.5	14.1
5513	29465	13.6	21.4	17.5		14.4	43.9	13.8	24.0
5514	29466	13.2	14.3	13.8		12.9	18.4	13.4	14.9
5515	29467		16.7	16.7		12.4	14.1	11.6	12.7
5516	29468	13.4	16.6	15.0	17.6	15.4	22.0	10.6	16.0
5517	29469	18.6	21.2	19.9		12.9	22.5	16.4	17.3
5518	29470	13.4	18.6	16.0		9.0	14.5	12.5	12.0
5519	<b>IR 64 (Yield Check)</b>	14.0	17.3	15.7		13.5	16.3	12.7	14.2
5520	29471	13.8	17.4	15.6				12.7	12.7
5521	29472		16.6	16.6		10.7	15.8	11.5	12.7
5522	29473	14.1	14.1	14.1		13.5	15.1	13.3	14.0
5523	29474	14.4	19.0	16.7				11.4	11.4
5524	29475		11.7	11.7			16.9		16.9
5525	29476	13.8	14.0	13.9		16.1	14.2	10.6	13.6
5526	29477	12.2	16.0	14.1		11.1		7.4	9.2
5527	29478	17.2	7.0	12.1		15.9	13.9	12.0	13.9
5528	<b>DRR Dhan 45 (Yield &amp; Micro-nutrient Check)</b>	13.0	15.0	14.0	14.9	13.8	18.8	12.4	15.0
5529	29479	12.3	17.1	14.7		12.1	22.3	10.1	14.8
5530	29480	11.4	16.0	13.7			15.0	12.7	13.8
5531	29481	15.3	12.8	14.1		16.0	14.7	13.4	14.7
5532	<b>Chittimutyalu (Micro-nutrient Check)</b>	14.6	15.8	15.2		16.8		14.5	15.7
5533	29482	22.2	21.9	22.1		24.4	19.2	23.5	22.4
5534	29483	16.9	12.6	14.8		9.7	30.3	13.1	17.7
5535	29484	21.4	18.3	19.9			27.3	16.2	21.7
	<b>Mean</b>	<b>14.1</b>	<b>17.2</b>	<b>15.8</b>	<b>17.5</b>	<b>13.7</b>	<b>19.6</b>	<b>12.8</b>	<b>15.2</b>

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**Table No.6.19 contd.: Zinc content in ppm for polished rice samples of entries in IVT-Biofortification analyzed at IIRR, Hyderabad Kharif 2020**

Entry No.	IET No.	MTU	BPT	RNR	WGL	CBT	MNC	PTB	MND	BRM	GNV	Z-7 Mean	Overall Mean
5501	29454	21.4	13.4	9.3	14.0	9.7	19.1	19.6	12.3	19.0	12.8	15.0	15.2
5502	29455	15.0	11.4	8.2	16.8	8.6	16.3	16.7	5.6	13.9	8.1	12.1	12.4
5503	29456		10.6	6.6	13.5	12.5		18.0	11.5	33.8		15.2	15.5
5504	29457	17.1		13.5	13.2	9.3	17.7	15.8	7.6	21.4	9.3	13.9	14.2
5505	29458	22.0	13.8	5.7	18.0	10.7	28.6	29.0	13.5	14.1	16.4	17.2	17.7
5506	29459	17.0	12.7	5.7	12.8	8.2	13.5	15.4	7.1	5.4	8.3	10.6	11.8
5507	29460	18.9	8.2	13.6	12.4	14.2	19.5	18.5	13.5	19.4	14.2	15.2	15.6
5508	29461	15.2	8.8	10.2	14.3	10.9	17.6	27.0	10.2	13.0	11.7	13.9	13.7
5509	29462	17.7	9.0	6.1	13.9	11.1	18.1	15.9	8.4	23.0	9.6	13.3	14.2
5510	<b>BPT 5204 (Yield Check)</b>	13.7	9.2	9.5	13.3	10.2	19.2	18.6	10.4	16.7	12.2	13.3	14.3
5511	29463	24.3	7.8	10.5	19.3	9.5	24.4	23.0	15.6	32.0	15.9	18.2	17.8
5512	29464	15.5	10.4	6.7	13.8	11.2	14.3	16.0	7.9	19.8	9.7	12.5	13.2
5513	29465	19.5	11.8	6.2	14.2	12.8	22.9	22.3	11.8	21.5	12.0	15.5	17.5
5514	29466	19.5	9.5	7.8	14.6	9.4	18.4	19.1	10.9	12.0	12.8	13.4	13.7
5515	29467	21.9	9.9	7.2	15.3	11.9	19.0	19.3	11.1		12.1	14.2	14.0
5516	29468	16.2	9.3	7.5	13.7	16.7	19.5	18.8	10.0	28.7	8.4	14.9	15.1
5517	29469	21.6	13.4	8.4	16.8	7.7	21.1	23.2	14.2		13.9	15.6	16.6
5518	29470	16.6	10.6	8.9	14.6	6.8	16.6	16.1	7.9		9.6	12.0	12.5
5519	<b>IR 64 (Yield Check)</b>	16.2	9.3	8.7	13.2	13.9	20.9	19.1	11.2		11.5	13.7	14.1
5520	29471	14.0	12.1	9.3	14.4	17.7	16.0	16.4	11.6	15.1	8.7	13.5	13.8
5521	29472	18.7	9.8	5.2	16.0	10.1	18.2	16.8	7.6	17.5	10.6	13.0	13.2
5522	29473		12.0	8.6	13.4	13.0	18.1	19.8	9.3	15.5		13.7	13.8
5523	29474	17.6	8.2	6.0	16.6	12.4	25.2	25.0	9.6	21.5	10.5	15.2	15.2
5524	29475		12.7	6.2		6.4	16.4	17.6	8.1			11.2	12.0
5525	29476	17.9	12.5	9.2	12.6	13.9	15.5	20.2	9.3	18.9	10.1	14.0	13.9
5526	29477	17.5	10.4	10.5	16.0	16.7		21.2	8.9	31.6	12.8	16.2	14.8
5527	29478	21.5	8.6	7.3	12.3	14.3		19.7	6.8		12.1	12.8	12.9
5528	<b>DRR Dhan 45 (Yield &amp; Micro-nutrient Check)</b>	19.5	8.1	7.8	16.8	9.7	20.4	20.0	10.4		12.7	13.9	14.2
5529	29479	18.2	11.7	6.5	13.4	6.1	18.8	18.8	9.6		11.7	12.7	13.5
5530	29480	12.5	7.9	5.3	10.9	12.8	17.3	27.8	8.4	23.5	8.9	13.5	13.6
5531	29481		7.2	11.8	19.5	10.2	28.6	25.4	11.9		12.1	15.8	15.3
5532	<b>Chittimutyalu (Micro-nutrient Check)</b>	17.9	8.5	8.1	19.9	14.5	24.5	20.6	11.1	21.8	12.6	15.9	15.8
5533	29482		8.9	14.3	30.7	28.0	35.5	29.1	20.9	48.6	20.2	26.2	24.8
5534	29483	20.0	15.3	8.7	17.2	9.8	23.3	22.8	11.0	16.0	11.4	15.5	15.9
5535	29484	23.9	16.6	20.2	20.4	18.4	29.9	19.4	19.6	31.3	22.9	22.2	21.8
	<b>Mean</b>	<b>18.3</b>	<b>10.6</b>	<b>8.7</b>	<b>15.5</b>	<b>12.0</b>	<b>20.4</b>	<b>20.3</b>	<b>10.7</b>	<b>21.3</b>	<b>12.0</b>	<b>14.7</b>	<b>15.0</b>

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**Table No. 6.20: Protein (%) for polished rice samples of entries in IVT -Biofortification analyzed at NRRI, Cuttack, Kharif, 2020**

Entry No.	IET No.	BPT	CTK	MNC	MND	MTU	NVS	NWG	RNR	WGL	Mean
5501	29454	11.01	6.41	7.31	5.24	8.88	6.60	5.98	6.12	10.34	7.54
5502	29455	10.18	8.03	9.15	7.53	12.50	7.74	7.32	9.82	-	9.04
5503	29456	10.64	9.73	-	7.62	-	8.20	6.04	8.30	-	8.42
5504	29457	10.14	9.07	7.59	4.58	9.33	6.66	6.44	11.36	8.82	8.22
5505	29458	11.40	-	10.72	7.30	11.31	9.28	10.21	7.36	11.38	9.87
5506	29459	10.08	6.16	6.60	4.56	9.39	6.90	6.85	6.61	8.32	7.27
5507	29460	10.15	9.13	9.36	6.34	11.55	7.96	10.54	8.32	9.53	9.21
5508	29461	10.25	9.06	8.99	6.15	8.57	9.06	7.58	9.38	11.31	8.93
5509	29462	10.08	8.04	8.76	4.12	9.20	5.69	5.66	7.12	-	7.34
5510	<b>BPT 5204</b>	9.05	8.47	8.28	6.22	7.53	9.36	6.08	9.02	9.64	8.18
5511	29463	9.26	8.29	8.96	5.56	10.35	7.57	6.51	7.20	-	7.96
5512	29464	11.79	8.65	8.11	4.00	10.00	7.37	6.48	5.32	11.42	8.13
5513	29465	9.03	9.25	7.39	4.64	5.54	5.05	6.05	5.00	7.56	6.61
5514	29466	9.94	10.52	8.51	6.46	10.70	8.03	7.00	6.65	8.74	8.51
5515	29467	8.54	-	9.72	5.10	10.04	6.93	6.34	6.44	10.72	7.98
5516	29468	11.40	11.33	9.50	6.58	11.05	8.21	7.76	8.63	11.72	9.58
5517	29469	10.77	9.80	8.52	5.65	9.58	6.72	5.67	5.50	11.12	8.15
5518	29470	7.63	10.15	9.81	6.91	9.60	8.32	6.17	10.27	10.38	8.80
5519	<b>IR 64</b>	9.76	8.06	9.77	5.15	8.73	6.96	6.80	6.67	8.77	7.85
5520	29471	13.17	12.28	8.71	7.36	9.17	8.87	7.82	8.90	11.84	9.79
5521	29472	11.48	-	7.05	4.19	7.93	6.59	6.10	5.90	-	7.03
5522	29473	11.61	10.32	10.33	5.13	-	7.91	6.82	7.36	7.59	8.38
5523	29474	7.36	11.84	10.97	4.21	7.51	6.77	5.95	7.30	9.60	7.94
5524	29475	13.38	-	9.33	4.05	-	-	5.54	6.88	-	7.84
5525	29476	13.59	10.39	8.65	4.90	8.35	6.93	6.78	7.24	8.76	8.40
5526	29477	12.28	7.30	-	5.18	6.86	7.01	4.47	6.96	7.54	7.20
5527	29478	9.88	9.35	-	5.63	8.40	6.68	5.84	6.31	8.47	7.57
5528	<b>DRR Dhan 45</b>	7.74	9.86	7.15	4.95	8.98	6.86	5.87	5.63	8.56	7.29
5529	29479	9.56	12.25	7.54	4.91	-	6.44	6.14	5.52	8.48	7.61
5530	29480	10.88	9.75	7.24	4.61	7.55	7.56	6.23	6.51	7.63	7.55
5531	29481	12.19	12.45	11.58	5.81	-	7.59	-	7.80	-	9.57
5532	<b>Chittimutyalu</b>	12.14	10.86	10.69	7.13	8.73	7.72	8.48	8.76	10.93	9.49
5533	29482	8.00	10.50	9.75	6.91	-	8.62	7.85	7.53	9.46	8.58
5534	29483	11.02	9.06	8.04	4.63	7.18	5.76	7.08	7.25	9.37	7.71
5535	29484	11.63	7.87	8.91	6.08	7.38	6.85	6.41	9.02	8.32	8.05

**ADVANCE VARIETY TRIAL 1 – MEDIUM SLENDER (AVT 1 – MS)****Locations: 37** **Test Entries: 22****Checks: National -WGL 14 (NC1), BPT 5204 (NC2); Zonal- Improved Samba Mahsuri (Eastern and Central), Ketekejoha (North Eastern), Karjat-6 (Western), ADT-49 (Southern); Hybrid- JKRH 3333, 27P63 and Local Check** **Table: 7.1**

Medium Slender (MS) trial was constituted for the first time during the 50<sup>th</sup> ARGGM in 2015 to identify promising genotypes with short and medium slender grain type (similar to B+PT 5204) culture to replace the existing super fine and good quality varieties. Therefore, two trials were conducted viz., AVT1-MS and IVT-MS. AVT2-MS and AVT1-MS trials were conducted at 37 locations while IVT-MS was at 20 locations.

Advanced Variety Trial 1 – Medium Slender (AVT 1–MS) was constituted with 22 entries among them (10 varieties and 6 hybrids) along with two national checks (BPT 5204 and WGL 14) two hybrid checks (JKRH-3333 and 27P63), one zonal check and a local check. Among the test entries, two entries IET 27394 and 27438 are in 3<sup>rd</sup> year of testing and the remaining entries (14 entries) are in 2<sup>nd</sup> year of testing. AVT 1–MS was sent to 37 locations and data was received from 34 centers. The data was not received from NRRI-Cuttack, Gerua-ICAR and Lembucherra. Further the data of following locations was not included in analysis due to low experimental mean yield (Kanpur, Masodha and Sirsi), low CV (Arundhathinagar 2.38%) and high CV (Jabalpur 20.24%). The data pertaining to yield, days to 50% flowering, plant height, number of panicles/m<sup>2</sup> and quality are presented in tables 7.2, 7.3, 7.4, 7.5 and 7.6. Zone wise performance of the entries is mentioned below.

**Performance of entries on Zonal basis in AVT 1–MS during Kharif 2020****Zone II (Northern)**

Since data from only one location (Kanpur) is received from zone II and it was not included in analysis due to low experimental mean yield (1348 Kg/ha), hence performance of entries in zone II are not discussed.

**Zone III (Eastern)**

In the Eastern Zone, trial was sent to seven locations Bhubaneshwar, Jeypore, Chiplima (Odisha); Pusa (Bihar); Ranchi (Jharkhand) and Varanasi (Uttar Pradesh). However, data was not received from NRRI-Cuttack and Data from Masodha was not included due to Low CV% and Experimental yield. The mean experimental yield ranged from 3874 kg/ha (Bhubaneshwar) to 5963 kg/ha (Chiplima) while, CV% from 5.5 (Jeypore) to 17.7 (Ranchi). Zonal mean yield ranged from 3988 kg/ha (IET 28181) to 5422 kg/ha (IET 28757). Days to 50% flowering ranged from 89 days (IET 27394) to 111 days (IET 28732 & 28754). Plant height ranged from 88.09 cm (ZC) to 108.26 cm (IET 28746) and panicles per metre square from 206 (IET 28760) to 269 (IET



28768). Among the varietal checks, the local check is the superior check (4693 kg/ha) followed by national checks WGL 14 (4671 kg/ha) BPT 5204 (4133 kg/ha) and zonal check (4070 Kg/ha). Among test entries IET's 28757, 28746 and 28732 recorded superior performance over best varietal check (Local check) with the required yield gain of > 5% with yield superiority of 15.53, 8.86 and 6.32% respectively. IET 28757 and IET 28746 had acceptable quality characteristics whereas, IET 28732 had low HRR (51.5%) and short bold grains, hence dropped. **Based on superior yield performance over best check and acceptable quality parameters IET 28757 and IET 28746 promoted to 3<sup>rd</sup> year of testing (AVT-2-MS) in Zone III and one entry IET 27438 recorded 7.30% over best check in third year of testing in Zone III.**

### Performance of the entries in AVT 1-MS during Kharif 2020 Zone-III

Rank	IET No/ Designation/ Cross Combination	GY/ DFF/ GT	% NC1/ NC2 ZC/LC	Performance across states		
				State/ Rank	Yield (Kg/ha)	%BVC
<b>Promising in Zone-III (Eastern)</b>						
<b>1</b>	IET 28757 MTU 1321 (MTU 2284-103-1-7) MTU 5249/IR 72	5422 108 MS	16.07 31.18 33.21 <b>15.53</b>	OD (1) JH (3)	6110 5116	16.13 (LC) 31.6 (NC2)
<b>2</b>	IET 28746 RNR 28362 Bhadrakali/NSN 20894	5109 97 MS	9.37 23.61 25.52 <b>8.86</b>	OD (2) UP (10)	6005 4596	14.14 (LC) 12.78 (ZC)
<b>3</b>	IET 28732 MTU 1320 (RM 135-33-1-2-1) (HR L 4) MTU 1081/MTU 1075	4990 111 SB	6.82 20.73 22.60 <b>6.32</b>	OD (3)	5974	13.55(LC)
<b>4</b>	IET 27438 MTU 1281 (MTU 2385-187-1-1-1) MTU 2284-103-1-7)	5036 107 MS	7.81 21.8 23.73 <b>7.30</b>	OD (5) JH (8)	5598 4414	6.40(LC) 13.55 (NC2)
	WGL 14 (NC1) BPT 5204 (NC2) Improved Samba Mahsuri (ZC) <b>JRRH 3333 (HC1)</b> 27P63 (HC2) <b>Local Check (LC)</b>	4671 4133 4070 4846 4431 <b>4693</b>				

### Zone IV (North-Eastern)

In Zone IV (North-Eastern), trial was sent to Assam (Titabar) and Tripura (Arundhathinagar). Data from Arundhathinagar was not included in the analysis due to Low CV (2.38%). Zonal mean yield of the entries ranged from 6018 kg/ha (IET 28754) to 3260 kg/ha (Local check). Days to 50% flowering ranged from 85 days (JKRH 3333 -HC) to 116 days (IET 28732 and local check). Plant height ranged from 92.67 cm (IET 28727) to 147.13 cm (Zonal check) and panicles per metre square from 202 (IET 27438) to 380 (Zonal check). Among the varietal checks, the national check BPT 5204 is the superior yielder check (5753 kg/ha) followed

by national check WGL 14 (4233 kg/ha), zonal check (3989 kg/ha) and local check (3260 Kg/ha). *None of the entries found superior over best varietal check (National check) with the required > 15% yield gain. Therefore, none of the varietal and hybrid entries are promoted in Eastern zone to AVT-2-MS.*

### Zone V (Central)

In Zone V, the trial was sent to Madhya Pradesh (Jabalpur); Chhattisgarh (Raipur) and Maharashtra (Sakoli and Sindewahi). Due to high CV (20.24 %) the data from Jabalpur is not included in analysis. The mean experimental yield ranged from 4110 kg/ha (Sakoli) to 4352 kg/ha (Raipur) while, CV% ranged from 6.94 (Raipur) to 13.51 (Sakoli). Zonal mean yield of the entries ranged from 3209 kg/ha (Zonal check) to 5077 kg/ha (IET 28754). Days to 50% flowering ranged from 90 days (IET 28727) to 115 days (IET 28732). Plant height ranged from 99.92 cm (Zonal check) to 127.56 cm (IET 27438) and panicles per metre square from 170 (JKRH 3333-HC) to 218 (IET 28754 & IET 28730). Among the varietal checks, the local check is the superior yielding check (4144 kg/ha) followed by national check WGL 14 (3953 kg/ha), BPT 5204 (3741 kg/ha) and zonal check (3209 kg/ha). Among the hybrids, IET 28778 recorded superior yield performance over hybrid check (JKRH 3333) as well as the best varietal check (local check) with 5.78 and 13.80% respectively, but had low HRR (44.9%), hence dropped. Among varietal entries IET's 28754, 28730, 28732, 28757 and 28746 found superior over best varietal check (local check) with yield superiority of 22.51, 12.42, 11.48, 11.17 and 8.15% respectively. Quality wise, IET 28732 had low HRR (51.5%) and had short bold grains. *The four entries IET's 28754, 28730, 28757 and 28746 which showed superior yield advantage over best check and had desirable quality characteristics promoted to 3<sup>rd</sup> year of testing (AVT-2-MS) in Zone V and one entry IET 27438 recorded 15.13% over best check in third year of testing in Zone V.*

### Performance of the entries in AVT 1-MS during Kharif 2020 Zone-V

Rank	IET No/ Designation/ Cross Combination	GY/ DFF/ GT	% NC1 /NC2/ ZC/ LC/ HC1/ HC2	Performance across states			
				State/ Rank	Yield (Kg/ha)	%BVC	%HC
<b>Promising in Zone-V( Central)</b>							
<b>1</b>	IET 28754 MTU 1326 (MTU 2513-24-2-2) BPT 5204 /NLR 34449	5077 105 LS	28.4 35.7 58.2 <b>22.5</b>	MA1(1)	5077	23.4 (NC2)	-
<b>2</b>	IET 28778 <b>RNR 26121(Hybrid)</b> RNR 17469/ BBM 1	4716 97 MS	19.3 26.0 46.9 <b>13.8</b> <b>5.78</b> 6.4	MA1(2)	4741	15.2(NC2)	5.26 (HC1)
<b>3</b>	IET 28730 KPS-6262 BPT 5204/MTU 1010	4659 97 MS	17.8 24.5 45.1 <b>12.42</b>	CH (7) MA(3)	4785 4596	7.21(NC1) 7.65(NC2)	- -

Rank	IET No/ Designation/ Cross Combination	GY/ DFF/ GT	% NC1 /NC2/ ZC/ LC/ HC1/ HC2	Performance across states			
				State/ Rank	Yield (Kg/ha)	%BVC	%HC
4	IET 28732	4620	16.87	CH (2)	5535	24.0(NC1)	-
	MTU 1320	115	23.49				
	(RM 135-33-1-2-1) (HR L 4)	SB	43.97				
	MTU 1081/MTU 1075		<b>11.48</b>				
5	IET 28757	4607	16.5	CH (1)	6019	34.86(NC1)	-
	MTU 1321	108	23.1				
	(MTU 2284-103-1-7)	MS	43.5				
	MTU 5249/ IR 72		<b>11.17</b>				
6	IET 28746	4482	13.3	MA(9)	4429	7.65(NC2)	-
	RNR 28362	98	19.8				
	Bhadrakali/ NSN 20894	MS	39.6				
			<b>8.15</b>				
7	IET 27438	4771	20.6	CH (4)	5321	19.2	-
	MTU 1281	104	27.5				
	(MTU2385-187-1-1-1)	MS	46.8				
	MTU1075 / MTU1081 / MTU 1121)		<b>15.1</b>				
	WGL 14 (NC1)	3953					
	BPT 5204 (NC2)	3741					
	Improved Samba	3209					
	Mahsuri (ZC)	<b>4458</b>					
	JRRH 3333 (HC1)	4432					
	27P63 (HC2)	<b>4144</b>					
	Local Check (LC)						

### Zone VI (Western)

In Zone VI, trial was sent to Maharashtra (Karjat, Shirgoan); Gujarat (Navsari, Nawagam, Dabhoi and Vyara). The mean experimental yield of locations ranged from 3674 kg/ha (Kajrat) to 4787 kg/ha (Shirgoan) while, CV% ranged from 9.17 (Dabhoi) to 16.24 (Nawagam). Zonal mean yield ranged from 2800 kg/ha (IET 28760) to 4957 kg/ha (IET 28181). Days to 50% flowering ranged from 87 days (IET 28778) to 104 days (IET 28732). Plant height ranged from 95.26 cm (Zonal check) to 123.19 cm (IET 28177) and panicles per metre square from 223 (WGL 14-NC) to 300 (IET 28754). Among the varietal checks, the local check is the superior yielder (4246 kg/ha) followed by national checks BPT 5204 (4101 kg/ha), WGL 14 (3883 kg/ha) and zonal check (3333 kg/ha). Among the hybrids, IET 28181 with (10.49% and 16.75%) found superior to the hybrid check (JKRH 3333) as well as the best varietal check (local check) with the required yield gain of > 5% and 10% respectively, but had undesirable quality parameters viz., low HRR (48.1%), high AC (26.75) and hard GC (22), hence dropped. **Among varietal entries IET 28746 and IET 28757 found superior over best varietal check (local check) with yield superiority of 13.23%, 9.51% promoted to 3<sup>rd</sup> year of testing (AVT-2-MS) in Zone VI.**

**Performance of the entries in AVT 1-MS during Kharif 2020- Zone-VI**

Rank	IET No/ Designation/ Cross Combination	GY/ DFF/ GT	% NC1 /NC2 ZC/ LC/ HC1/HC2	Performance across states			
				State/ Rank	Yield (Kg/ha)	%BVC	%HC
<b>Promising in Zone-VI (Western)</b>							
<b>1</b>	IET 28181 <i>HRI-203(Hybrid)</i>	4957 93 MS	23.8 20.8 48.7 <b>16.7</b> 10.49 <b>11.54</b>	MA2 (1)	5529	9.89 (LC)	9.57 (HC1)
<b>2</b>	IET 28746 RNR 28362 Bhadrakali/NSN 20894	4808 95 MS	23.82 17.2 44.25 <b>13.23</b>	GU (1)	5338	30.25 (NC1)	-
<b>3</b>	IET 28757 MTU 1321 (MTU 2284-103-1-7) MTU 5249/IR 72	4652 102 MS	19.80 13.43 39.57 <b>9.56</b>	GU (2)	5017	22.42(N C1)	-
	WGL 14 (NC1) BPT 5204 (NC2) Karjat 6 (ZC) <b>JRRH 3333 (HC1)</b> 27 P 63 (HC2) <b>Local Check (LC)</b>	3883 4101 3333 <b>4486</b> 4444 <b>4246</b>					

**Zone VII (Southern Zone)**

In Zone VII, trial was sent to Andhra Pradesh (Maruteru, Bapatla); Telangana (Rajendranagar, Kampasagar, Kunaram, Warangal); Tamil Nadu (Aduthurai, Coimbatore); Karnataka (Mandya, Mugad, Sirsi, Gangavati, Malagi); Puducherry (Kurumbapet). The data from Sirsi was not considered for analysis due to low experimental mean data (2520 kg/ha). The mean experimental yield ranged of locations ranged from 4076 kg/ha (Bapatla) to 9134 kg/ha (Malagi) while, CV% ranged from 6.09 (Maruteru) to 18.11 (Kampasagar). Zonal mean yield of the entries ranged from 5403 kg/ha (IET 28768) to 6873 kg/ha (IET 27438). Days to 50% flowering ranged from 92 days (IET 27394) to 114 days (IET 28732). Plant height ranged from 92.28 cm (IET 28760) to 108.59 cm (IET 27438). Among the varietal checks, the national check is the superior yielding check WGL 14 (6163 kg/ha) followed local check (5903 kg/ha), national check BPT 5204 (5474 kg/ha) and zonal check (5322 kg/ha). *Among varietal test entries, IET 28757 found superior best varietal check (National check WGL 14) with the required yield gain of > 5% with yield superiority of 8.19% promoted to 3<sup>rd</sup> year of testing (AVT-2-MS) and one entry IET 27438 recorded 11.52% over best check in third year of testing in Zone VII.*

**Performance of the entries in AVT 1-MS during Kharif 2020 Zone-VII**

Rank	IET No/ Designation/ Cross Combination	GY/ DFF/ GT	% NC1/ NC2/ ZC/LC	Performance across states		
				State/ Rank	Yield (Kg/ha)	%BVC
<b>Promising in Zone-VII (Southern)</b>						
<b>1</b>	IET 28757	6668	<b>8.19</b>	TE (2)	7102	15.83 (NC1)
	MTU 1321	105	21.8	TN (2)	7232	15.43 (NC1)
	(MTU 2284-103-1-7)	MS	25.29	PUD (8)	7202	5.29 (NC1)
	MTU 5249/ IR 72		12.95			
<b>2</b>	IET 27438	6873	<b>11.52</b>	AP (2)	5299	8.31 (NC1)
	MTU 1281	104	25.5	TE (1)	7332	19.58 (NC1)
	(MTU 2385-187-1-1-1)	MS	29.14	TN (3)	7073	12.89 (NC1)
	MTU 1075/MTU1081/MTU 1121		16.43	PUD (8)	7202	5.29 (NC1)
	<b>WGL 14 (NC1)</b>	<b>6163</b>				
	BPT 5204 (NC2)	5474				
	ADT 49 (ZC)	5322				
	JRRH 3333 (HC1)	5643				
	27 P 63 (HC2)	5714				
	Local Check (LC)	5903				

**Three years' performance of promising entries in Medium Slender grain trial during 2020**

IET 27438 MTU 1281(MTU 2385-187-1-1-1) (MTU 1075/MTU1081/MTU 1121), a varietal entry has completed 3 years of testing (2018 to 2020). It has out yielded the best varietal check in the first year (2018: 6.9 and 6.7% respectively) in Zone III and VII. In the second year (2019), it recorded yield improvement over best check by 13.3 and 12.87% respectively in the same Zone III and VII. In third year testing (2020), it recorded superior performance in Zone III (7.30%), V (15.1%) and VII (11.52%). It recorded consistent performance in the state of Odisha for all the three years whereas, in the states of Telangana and Andhra Pradesh in third and second year; in Tamil Nadu in third and first year of testing. Quality wise, it had acceptable quality parameters. *Hence, the entry IET 27438 is found promising for the states of Odisha, Andhra Pradesh, Telangana and Tamil Nadu.*

IET 27394 (TMRH-139), a hybrid entry has completed 3 years of testing (2018 to 2020). In third year of testing it could not show superior performance in any zone or state. In the first year it recorded 5.08 and 12 % over BVC and 15.39 and 5% over hybrid check in zone III and IV respectively. In second year of testing, it recorded 22.34 % over best varietal check and 7.31 % over hybrid check in zone IV. *Due to inconsistent performance across the years in any zone or state, it is discontinued.*

**Three-year performance of entries (IET 27438 and 27394)**

Entry	Year	Zone	No. of Locations	Yield (kg/ha)	Yield adv. Over BVC/ HC (%)	States	No. of Locations	Yield (Kg/ha)	Yield adv. Over BVC/ HC (%)	Remarks		
IET 27438	2018	III	4	5659	6.9	OD WB	1 1	9346 4828	44.74 23.73	Promising in the states of Odisha, Andhra Pradesh, Telangana and Tamil Nadu		
		VII	8	7739	6.7	TN KA	2 3	7128 7739	5.17 6.70			
	2019	III	7	5441	13.30	OD UP	4 2	6015 5132	26.57 5.10			
		VII	11	7204	12.87	AP TE	2 3	5262 8879	4.69 14.80			
	2020	III	6	5036	7.30	OD	3	5598	6.40			
		V	3	4771	15.1	CH MA	1 2	5321 4497	19.2 9.30			
			VII	13	6873	11.52	AP TE TN	2 4 2	5299 7332 7073		8.31 19.58 12.89	
		IET 27394 (Hybrid)		2018	III	6	6407	5.08 15.39	JH BH		1 2	9015 7066
	IV		2		5698	12 5	AS	1	5696		4.70 (V) 11.94 (H)	
	2019		IV	2	6132	22.34 7.31	AS	1	7033		15.54 (V) 11.70 (H)	
2020	-		-	-	-	-	-	-	-			

**Entries found promising in AVT 1-MS:**

Zones	2 <sup>nd</sup> year of testing (Promoted to AVT 2-MS)	3 <sup>rd</sup> year of testing (Promising)
Zone II	: None	-
Zone III	: IET 28757 and IET 28746	IET 27438
Zone IV	: None	-
Zone V	: IET's 28754, 28730, 28757 and 28746	IET 27438
Zone VI	: IET 28746 and IET 28757	-
Zone VII	: IET 28757	IET 27438

**Entry promoted to AVT 2-MS:**

Entry	Zone
IET 28757	: III, V, VI and VII
IET 28746	: III, V and VI
IET 28754	: V
IET 28730	: V

**INITIAL VARIETY TRIAL – MEDIUM SLENDER GRAIN (IVT-MS)****Locations: 20****Test Entries: 60**

**Checks: National -WGL 14 (NC1), BPT 5204 (NC2); Zonal- Improved Samba Mahsuri (Eastern and Central), Ketekejoha (North Eastern), Karjat-6 (Western), ADT-49 (Southern) and Local Check** **Table: 7.7**

Initial Variety Trial – Medium Slender grain (IVT-MS) was constituted with 60 entries and four checks. The trial was sent to 20 locations but data was not received from 9 locations including Cuttackr, Chiplima, Pusa, Ranchi, Masodha, Jabalpur, Karjayt, Nawagam and Gangavathi. Data received from Jeypore (2106 kg/ha), and Raipur (1221.85 kg/ha) was not considered in estimating overall and zonal mean yield due to low experimental mean. Trials were not conducted at Ranchi and Masodha. Across the locations the mean yield ranged from 3084.71 kg/ha at Sakoli to 5521 kg/ha at Aduthurai while CV ranged from 5.65 % at Maruter to 19.46% at Coimbatore. Overall mean yield of the entries ranged from 5925 kg/ha (IET 29506) to 3711 kg/ha (IET 29515); days to 50% flowering from 83 days (IET 29509, 29515) to 108 days (IET 29486). Among the checks, local check was the highest yielder (5563 Kg/ha) followed by NC(WGL14) (National check) (4686Kg/ha), NC(BPT5204 ) (4493)Kg/ha), and Zonal check (4243 kg/ha). The data pertaining to yield, days to 50% flowering, plant height, panicles/m<sup>2</sup> and quality are presented in tables 7.8, 7.9, 7.10, 7.11 and 7.12 respectively. The performance of the top 2 entries in overall mean is tabulated and described in detail as below.

**Overall performance of the entries based on yield in Initial Variety Trial- Medium Slender grain (IVT-MS), kharif 2020**

Rank	IET No/ Designation/ Cross Combination	GY/ FD/ GT	Yield adv. Over NC1/NC2/ZC//LC	Zone	
				Rank/Yield	% BC
1	<b>IET 29506</b> (P.3289) PY7 /IR50	5925	26	Z V-8	39
		99	32		
		MS	40	Z VII-1	-
			7		
2	<b>IET29536</b> (OR2674-14-6-2) CRMS32A/OR1889-5	5871	25	Z VI-2	27
		102	31	Z VII-2	-
		MS	38		
			6		
	NC1(WGL14)	4686			
	NC2(BPT5204)	4493			
	Zonal check	4243			
	Local check	5563			

**Bold Italics:** Best check & over the best check; NC1- National Check1; NC2- National Check2; ZC- Zonal Check; LC- Local Check; GY: Grain Yield; FD: Days to 50% flowering; GT: Grain Type; BC- Best Check.

**Performance of the entries on overall mean basis**

Local checks (LC) was the best check (5107 kg/ha) on overall mean basis and two entries IET 29506 with 5925 kg/ha and 50% flowering of 99 days, and IET 29536 with 5871 kg/ha and

50% flowering of 102 days are found superior to LC and are recommended for promotion to AVT-1.

### **Zonal performance of the entries**

#### **Central Zone (Zone V)**

The trial was evaluated at two locations viz., Raipur (Chhattisgarh), and Sakoli (Maharashtra) in Central Zone. Data from Raipur was not included due to low mean yield (1221.85kg/ha). Experimental mean yield of the locations Sakoli (3084.71kg/ha with CV% 15.27) was considered for the analysis of this zone. Mean yield of the entries ranged from 1347 kg/ha (IET29486) to 5087 kg/ha (IET 29527); days to 50% flowering ranged from 75 days (IET 29509) to 111 days (IET 29486); plant height ranged from 57 cm (IET 29516) to 113 cm (IET 29501) and panicles per square meter ranged from 124 (IET 29516) to 349 (IET 29493). Twenty one Entries namely IET Nos. 29485, 29489, 29490, 29494, 29502, 29503, 29506, 29508, 29511, 29514, 29515, 29523, 29526, 29527, 29534, 29535, 29536, 29537, 29538, 29539, and 29543 recorded superior yield performance (>5%) over the best check, national check (WGL14).

#### **Western Zone (Zone VI)**

The trial was evaluated at only one location viz., Navsari (Gujarat). Experimental mean yield at the location was 4125.25 kg/ha and CV% was 12.55. Mean yield of the entries ranged from 2017 kg/ha (IET 29501) to 6187 kg/ha (IET 29519); days to 50% flowering ranged from 74 days (IET 29522) to 118 days (IET 29486); plant height ranged from 71.30 cm (IET 29534) to 132.90 cm (IET 29501) and panicles per square meter ranged from 165 (IET 29530) to 334 (IET 29501). Fifteen entries namely IET Nos. 29487, 29490, 29492, 29494, 29495, 29502, 29503, 29506, 29515, 29519, 29523, 29524, 29527, 29536, and 29538 recorded superior yield performance (>5%) over the best check, Local check.

#### **Southern Zone (Zone VII)**

The trial was evaluated at eight/ seven locations viz., Maruteru, Bapatla (AP), Rajendranagar, Kammasagar and Warangal (Telangana), Aduthurai and Coimbatore (TN), and Mandya (Karnataka). Experimental mean yield at the locations ranged from 3749.37 kg/ha (Warangal) to 5521Kg/ha (Aduthurai) and CV% ranged from 5.65 (Maruteru) to 19.46 (Coimbatore).

Mean yield of the entries ranged from 3711 kg/ha (IET 29515) to 5925 kg/ha (IET 29506); days to 50% flowering ranged from 85 days (IET 29509) to 110 days (IET 29494); plant height ranged from 79.27 cm (IET 29518) to 121.29 cm (IET 29514) and panicles per square meter ranged from 276 (IET 29515) to 467 (IET 29520). Among the checks local check was the top yielder (5563 Kg/ha) followed by national check1 (4686 Kg/ha), national check2 (4493 Kg/ha), and Zonal check (4243 Kg/ha). None of the entries out yielded the best check (LC) with > 5% yield gain and hence none are promoted in this zone to 2nd year of testing. Yield advantage percentage of the promising entries on the basis of overall mean & zones and promotion/shift on the basis of flowering duration is summarized as below.



**Performance of promising entries based on yield in Initial Variety Trial – Medium Slender grain kharif 2020**

S No.	IET No	Zone V			Zone VI			OVERALLL			Remarks
		Yield	%BC	DFE	Yield	%BC	DFE	Yield	%BC	DFE	
1	29485	4357	47%	97							Promoted
2	29487				5097	14%	79				Promoted
3	29489	4107	39%	95							Promoted
4	29490	4098	39%	108	5262	18%	87				Promoted
5	29492				5310	19%	90				Promoted
6	29494	3987	35%	96	5324	19%	86				Promoted
7	29495				4826	8%	88				Promoted
8	29502	4017	36%	95	5174	16%	87				Promoted
9	29503	4857	64%	83	5205	17%	80				Promoted
10	29506	4097	36%	98	4745	6%	86	5925	7%	99	Promoted
11	29508	3977	34%	92							Promoted
12	29511	4717	60%	97							Promoted
13	29514	3527	19%	96							Promoted
14	29515	3648	23%	76	4938	11%	76				Promoted
15	29519				6187	39%	84				Promoted
16	29523	4097	39%	96	4716	6%	91				Promoted
17	29524				4746	6%	77				Promoted
18	29526	4701	59%	77							Promoted
19	29527	5087	72%	69	5488	23%	75				Promoted
20	29534	3672	24%	99							Promoted
21	29535	3487	18%	98							Promoted
22	29536	3337	13%	103	5678	27%	89	5871	6%	102	Promoted
23	29537	3117	5%	106							Promoted
24	29538	3667	24%	95	4833	8%	86				Promoted
25	29539	3537	20%	98							Promoted
26	29543	3319	12%	84							Promoted
<b>NC (WGL14)</b>		<b>2687</b>			<b>2577</b>			<b>4686</b>			
<b>NC (BPT5204)</b>		<b>2387</b>			<b>2978</b>			<b>4493</b>			
<b>ZC</b>		<b>2957</b>			<b>3146</b>			<b>4243</b>			
<b>LC</b>		<b>2477</b>			<b>4466</b>			<b>5563</b>			

**Table No. 7.1: Composition of entries in Advance Variety Trial 1– Medium Slender Grain (AVT 1-MS), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>2<sup>nd</sup> Year of testing:</b>				
5601	28732	MTU 1320 (RM 135-33-1-2-1) (HR L 4)	MTU 1081 / MTU 1075	SB
5602	28760	RP 6300-188-23-7	IR 58025A / KMR-3R	
5603	28778	<b>RNR 26121 (Hybrid)</b>	RNR 17469 / BBM 1	MS
5604	28727	RP 6346-36-16-24-2	Samba Mahsuri*3 / ST 12	
5605	28750	AD 16168	AD 07260 / ADT 49	MS
5606	28754	MTU 1326 (MTU 2513-24-2-2)	BPT 5204 / NLR 34449	MS
5607	28181	<b>HRI-203 (Hybrid)</b>	-	MS
5608	<b>BPT 5204 (NC)</b>			
5609	28730	KPS-6262	BPT 5204 / MTU 1010	MS
<b>3<sup>rd</sup> Year of testing:</b>				
5610	27394	<b>TMRH-139 (Hybrid)</b>	-	MS
<b>2<sup>nd</sup> Year of testing:</b>				
5611	28178	<b>US-308 (Hybrid)</b>	-	MS
5612	28746	RNR 28362	Bhadrakali / NSN 20894	MS
5613	<b>Improved Samba Mahsuri-Eastern &amp; Central, Ketekejoha- North Eastern, Karjat 6- Western, ADT 49- Southern---ZC</b>			
<b>3<sup>rd</sup> Year of testing:</b>				
5614	27438	MTU 1281 (MTU 2385-187-1-1-1)	MTU 1075 / MTU 1081 / MTU 1121	MS
<b>2<sup>nd</sup> Year of testing:</b>				
5615	28177	<b>MEPH-155 (Hybrid)</b>	-	MS
5616	28757	MTU 1321 (MTU 2284-103-1-7)	MTU 5249 / IR 72	MS
5617	<b>JKRH 3333 (Hybrid Check)</b>			
5618	28768	CR 3511-1-1-1-4-1-1	IR 36 / Surendra	MS
5619	28180	<b>PHI-19101 (Hybrid)</b>	-	MS
5620	<b>27 P 63 (Hybrid Check)</b>			
5621	<b>WGL 14 (NC)</b>			
5622	<b>Local Check</b>			

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**Table No. 7.2: Grain Yield (kg/ha) of entries in AVT1 MS, Kharif 2020**

Entry No.	IET No.	ZONE II		ZONE III									
		UP1		OD				OD (3)					
		@KNP		BBN	JYP	CHP	Mean						
5601	28732	639		5848	1 * #	5292	9	6781	4	5974	3 *	14% #	29%
5602	28760	916				6160	5	5348		5754	4	9% #	24%
5603	28778	624		3012		5694	6	5826		4844			
5604	28727	2324	2	2778		5464	8	5010		4417			
5605	28750	1935	5	4532	6 #	3061		6617	5	4737			
5606	28754	785				4462		6139	9	5301	6	#	14%
5607	28181	682		3509		3346		4950		3935			
5608	BPT 5204 (NC)	1733	7	3158		4050		5617		4275			
5609	28730	1131		4152	7 #	1273		6254	8	3893			
5610	27394	1453	9	3626		3634		5985		4415			
5611	28178	1445	10	3713		4112		5637		4487			
5612	28746	2472	1	4766	3 #	6672	3	6577	6	6005	2 *	14% #	29%
5613	Zonal Check (ZC)	1636	8	3333		3648		4652		3878			
5614	27438	881		4678	5 #	4489		7627	2 #	5598	5	6% #	20%
5615	28177	888		4006	8	3068		5512		4195			
5616	28757	798		4737	4 #	6713	2	6881	3	6110	1 *	16% #	31%
5617	JKRH 3333 (HC)	945		2807		6758	1	4383		4649			
5618	28768	1430		3772	10	3552		7796	1 * #	5040	9		
5619	28180	1759	6	3918	9	5654	7	5388		4987	10		
5620	27 P 63 (HC)	1993	4	3480		3381		6030	10	4297			
5621	WGL 14 (NC)	2216	3	4971	2	4774	10	5647		5131	8		
5622	Local Check (LC)	966		2690		6572	4	6522	7	5261	7		
<b>Exp. Mean</b>		<b>1348</b>		<b>3874</b>		<b>4629</b>		<b>5963</b>		<b>4872</b>			
CD				610.95		419.48		1123.27		555.35			
CV%				9.54		5.5		11.43		6.92			
D/S		17-07-2020		07-07-2020		15-07-2020		16-07-2020					
D/P		05-08-2020		31-07-2020		12-08-2020		20-08-2020					
Local Check Name		NDR312		Manaswini		Manaswini		Pratikshya					

**Table No. 7.2 contd.: Grain Yield (kg/ha) of entries in AVT1 MS, Kharif 2020**

Entry No.	IET No.	ZONE III											
		BI (1)		JH (1)		UP2		UP2 (1)					
		PSA		RCI		@MSD	VRN	Mean					
5601	28732	4400		3579				4041			4041		
5602	28760	3518		3008									
5603	28778	4735	9	3404				5027	3 *	5027	3 *	23%	
5604	28727	4042		4106	10	6%	2989	7	5010	4 *	5010	4 *	23%
5605	28750	4082		3426			2267	4055			4055		
5606	28754	4472		2657									
5607	28181	3065		4150	9	7%	2122	4909	7 *	4909	7 *	20%	
5608	BPT 5204 (NC)	4037		3887			2822	4047			4047		
5609	28730	3238		5270	1 *	36%	3089	6	4065		4065		
5610	27394	5416	1	3799	8%		1522	4906	8 *	4906	8 *	20%	
5611	28178	4858	6	4436	7	14%		4980	6 *	4980	6 *	22%	
5612	28746	4506	10	3535			2844	10	4596	10 *	4596	10 *	13%
5613	Zonal Check (ZC)	5025	3	3689				4075			4075		
5614	27438	4947	5	4414	8	14%	2973	8	4061		4061		
5615	28177	4260		3557			2200	5458	1 *	5458	1 *	34%	
5616	28757	4992	4	5116	3 *	32%	1622	4091			4091		
5617	JKRH 3333 (HC)	5131	2	5007	4		3733	1	4987	5 *	4987	5	
5618	28768	4807	8	5204	2 *	34%	3667	2	4067		4067		
5619	28180	4003		4699	6	21%	3556	4	4616	9 *	4616	9 *	13%
5620	27 P 63 (HC)	3769		4765	5		3589	3	5158	2	5158	2	
5621	WGL 14 (NC)	4813	7	3755			2933	9	4067		4067		
5622	Local Check (LC)	4467		3865			3211	5	4042		4042		
<b>Exp. Mean</b>		<b>4390</b>		<b>4060</b>			<b>2821</b>	<b>4513</b>		<b>4513</b>			
CD		424.47		1184.13			133.05	513.68		513.68			
CV%		5.87		17.7			2.83	6.89		6.89			
D/S		09-07-2020		06-07-2020			28-07-2020	11-07-2020					
D/P		07-08-2020		01-08-2020			31-08-2020	27-07-2020					
Local Check Name		Rajendra Mahsuri-1		BPT 5204			Sambha Mahsuri-Sub 1	HUR-917					

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**Table No. 7.2 contd.: Grain Yield (kg/ha) of entries in AVT1 MS, Kharif 2020**

Entry No.	IET No.	ZONE III				ZONE IV								
		UP (1)		Zone III (6)		AS (1)		TR		Zone IV (1)				
		Mean		Mean		TTB		@ARD		Mean				
5601	28732	4041		4990	4	6%	5264	9	4680	6	5264	9		
5602	28760			4509					3613					
5603	28778	5027	3 *	23%	4616		5022		4284	10	5022			
5604	28727	5010	4 *	23%	4402		5473	6	5404	1	5473	6		
5605	28750	4055			4296		4116		4649	7	4116			
5606	28754				4433		6018	1	10%	3573		6018	1	10%
5607	28181	4909	7 *	20%	3988		5569	4	3787		5569	4		
5608	BPT 5204 (NC)	4047			4133		5753	2	4044		5753	2		
5609	28730	4065			4042		5556	5	5342	3	5556	5		
5610	27394	4906	8 *	20%	4561		4338		5400	2	4338			
5611	28178	4980	6 *	22%	4623	10	4784		4364	9	4784			
5612	28746	4596	10 *	13%	5109	2 *	9%	5053		4276		5053		
5613	Zonal Check (ZC)	4075			4070		3989		5142	5	3989			
5614	27438	4061			5036	3	7%	4342		4080		4342		
5615	28177	5458	1 *	34%	4310		5204	10	4164		5204	10		
5616	28757	4091			5422	1 *	16% #	12%	4556		5333	4	4556	
5617	JKRH 3333 (HC)	4987	5		4846	6		4638		3756		4638		
5618	28768	4067			4866	5		5376	8	4640	8	5376	8	
5619	28180	4616	9 *	13%	4713	7		5684	3	3151		5684	3	
5620	27 P 63 (HC)	5158	2		4431			5469	7	3427		5469	7	
5621	WGL 14 (NC)	4067			4671	9		4233		3440		4233		
5622	Local Check (LC)	4042			4693	8		3260		4044		3260		
<b>Exp. Mean</b>		<b>4513</b>			<b>4580</b>			<b>4938</b>		<b>4300</b>		<b>4938</b>		
CD		513.68			374.23			1032.09		168.79		1032.09		
CV%		6.89			4.96			12.67		2.38		12.67		
D/S								27-07-2020		17-08-2020				
D/P								25-08-2020		14-09-2020				
Local Check Name								Ranjit		Satabdi (5622)				

**Table No. 7.2 contd.: Grain Yield (kg/ha) of entries in AVT1 MS, Kharif 2020**

Entry No.	IET No.	ZONE V																
		MP		CH (1)		MA1		MA1 (2)		Zone V (3)								
		@JBP		RPR		SKL		SND		Mean		Mean						
5601	28732			5535	2 *	24%	4442	10	3884		4163		4620	6 *	11%			
5602	28760																	
5603	28778	3509	9	4665	8		4470	8	5012	1 #	4741	2 *	15%	4716	3 *	14%		
5604	28727	3333		2439			4470	8	3977		4224			3629				
5605	28750	2453		5391	3 *	21%	2303		4095		3199			3930				
5606	28754						5077	3 *			5077	1 *	23%	13%	5077	1 *	23% #	14%
5607	28181	4356	4	3396			4870	4 *	4251	9	4561	4	11%	4172				
5608	BPT 5204 (NC)	3163		2996			3837		4391	6	4114			3741				
5609	28730	3355		4785	7	7%	4275		4916	2	4596	3	12%	4659	4 *	12%		
5610	27394	4422	3	2831					3966		3966			3399				
5611	28178	3916	6	5073	6 *	14%	5147	1 *	3671		4409	10	7%	4630	5 *	12%		
5612	28746	3399	10	4589	9		4603	7	4254	8	4429	9	8%	4482	8	8%		
5613	Zonal Check (ZC)			3582			2603		3441		3022			3209				
5614	27438			5321	4 *	19%	4203		4790	3	4497	6	9%	4771	2 *	15%		
5615	28177	4499	2	3899			4737	6	4228		4483	7	9%	4288				
5616	28757			6019	1 *	35% #	15%	3237		4566	5	3902		4607	7 *	11%		
5617	JKRH 3333 (HC)	5038	1	4367			4770	5	4237	10	4504	5		4458	9			
5618	28768			3922			3403		3523		3463			3616				
5619	28180	4081	5	4152			5137	2 *	3814		4476	8	9%	4368	5%			
5620	27 P 63 (HC)	3916	6	5251	5		3770		4274	7	4022			4432	10			
5621	WGL 14 (NC)	2937		4463	10		3403		3992		3698			3953				
5622	Local Check (LC)	3592	8	4364			3437		4630	4	4034			4144				
<b>Exp. Mean</b>		<b>3734</b>		<b>4352</b>			<b>4110</b>		<b>4196</b>		<b>4170</b>			<b>4233</b>				
CD		1263.97		498.93			917.76		661.79		575.56			434.49				
CV%		20.24		6.94			13.51		9.54		8.36			6.22				
D/S		06-07-2020			01-07-2020			01-07-2020		07-07-2020								
D/P		27-07-2020			24-07-2020			30-07-2020		30-07-2020								
Local Check Name		JR 206			CG Devbhog			PDKV Kisan		PKV HMT								

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**Table No. 7.2 contd.: Grain Yield (kg/ha) of entries in AVT1 MS, Kharif 2020**

Entry No.	IET No.	ZONE VI												
		MA2				MA2 (2)		MA (4)		GU				
		KJT		SHR		Mean		Mean		NVS		NWG		
5601	28732	4167	3	5677	6	4922	6	4543	6	3581		4251		
5602	28760											4065		
5603	28778	3722	10	3318		3520		4131		5040	7	4280	10	
5604	28727	3861	8	2753		3307		3765		3816		5433	3	
5605	28750	3000		4963	9	3982		3590		4540		3748		
5606	28754							5077	1 *	12%		2828		
5607	28181	4667	1 #	6391	2	5529	1	5045	2 *	11%	4480	4361	8	
5608	BPT 5204 (NC)	3500		6235	4	4868	7	4491	8	3498		3091		
5609	28730	4056	5	4211		4134	10	4365	9	4299		4713	5	
5610	27394	3944	6	6562	1	5253	2	4824	3	6%	5036	8	3185	
5611	28178	3889	7	6198	5	5044	4	4726	5	4907	10	4116		
5612	28746	3833	9	3661		3747		4088		5417	6	5880	1 *	
5613	Zonal Check (ZC)	3556		2932		3244		3133		4156		2643		
5614	27438	3111		3705		3408		3952		4969	9	5095	4	
5615	28177	3333		4948	10	4141	9	4312		5674	4 *	4336	9	
5616	28757	2389		5454	8	3922		3912		6143	1 *	4610	6	
5617	JKRH 3333 (HC)	3722	10	6369	3	5046	3	4775	4	6119	2	3000		
5618	28768	3611		4606		4109		3786		4342		4108		
5619	28180	4083	4	4382		4233	8	4354	10	5784	3 *	3854		
5620	27 P 63 (HC)	3472		3958		3715		3869		5490	5	5860	2	
5621	WGL 14 (NC)	3111		3795		3453		3575		4639		4467	7	
5622	Local Check (LC)	4444	2	5618	7	5031	5	4532	7	4601		3413		
Exp. Mean		3674		4787		4230		4231		4827		4152		
CD		567.24		1115.15		577.24		432.82		927.84		1402.5		
CV%		9.34		14.09		8.26		6.17		11.63		16.24		
D/S		08-07-2020			09-07-2020						16-07-2020		16-07-2020	
D/P		01-08-2020			03-08-2020						18-08-2020		28-08-2020	
Local Check Name		Karjat-9			Ratnagiri 8						GNR-2		Mahisagar	

**Table No. 7.2 contd.: Grain Yield (kg/ha) of entries in AVT1 MS, Kharif 2020**

Entry No.	IET No.	ZONE VI										ZONE VII		
		GU				GU (4)		Zone VI (6)		AP		MTU	BPT	
		DBI		VYR		Mean		Mean						
5601	28732	3647		4155		3909		4246		5394	8 #	4682	1	
5602	28760	3794		541		2800		2800				4308	7	
5603	28778	4395	6 #	4343		4515	8	4183	10%	3173		4106		
5604	28727	4059	8	4277		4396	10	4033	7%	4744		4222	10	
5605	28750	4490	5 #	4796	3	4394	7%	4256		6597	3 #	4288	8	
5606	28754	3699		2207		2911		2911				4652	2	
5607	28181	5284	1 #	4557	7	4671	6	4957	1 *	17%	10%	4601	5	
5608	BPT 5204 (NC)	3487		4795	5	3718		4101		4124		4095		
5609	28730	3856		4686	6	4389	7%	4304		7184	1 #	2687		
5610	27394	3964	9	4534	9	4180		4538	5	7%	4700	4263	9	
5611	28178	3954	10	5139	2	4529	7	4701	3	11%	5980	3697		
5612	28746	5258	2 #	4796	3	5338	1 *	4808	2	13%	3507	4495	6	
5613	Zonal Check (ZC)	3520		3191		3378		3333		5646	7 #	2924		
5614	27438	5101	3 #	4536	8	4925	3 *	4420	9	20%	7072	3525		
5615	28177	4631	4 #	4305		4737	5	4538	5	7%	4558	4636	3	
5616	28757	3611		5705	1 #	5017	2 *	4652	4	10%	5142	3864		
5617	JKRH 3333 (HC)	3490		4216		4206		4486	7	6%	3407	3900		
5618	28768	3670		3639		3940		3996		4272		3991		
5619	28180	4062	7	4336		4509	9	4417	10	5863	5 #	4149		
5620	27 P 63 (HC)	3441		4440	10	4808	4	4444	8	4381		3934		
5621	WGL 14 (NC)	3294		3990		4098		3883		5742	6	4042		
5622	Local Check (LC)	3761		3636		3853		4246		4730		4611	4	
Exp. Mean		4021		4128		4255		4169		5079		4076		
CD		766.69		883.36		758.11		685.03		511.19		955.32		
CV%		9.17		12.99		10.81		9.97		6.09		14.22		
D/S		03-07-2020			09-07-2020						20-07-2020		27-07-2020	
D/P		23-07-2020			10-08-2020						16-08-2020			
Local Check Name		Narmada			GAR-13						MTU1190		BPT 2782	

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**Table No. 7.2 contd.: Grain Yield (kg/ha) of entries in AVT1 MS, Kharif 2020**

Entry No.	IET No.	ZONE VII															
		AP (2)				TE				TE (4)				TN			
		Mean				RNR		KMP		KNP		WGL		Mean			
5601	28732	5038	3	#	21%	7014		5151	9	6542	2* #	5342	5 #	6012	8	6744	5
5602	28760	4308															
5603	28778	3640				8675	9	5264	7	5545	8	5098	7 #	6146	5		5988
5604	28727	4483				7467		3992		5351		3755		5141			4537
5605	28750	5443	1*	11% #	31%	8691	8	6822	2	5472	9	4548	10	6383	4	13%	6435
5606	28754	4652	10		12%	6782				5252				6017	7		
5607	28181	4987	5	#	20%	8674	10	3961		5089		5433	4 #	5789	10		4969
5608	BPT 5204 (NC)	4110				8165		5849	5	4581		3480		5519			6651
5609	28730	4936	6	#	19%	8770	7	6233	4	8049	1* #	4060		6778	3	11% #	20%
5610	27394	4482				8936	6	3667		5614	6	3724		5485			6821
5611	28178	4839	8	#	16%	8943	5	4698		5705	5 #	4426		5943	9		6111
5612	28746	4001				8078		3682		6076	4 #	5220	6 #	5764			5880
5613	Zonal Check (ZC)	4285				7006		4124		4146		3327		4651			5664
5614	27438	5299	2	8% #	27%	10339	1*	7465	1* #	5573	7	5952	1 #	7332	1*	20% #	29%
5615	28177	4597	11%			8370		4426		5073		3480		5337			5849
5616	28757	4503				9648	2	6628	3	6332	3 #	5800	2 #	7102	2*	16% #	25%
5617	JKRH 3333 (HC)	3654				9525	3	5481	6	3965		3694		5666			6091
5618	28768	4132				7148		4984		4237		3510		4970			6682
5619	28180	5006	4	#	20%	9083	4	4791		4328		4853	9 #	5764			5540
5620	27 P 63 (HC)	4158				8665		5178	8	4552		3968		5591			6034
5621	WGL 14 (NC)	4892	7			8425		5147	10	5366	10	5586	3	6131	6		7099
5622	Local Check (LC)	4671	9			8650		4186		4712		4945	8	5623			6120
<b>Exp. Mean</b>		<b>4550</b>				<b>8431</b>		<b>5086</b>		<b>5312</b>		<b>4510</b>		<b>5864</b>			<b>6146</b>
CD		547.98				1455.44		1522.55		1118.68		651.14		828.61			800.85
CV%		7.31				10.46		18.11		12.76		8.73		8.56			7.88
D/S						30-06-2020		21-07-2020		02-07-2020		30-06-2020					26-08-2020
D/P						29-07-2020		19-08-2020		02-08-2020		27-07-2020					26-09-2020
Local Check Name						Krishna		RNR-15048		RNR 15048		WGL-32100					ADT 52

**Table No. 7.2 contd.: Grain Yield (kg/ha) of entries in AVT1 MS, Kharif 2020**

Entry No.	IET No.	ZONE VII														
		TN		TN (2)				KA				MLG				
		CBT		Mean				MND		MGD		GNV				
5601	28732	8657	1* #	7701	1*	23% #	42%	5648		3844		5385		10480	1	
5602	28760	6330	7 #	6330	6	#	17%	6120						8600		
5603	28778	6110	9 #	6049	12%			5994		3531		6298	10	8740		
5604	28727	4850		4694				6583	9	2865		5641		9260	7	
5605	28750	5958	10	6197	10	#	14%	3472		4771	6	6282		9500	5	
5606	28754	6790	5 #	6790	4	8% #	25%	4909						8680		
5607	28181	4465		4717				6422	10	4490	8	4859		9020		
5608	BPT 5204 (NC)	4190		5421				6761	7	3188		5449		8640		
5609	28730	5443		5507				6925	5	3042		6474	9	8900		
5610	27394	3192		5007				5959		5708	2*	6667	7	9740	2	
5611	28178	6547	6 #	6329	7	#	17%	4791		4646	7	8192	3 #	9720	3	
5612	28746	7128	4 #	6504	5	#	20%	6869	6	3052		8526	1* #	8840		
5613	Zonal Check (ZC)	4445		5055				7352	3	3896		5641		8660		
5614	27438	7171	3 #	7073	3*	13% #	30%	5300		5500	3*	8353	2* #	8920		
5615	28177	4407		5128				7412	1	5750	1*	5897		8680		
5616	28757	7304	2 #	7232	2*	15% #	33%	6340		4063	10	8016	4 #	9180	10	
5617	JKRH 3333 (HC)	4754		5423				6748	8	4906	5	5962		9280	6	
5618	28768	5769		6226	9	#	15%	7370	2	3063		5321		8980		
5619	28180	4806		5173				5126		3813		5962		9600	4	
5620	27 P 63 (HC)	4778		5406				4547		5146	4	6554	8	9220	8	
5621	WGL 14 (NC)	5431		6265	8			6224		4083	9	7051	6	9080		
5622	Local Check (LC)	6117	8	6119				7260	4	3781		7372	5	9220	8	
<b>Exp. Mean</b>		<b>5666</b>		<b>5925</b>				<b>6097</b>		<b>4157</b>		<b>6495</b>		<b>9134</b>		
CD		1298.61		763.11				914.98		1207		961		2506		
CV%		13.91		7.82				9.11		13.87		7.07		13.19		
D/S				12-08-2020						15-07-2020		13-07-2020		28-07-2020		23-07-2020
D/P				15-09-2020						10-08-2020				21-08-2020		17-08-2020
Local Check Name				CO 52						Thanu		Mugad Siri 1253		GANGAVATHI SONA		SIRI-1253

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**Table No. 7.2 contd.: Grain Yield (kg/ha) of entries in AVT1 MS, Kharif 2020**

Entry No.	IET No.	ZONE VII										Overall (29)				
		KA		KA (4)		PUD (1)		Zone VII (13)								
		@SRS	Mean		Mean		KBP		Mean			Mean				
5601	28732	329	6339					6240	5	#		5337	5*	#		
5602	28760	2164	7360	1	7%			6340	4	#	11%	4708				
5603	28778	2457	6141			5512		5695				5034				
5604	28727	2300	6087			9014	1*	32%	23%	5560		4802				
5605	28750	2093	6006			7806	4	14%		6203	7	#	5099	9		
5606	28754	2021	6795	9				6178	8	#		4975				
5607	28181	2875	6198	7		4304		5512				4945				
5608	BPT 5204 (NC)	2050	6010			5995		5474				4743				
5609	28730	2632	6335	10		7323	5	7%		6205	6	#	5182	6		
5610	27394	2675	7019	2		8893	3*	30%	21%	5991		5129	7			
5611	28178	2793	6837	7		9014	1*	32%	23%	6344	3	#	5417	3*	6% #	
5612	28746	2236	6822	8		7082	10			6033	10		5394	4*	6% #	
5613	Zonal Check (ZC)	3314	6387	3		6357		5322				4387				
5614	27438	3018	7018	3		7202	8	5%		6873	1*	12% #	5681	2*	12% #	12%
5615	28177	2407	6935	4		5314		5681				5000				
5616	28757	3457	6900	6		7202	8	5%		6668	2*	8% #	5707	1*	12% #	13%
5617	JKRH 3333 (HC)	2157	6724	10				5643				5061				
5618	28768	2275	6184			4908		5403				4815				
5619	28180	3550	6125	1		7202	8	5%		5778		5127	8			
5620	27 P 63 (HC)	3204	6367	4		7323	5			5714		5044				
5621	WGL 14 (NC)	2421	6610			6840		6163	9	#		5087	10			
5622	Local Check (LC)	3014	6908	5		5029		5903				5036				
Exp. Mean		2520	6387			6796		5856				5036				
CD		1067	1068.13			1929.21		439.09				239.75				
CV%		20.34	10.15			17.11		4.55				2.89				
D/S		03-07-2020						12-10-2020								
D/P		24-08-2020						12-11-2020								
Local Check Name								TKM 13								

**Table No. 7.3: Days to 50% flowering of entries in AVT1 -MS , Kharif 2020**

Entry No.	IET No.	ZONE III												
		UP1		OD			OD (3)	BI (1)	JH (1)	UP2		UP2 (1)	UP2(1)	Zone III (6)
		@KNP	BBN	JYP	CHP	Mean	PSA	RCI	@MSD	VRN	Mean	Mean	Mean	
5601	28732	93	112	110	123	115	95	115						111
5602	28760	88		113	99	106	112	86						103
5603	28778	89	96	107	103	102	93	95		89	89	89		97
5604	28727	83	90	112	104	102	92	86	87	83	83	83		95
5605	28750	96	104	110	115	110	107	107	84	99	100	100		107
5606	28754	90		115	112	114	108	109						111
5607	28181	96	94	98	105	99	92	90	92	86	86	86		94
5608	BPT 5204 (NC)	87	95	116	109	107	89	97	98	94	94	94		100
5609	28730	95	101	113	112	109	107	98	100	95	95	95		104
5610	27394	88	88	96	100	94	84	86	102	79	79	79		89
5611	28178	89	99	117	106	107	100	106		91	91	91		103
5612	28746	87	95	99	106	100	93	98	105	90	91	91		97
5613	Zonal Check (ZC)	90	104	105	106	105	99	95		102	102	102		102
5614	27438	85	106	107	117	110	107	106	99	100	101	101		107
5615	28177	97	96	102	105	101	92	91	103	84	83	83		95
5616	28757	85	105	111	120	112	108	103	105	102	102	102		108
5617	JKRH 3333 (HC)	89	95	100	103	99	93	95	86	83	82	82		95
5618	28768	95	105	114	119	112	103	104	82	105	106	106		108
5619	28180	92	95	108	108	104	99	96	79	83	82	82		98
5620	27 P 63 (HC)	85	99	103	110	104	100	97	76	92	91	91		100
5621	WGL 14 (NC)	91	106	115	111	111	101	106	99	103	102	102		107
5622	Local Check (LC)	91	94	100	112	102	107	107	101	96	96	96		103
Exp. Mean		90	99	108	109	106	99	99	94	93	93	93		102

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**Table No. 7.3 contd.: Days to 50% flowering of entries in AVT1 -MS , Kharif 2020**

Entry No.	IET No.	ZONE IV			ZONE V						ZONE VI	
		AS (1)	TR	Zone IV (1)	MP	CH (1)	MA1	MA1 (2)	Zone V (3)	MA2		
		TTB	@ARD	Mean	@JBP	RPR	SKL	SND	Mean	Mean	KJT	SHR
5601	28732	116	64	116	106	114	113	118	116	115	100	92
5602	28760		64									
5603	28778	89	60	87	97	98	96	96	96	97	92	92
5604	28727	88	60	90	92	90	91	89	90	90	85	90
5605	28750	111	69	112	103	108	88	104	96	100	102	97
5606	28754	106	59	106			105		105	105		
5607	28181	87	58	88	94	91	104	90	97	95	85	92
5608	BPT 5204 (NC)	87	71	87	97	110	90	107	99	102	91	96
5609	28730	101	70	101	103	99	89	102	96	97	102	97
5610	27394	90	58	91	91	87		115	115	101	86	89
5611	28178	98	71	98	98	99	101	99	100	100	94	100
5612	28746	91	70	92	99	97	100	97	98	98	91	97
5613	Zonal Check (ZC)	95	53	96		103	88	96	92	96	101	96
5614	27438	106	75	106	108	105	95	111	103	104	102	92
5615	28177	91	64	89	96	93	90	92	91	92	100	92
5616	28757	106	75	106	105	107	106	110	108	108	103	93
5617	JKRH 3333 (HC)	86	67	85	94	94	104	95	99	98	90	93
5618	28768	104	75	105	106	105	94	109	102	103	103	99
5619	28180	97	71	99	96	97	105	94	100	99	91	94
5620	27 P 63 (HC)	94	71	95	97	98	90	100	95	96	92	97
5621	WGL 14 (NC)	102	72	102	102	104	98	103	101	102	103	96
5622	Local Check (LC)	116	55	116	89	102	96	108	102	102	96	107
<b>Exp. Mean</b>		<b>98</b>	<b>66</b>	<b>98</b>	<b>98</b>	<b>100</b>	<b>97</b>	<b>102</b>	<b>100</b>	<b>100</b>	<b>96</b>	<b>95</b>

**Table No. 7.3 contd.: Days to 50% flowering of entries in AVT1 -MS , Kharif 2020**

Entry No.	IET No.	ZONE VI							ZONE VII							
		MA2 (2)	MA (4)	GU			GU (4)	Zone VI (6)	AP		AP (2)	TE				
		Mean	Mean	NVS	NWG	DBI	VYR	Mean	Mean	MTU	BPT	Mean	RNR	KMP	KNP	WGL
5601	28732	96	106	110	99	110	112	108	104	107	106	107	120	110	120	121
5602	28760				113	85	91	96	96		98	98				
5603	28778	92	94	72	88	82	97	85	87	87	86	86	102	94	100	106
5604	28727	87	89	91	101	88	95	94	92	86	90	88	99	93	92	95
5605	28750	99	98	101	93	105	111	103	102	105	90	98	114	103	114	120
5606	28754		105		106	107	110	108	108		94	94	113		112	
5607	28181	89	93	88	112	85	95	95	93	94	94	94	95	92	97	97
5608	BPT 5204 (NC)	94	96	91	98	83	96	92	93	86	88	87	102	92	109	94
5609	28730	99	97	98	101	82	103	96	97	100	84	92	108	89	110	109
5610	27394	88	97	85	106	80	90	90	89	85	89	87	95	91	93	92
5611	28178	97	99	95	93	96	101	96	97	97	98	98	110	94	99	103
5612	28746	94	96	94	104	83	98	95	95	92	94	93	103	93	102	106
5613	Zonal Check (ZC)	99	95	91	102	105	101	100	99	98	92	95	107	98	106	110
5614	27438	97	100	101	99	103	111	103	101	105	92	99	109	100	115	114
5615	28177	96	94	93	110	88	96	97	97	88	94	91	99	94	97	96
5616	28757	98	103	99	98	108	110	104	102	106	92	99	111	106	114	114
5617	JKRH 3333 (HC)	91	95	89	110	84	99	95	94	89	89	89	99	95	96	102
5618	28768	101	101	100	100	83	113	99	100	99	92	95	110	103	113	108
5619	28180	93	96	92	109	84	100	96	95	90	93	91	102	95	97	102
5620	27 P 63 (HC)	95	95	94	106	84	99	96	95	100	92	96	102	98	99	103
5621	WGL 14 (NC)	99	100	97	106	85	101	97	98	100	95	98	106	100	106	109
5622	Local Check (LC)	102	102	86	110	107	98	100	101	103	108	106	106	89	112	101
<b>Exp. Mean</b>		<b>95</b>	<b>98</b>	<b>93</b>	<b>103</b>	<b>91</b>	<b>101</b>	<b>97</b>	<b>97</b>	<b>96</b>	<b>93</b>	<b>95</b>	<b>105</b>	<b>97</b>	<b>105</b>	<b>105</b>



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**Table No. 7.3 contd.: Days to 50% flowering of entries in AVT1 -MS , Kharif 2020**

Entry No.	IET No.	ZONE VII												Overall (29) Mean	
		TE (4)		TN		TN (2)		KA				KA (4)	PUD (1)		Zone VII (13)
		Mean	ADT	CBT	Mean	MND	MGD	GNV	MLG	@SRS	Mean	KBP	Mean		
5601	28732	118	100	112	106	120	127	104	123	129	119		114	111	
5602	28760			111	111	98			114	105	106		105	102	
5603	28778	101	97	105	101	92	105	99	101	102	99	86	97	95	
5604	28727	95	97	99	98	98	108	93	88	105	97	89	94	93	
5605	28750	113	98	106	102	92	111	110	104	113	104	93	105	104	
5606	28754	112		115	115	100			112	104	106		108	108	
5607	28181	95	96	91	94	102	95	88	84	98	92	88	93	93	
5608	BPT 5204 (NC)	99	105	103	104	92	106	92	97	104	97	96	97	97	
5609	28730	104	101	103	102	109	106	85	96	98	99	91	99	100	
5610	27394	93	96	95	96	103	98	93	81	100	94	88	92	91	
5611	28178	102	100	111	105	101	113	105	94	106	103	98	102	101	
5612	28746	101	101	105	103	102	107	99	89	106	99	88	99	97	
5613	Zonal Check (ZC)	105	103	115	109	97	113	98	92	111	100	100	102	101	
5614	27438	110	109	105	107	106	106	105	91	106	102	97	104	104	
5615	28177	97	99	100	100	98	98	93	82	105	93	92	95	95	
5616	28757	111	103	109	106	115	113	105	91	107	106	90	105	105	
5617	JKRH 3333 (HC)	98	96	106	101	101	103	90	84	110	94		96	95	
5618	28768	109	113	119	116	101	109	110	89	110	102	97	105	104	
5619	28180	99	98	103	101	106	102	93	84	105	96	97	97	97	
5620	27 P 63 (HC)	101	97	106	102	98	108	92	85	107	96	89	98	97	
5621	WGL 14 (NC)	105	100	112	106	92	110	93	83	110	94	95	100	101	
5622	Local Check (LC)	102	111	111	111	99	109	99	83	110	97	98	102	102	
<b>Exp. Mean</b>		<b>103</b>	<b>101</b>	<b>106</b>	<b>104</b>	<b>101</b>	<b>107</b>	<b>97</b>	<b>93</b>	<b>107</b>	<b>100</b>	<b>93</b>	<b>100</b>	<b>100</b>	

**Table No. 7.4: Plant Height (cm) of entries in AVT1 -MS, Kharif 2020**

Entry No.	IET No.	ZONE III											Zone III (6) Mean
		UP1		OD		OD (3)	BI (1)	JH (1)	UP2		UP2 (1)		
		@KNP	BBN	JYP	CHP	Mean	PSA	RCI	@MSD	VRN	Mean		
5601	28732	91.70	120.00	85.73	95.86	100.53	105.00	77.00		113.67	113.67	99.54	
5602	28760	69.90		66.67	102.05	84.36	110.00	92.00				92.68	
5603	28778	93.20	121.00	90.67	87.60	99.76	98.00	100.00		116.43	116.43	102.28	
5604	28727	76.60	101.00	70.60	86.64	86.08	99.00	101.00	103.00	100.97	100.97	93.20	
5605	28750	84.10	102.00	82.20	100.55	94.92	94.00	100.00	105.00	115.43	115.43	99.03	
5606	28754	74.10		84.53	92.03	88.28	108.00	99.00				95.89	
5607	28181	81.40	104.00	93.67	91.31	96.32	106.00	104.00	98.00	114.33	114.33	102.22	
5608	BPT 5204 (NC)	101.00	105.00	80.40	90.36	91.92	101.00	100.00	96.00	102.47	102.47	96.54	
5609	28730	74.90	105.00	74.33	94.18	91.17	91.00	101.00	105.00	113.73	113.73	96.54	
5610	27394	85.70	109.00	87.80	87.31	94.70	93.00	102.00	107.00	107.87	107.87	97.83	
5611	28178	95.90	110.00	78.53	81.13	89.89	90.00	95.00		109.00	109.00	93.94	
5612	28746	82.20	121.00	89.40	105.00	105.13	110.00	102.00	109.00	122.13	122.13	108.26	
5613	Zonal Check (ZC)	91.20	101.00	71.93	89.23	87.39	88.00	85.00		93.37	93.37	88.09	
5614	27438	94.20	130.00	96.33	86.77	104.37	102.00	107.00	100.00	122.40	122.40	107.42	
5615	28177	76.60	119.00	89.53	93.99	100.84	93.00	103.00	103.00	122.87	122.87	103.56	
5616	28757	77.70	113.00	82.27	96.90	97.39	88.00	98.00	92.00	109.90	109.90	98.01	
5617	JKRH 3333 (HC)	82.90	124.00	92.13	104.41	106.85	92.00	104.00	94.00	112.33	112.33	104.81	
5618	28768	84.40	123.00	84.53	102.56	103.37	103.00	98.00	96.00	121.67	121.67	105.46	
5619	28180	80.00	117.00	79.57	94.40	96.99	91.00	99.00	87.00	109.20	109.20	98.36	
5620	27 P 63 (HC)	98.20	105.00	81.27	78.31	88.19	87.00	98.00	89.00	108.50	108.50	93.01	
5621	WGL 14 (NC)	75.00	114.00	76.67	92.25	94.31	95.00	102.00	93.00	110.90	110.90	98.47	
5622	Local Check (LC)	97.90	110.00	83.10	98.40	97.17	91.00	86.00	78.00	93.87	93.87	93.73	
<b>Exp. Mean</b>		<b>84.95</b>	<b>112.70</b>	<b>82.81</b>	<b>93.24</b>	<b>95.45</b>	<b>97.05</b>	<b>97.86</b>	<b>97.19</b>	<b>111.05</b>	<b>111.05</b>	<b>98.59</b>	

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**Table No. 7.4 contd.: Plant Height (cm) of entries in AVT1 -MS, Kharif 2020**

Entry No.	IET No.	ZONE IV			ZONE V					ZONE VI		
		AS (1)	TR	Zone IV (1)	MP	CH (1)	MA1		MA1 (2)	Zone V (3)	MA2	
		TTB	@ARD	Mean	@JBP	RPR	SKL	SND	Mean	Mean	KJT	SHR
5601	28732	94.27	110.00	94.27		124.24	104.00	113.93	108.97	114.06	139.33	116.50
5602	28760		99.00									
5603	28778	113.53	110.00	113.53	83.00	114.30	101.00	113.20	107.10	109.50	115.67	103.50
5604	28727	92.67	90.00	92.67	74.30	105.06	100.00	103.00	101.50	102.69	109.70	101.80
5605	28750	98.87	120.00	98.87	71.40	114.54	88.00	110.57	99.28	104.37	136.97	114.90
5606	28754	96.80	111.00	96.80			105.00		105.00	105.00		
5607	28181	107.80	114.00	107.80	86.70	118.66	114.00	107.40	110.70	113.35	110.33	103.10
5608	BPT 5204 (NC)	112.87	85.00	112.87	77.80	106.13	106.00	110.33	108.17	107.49	102.67	98.10
5609	28730	104.67	105.00	104.67	72.60	110.07	120.00	116.17	118.08	115.41	116.10	108.30
5610	27394	100.53	98.00	100.53	82.30	110.81		113.67	113.67	112.24	118.53	74.50
5611	28178	102.73	110.00	102.73	76.80	117.61	109.00	104.90	106.95	110.50	123.30	114.30
5612	28746	117.47	112.00	117.47	74.80	125.65	99.00	115.83	107.42	113.50	127.60	117.50
5613	Zonal Check (ZC)	147.13	112.00	147.13		99.99	112.00	87.77	99.88	99.92	107.67	95.80
5614	27438	106.47	106.00	106.47		137.15	109.00	136.53	122.77	127.56	133.43	123.50
5615	28177	110.47	116.00	110.47	97.30	135.23	87.00	127.30	107.15	116.51	125.70	125.30
5616	28757	100.73	98.00	100.73		117.71	108.00	132.87	120.43	119.53	125.53	80.60
5617	JKRH 3333 (HC)	108.00	110.00	108.00	83.20	118.25	123.00	108.37	115.68	116.54	123.60	87.90
5618	28768	107.53	99.00	107.53		109.71	99.00	127.27	113.13	111.99	128.03	122.30
5619	28180	113.87	90.00	113.87	83.30	113.95	112.00	119.83	115.92	115.26	117.53	111.60
5620	27 P 63 (HC)	102.33	98.00	102.33	84.70	113.07	101.00	112.00	106.50	108.69	124.43	78.90
5621	WGL 14 (NC)	102.80	110.00	102.80	80.20	114.74	98.00	119.67	108.83	110.80	130.13	115.90
5622	Local Check (LC)	107.53	90.00	107.53	83.00	99.85	105.00	96.57	100.78	100.47	101.90	<b>98.60</b>
<b>Exp. Mean</b>		<b>107.10</b>	<b>104.23</b>	<b>107.10</b>	<b>80.76</b>	<b>115.34</b>	<b>105.00</b>	<b>113.86</b>	<b>109.42</b>	<b>111.21</b>	<b>120.91</b>	<b>104.65</b>

**Table No. 7.4 contd.: Plant Height (cm) of entries in AVT1 -MS, Kharif 2020**

Entry No.	IET No.	ZONE VI							ZONE VII		
		MA2 (2)	MA (4)	GU				GU (4)	Zone VI (6)	AP	
		Mean	Mean	NVS	NWG	DBI	VYR	Mean	Mean	MTU	BPT
5601	28732	127.92	118.44	105.70	99.30	118.83	106.20	107.51	114.31	131.20	117.00
5602	28760				103.70	113.48	113.30	110.16	110.16		120.00
5603	28778	109.58	108.34	108.10	105.30	129.58	108.30	112.82	111.74	125.00	96.00
5604	28727	105.75	103.63	96.10	98.70	117.59	94.90	101.82	103.13	103.30	133.00
5605	28750	125.93	112.61	99.10	98.00	127.61	104.40	107.28	113.50	120.50	99.00
5606	28754		105.00		103.10	127.38	106.20	112.23	112.23		114.00
5607	28181	106.72	108.71	95.90	105.10	129.41	100.20	107.65	107.34	109.30	82.00
5608	BPT 5204 (NC)	100.38	104.28	76.20	86.10	133.91	104.10	100.08	100.18	128.40	121.00
5609	28730	112.20	115.14	101.70	99.20	122.68	99.10	105.67	107.85	114.60	128.00
5610	27394	96.52	102.23	103.00	112.60	119.13	100.30	108.76	104.68	114.20	106.00
5611	28178	118.80	112.88	106.10	110.60	123.90	104.90	111.38	113.85	117.00	110.00
5612	28746	122.55	114.98	106.50	113.30	136.09	114.60	117.62	119.27	122.60	96.00
5613	Zonal Check (ZC)	101.73	100.81	85.30	95.80	103.61	83.40	92.03	95.26	114.70	104.00
5614	27438	128.47	125.62	120.40	105.40	140.69	107.20	118.42	121.77	130.50	113.00
5615	28177	125.50	116.33	126.10	117.20	133.15	111.70	122.04	123.19	118.20	90.00
5616	28757	103.07	111.75	108.30	98.00	113.14	102.70	105.53	104.71	127.60	120.00
5617	JKRH 3333 (HC)	105.75	110.72	110.30	110.80	132.99	105.10	114.80	111.78	114.70	103.00
5618	28768	125.17	119.15	116.10	107.70	122.59	102.60	112.25	116.55	126.90	112.00
5619	28180	114.57	115.24	98.60	112.00	119.21	104.10	108.48	110.51	110.20	110.00
5620	27 P 63 (HC)	101.67	104.08	102.80	110.30	119.74	100.90	108.44	106.18	104.80	102.00
5621	WGL 14 (NC)	123.02	115.93	108.50	114.30	133.06	109.30	116.29	118.53	114.00	95.00
5622	Local Check (LC)	100.25	100.52	103.40	106.30	128.07	104.30	110.52	107.09	118.30	109.00
<b>Exp. Mean</b>		<b>112.78</b>	<b>110.78</b>	<b>103.91</b>	<b>105.13</b>	<b>124.81</b>	<b>103.99</b>	<b>109.63</b>	<b>110.63</b>	<b>118.30</b>	<b>108.18</b>

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**Table No. 7.4 contd.: Plant Height (cm) of entries in AVT1 -MS, Kharif 2020**

Entry No.	IET No.	ZONE VII									
		AP (2)	TE				TE (4)	TN		TN (2)	KA
		Mean	RNR	KMP	KNP	WGL	Mean	ADT	CBT	Mean	MND
5601	28732	124.10	99.33	110.67	103.00	125.40	109.60	112.80	102.07	107.43	92.87
5602	28760	120.00							99.90	99.90	92.40
5603	28778	110.50	102.23	117.89	119.53	133.33	118.25	114.00	88.47	101.23	98.73
5604	28727	118.15	91.81	99.11	92.52	112.53	98.99	83.60	85.27	84.43	98.73
5605	28750	109.75	102.08	111.00	114.91	127.60	113.90	104.20	89.13	96.67	92.80
5606	28754	114.00	108.53		112.05		110.29		98.93	98.93	93.60
5607	28181	95.65	98.09	103.33	113.97	128.47	110.97	86.40	80.60	83.50	90.73
5608	BPT 5204 (NC)	124.70	94.34	121.67	99.18	134.80	112.50	91.20	97.73	94.47	89.80
5609	28730	121.30	99.82	112.67	121.64	122.73	114.22	88.00	88.07	88.03	93.20
5610	27394	110.10	96.50	96.67	100.94	118.13	103.06	104.00	81.13	92.57	94.00
5611	28178	113.50	99.77	114.89	114.32	123.87	113.21	106.20	90.13	98.17	90.33
5612	28746	109.30	103.73	122.44	134.82	127.87	122.22	96.40	91.20	93.80	94.20
5613	Zonal Check (ZC)	109.35	102.14	100.89	93.46	115.00	102.87	103.00	86.87	94.93	98.67
5614	27438	121.75	105.42	122.67	129.39	133.87	122.84	115.40	97.73	106.57	100.80
5615	28177	104.10	103.73	123.89	130.85	124.33	120.70	102.60	97.27	99.93	92.20
5616	28757	123.80	98.98	111.44	111.95	124.73	111.78	104.20	89.27	96.73	92.00
5617	JKRH 3333 (HC)	108.85	103.79	118.78	126.53	121.27	117.59	103.20	96.73	99.97	92.80
5618	28768	119.45	122.20	123.22	118.86	120.40	121.17	103.20	97.13	100.17	92.87
5619	28180	110.10	100.95	109.00	111.06	119.23	110.06	92.00	89.00	90.50	86.47
5620	27 P 63 (HC)	103.40	97.73	107.78	110.60	123.07	109.79	105.20	89.60	97.40	104.13
5621	WGL 14 (NC)	104.50	100.43	110.33	115.02	129.67	113.86	114.80	89.53	102.17	89.60
5622	Local Check (LC)	113.65	97.97	109.56	128.76	119.50	113.95	110.20	93.33	101.77	91.13
<b>Exp. Mean</b>		<b>113.18</b>	<b>101.41</b>	<b>112.39</b>	114.45	<b>124.29</b>	<b>112.94</b>	<b>102.03</b>	<b>91.78</b>	<b>96.78</b>	<b>93.73</b>

**Table No. 7.4 contd.: Plant Height (cm) of entries in AVT1 -MS, Kharif 2020**

Entry No.	IET No.	ZONE VII							Overall (29)
		KA				KA (4)	PUD (1)	Zone VII (13)	
		MGD	GNV	MLG	@SRS	Mean	KBP	Mean	
5601	28732	87.60	104.00	58.60	93.00	85.77		103.71	105.86
5602	28760			56.80	93.00	74.60		92.28	97.30
5603	28778	90.50	101.50	59.40	90.00	87.53	96.67	103.33	105.84
5604	28727	81.00	91.50	59.80	86.00	82.76	79.33	93.19	96.21
5605	28750	95.00	104.00	62.80	93.00	88.65	95.67	101.44	103.65
5606	28754			62.00	95.00	77.80		98.19	100.74
5607	28181	91.60	97.00	64.40	87.00	85.93	82.33	94.48	101.15
5608	BPT 5204 (NC)	74.90	96.00	58.60	77.00	79.83	110.67	101.41	101.17
5609	28730	79.10	100.00	67.20	86.00	84.88	83.67	99.90	102.62
5610	27394	96.10	96.00	65.00	91.00	87.78	87.67	96.64	99.87
5611	28178	81.60	106.50	65.00	97.00	85.86	98.67	101.41	103.42
5612	28746	83.90	107.50	59.60	96.00	86.30	93.33	102.58	108.85
5613	Zonal Check (ZC)	82.80	94.00	61.00	100.00	84.12	101.33	96.76	96.72
5614	27438	104.40	102.50	57.60	98.00	91.33	98.33	108.59	112.96
5615	28177	113.50	112.50	67.20	98.00	96.35	100.00	105.87	110.23
5616	28757	101.10	102.50	61.40	97.00	89.25	90.00	102.71	103.82
5617	JKRH 3333 (HC)	99.30	103.50	68.40	92.00	91.00		104.33	107.47
5618	28768	82.00	109.00	58.00	91.00	85.47	104.33	105.39	108.47
5619	28180	86.50	101.00	58.20	88.00	83.04	89.67	97.18	102.63
5620	27 P 63 (HC)	84.40	97.50	61.00	78.00	86.76	88.00	98.14	99.98
5621	WGL 14 (NC)	98.80	99.50	78.00	85.00	91.48	97.67	102.49	105.85
5622	Local Check (LC)	67.70	98.50	80.20	79.00	84.38	78.67	100.22	100.58
<b>Exp. Mean</b>		<b>89.09</b>	<b>101.23</b>	<b>63.19</b>	<b>90.45</b>	<b>85.95</b>	<b>93.11</b>	<b>100.46</b>	<b>103.43</b>

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**Table No. 7.5: Panicles/m<sup>2</sup> of entries in AVT1- MS, Kharif 2020**

Entry No.	IET No.	ZONE III										
		UP1	OD			OD (3)	BI (1)	JH (1)	UP2		UP2 (1)	Zone III (6)
		@KNP	BBN	JYP	CHP	Mean	PSA	RCI	@MSD	VRN	Mean	Mean
5601	28732	305	241	306	199	249	207	97		235	235	214
5602	28760	275		320	188	254	220	96				206
5603	28778	257	229	324	195	249	192	100		206	206	208
5604	28727	278	245	364	182	264	192	96	266	311	311	232
5605	28750	311	273	326	226	275	236	100	220	251	251	236
5606	28754	246		322	178	250	228	101				207
5607	28181	297	279	344	196	273	174	102	238	286	286	230
5608	BPT 5204 (NC)	257	229	320	220	256	215	93	283	301	301	230
5609	28730	303	229	322	192	248	214	102	282	232	232	215
5610	27394	320	273	321	191	262	163	100	194	267	267	219
5611	28178	281	264	297	199	253	188	94		258	258	217
5612	28746	285	249	284	179	237	203	102	280	263	263	213
5613	Zonal Check (ZC)	293	280	254	212	249	203	88		300	300	223
5614	27438	253	263	325	186	258	208	107	281	246	246	222
5615	28177	282	332	343	195	290	187	110	244	242	242	235
5616	28757	221	237	278	184	233	197	101	201	269	269	211
5617	JKRH 3333 (HC)	347	235	293	160	229	212	102	309	298	298	217
5618	28768	271	303	446	234	327	226	99	320	304	304	269
5619	28180	331	295	336	247	292	231	96	312	325	325	255
5620	27 P 63 (HC)	275	222	349	227	266	240	103	321	280	280	237
5621	WGL 14 (NC)	294	283	347	211	280	254	106	289	275	275	246
5622	Local Check (LC)	271	296	251	203	250	224	94	284	243	243	219
<b>Exp. Mean</b>		<b>284</b>	<b>263</b>	<b>321</b>	<b>200</b>	<b>261</b>	<b>210</b>	<b>99</b>	<b>270</b>	<b>270</b>	<b>270</b>	<b>225</b>

**Table No. 7.5 contd.: Panicles/m<sup>2</sup> of entries in AVT1- MS, Kharif 2020**

Entry No.	IET No.	ZONE IV				ZONE V						ZONE VI		
		AS (1)	TR	Zone IV (1)	MP	CH (1)	MA1	MA1 (2)	Zone V (3)	MA2	MA2 (2)			
		TTB	@ARD	Mean	@JBP	RPR	SKL	SND	Mean	Mean	KJT	SHR	Mean	
5601	28732	278	339	278		172	272	191	231	212	244	152	198	
5602	28760		366											
5603	28778	262	365	262	222	174	196	210	203	193	207	164	185	
5604	28727	233	319	233	228	122	249	220	234	197	212	139	176	
5605	28750	213	322	213	223	178	184	212	198	191	234	180	207	
5606	28754	276	340	276			218		218	218				
5607	28181	236	284	236	236	168	220	186	203	191	238	186	212	
5608	BPT 5204 (NC)	287	276	287	281	175	189	259	224	208	216	213	214	
5609	28730	253	305	253	261	159	280	215	248	218	240	168	204	
5610	27394	278	347	278	269	125		271	271	198	241	197	219	
5611	28178	238	312	238	245	146	264	164	214	191	238	199	218	
5612	28746	233	304	233	243	129	192	212	202	178	246	164	205	
5613	Zonal Check (ZC)	380	325	380		147	239	247	243	211	234	155	195	
5614	27438	202	295	202		156	213	219	216	196	224	164	194	
5615	28177	207	287	207	215	134	192	188	190	171	229	156	192	
5616	28757	213	344	213		161	272	191	232	208	230	160	195	
5617	JKRH 3333 (HC)	218	267	218	212	142	200	168	184	170	251	175	213	
5618	28768	300	302	300		170	217	238	227	208	262	170	216	
5619	28180	280	291	280	296	147	217	248	233	204	220	191	206	
5620	27 P 63 (HC)	233	276	233	330	141	223	200	212	188	239	165	202	
5621	WGL 14 (NC)	218	274	218	238	171	183	212	198	189	223	156	190	
5622	Local Check (LC)	231	318	231	196	151	211	220	215	194	237	201	219	
<b>Exp. Mean</b>		<b>251</b>	<b>312</b>	<b>251</b>	<b>246</b>	<b>153</b>	<b>222</b>	<b>214</b>	<b>219</b>	<b>197</b>	<b>233</b>	<b>173</b>	<b>203</b>	

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Table No. 7.5 contd.: Panicles/m<sup>2</sup> of entries in AVT1- MS, Kharif 2020

Entry No	IET No.	ZONE VI							ZONE VII									
		MA (4)		GU				GU (4)	Zone VI (6)		AP		AP (2)		TE			TE (4)
		Mean	NVS	NWG	DBI	VYR	Mean	Mean	MTU	BPT	Mean	RNR	KMP	KNP	WGL	Mean		
5601	28732	215	202	274	233	275	246	230	310	153	231	431	444	273	399	387		
5602	28760			272	222	366	286	286		139	139							
5603	28778	194	180	276	247	272	243	224	341	158	250	420	481	282	396	395		
5604	28727	205	213	287	230	306	259	231	341	198	270	433	340	273	389	359		
5605	28750	203	246	272	266	332	279	255	356	200	278	400	518	304	403	406		
5606	28754	218		264	216	420	300	300		148	148	362		295		329		
5607	28181	207	228	275	220	327	263	246	319	201	260	418	492	277	384	393		
5608	BPT 5204 (NC)	219	236	267	214	372	272	253	345	175	260	400	500	273	405	394		
5609	28730	226	208	279	221	325	258	240	319	115	217	378	359	290	386	353		
5610	27394	236	238	267	204	326	259	246	330	212	271	400	385	277	388	363		
5611	28178	216	255	276	225	321	269	252	317	197	257	389	318	286	393	346		
5612	28746	204	216	290	272	323	253	237	337	199	268	402	296	275	387	340		
5613	Zonal Check (ZC)	219	228	260	221	370	270	245	345	162	254	382	496	284	397	390		
5614	27438	205	254	284	257	292	272	246	323	183	253	429	451	277	394	388		
5615	28177	191	212	279	235	298	256	235	372	142	257	440	544	282	388	413		
5616	28757	213	213	281	228	290	253	234	308	195	252	322	411	271	383	347		
5617	JKRH 3333 (HC)	198	238	265	216	307	257	242	341	114	228	376	426	279	367	362		
5618	28768	222	241	275	263	377	289	265	337	194	265	424	444	286	378	383		
5619	28180	219	225	274	246	354	275	252	354	157	256	411	496	288	372	392		
5620	27 P 63 (HC)	207	249	291	201	337	270	247	334	188	261	362	459	288	371	370		
5621	WGL 14 (NC)	194	218	278	237	227	240	223	352	159	256	451	377	277	387	373		
5622	Local Check (LC)	217	221	269	288	303	270	253	341	262	302	362	315	282	396	339		
<b>Exp. Mean</b>		<b>211</b>	<b>226</b>	<b>275</b>	<b>235</b>	<b>320</b>	<b>265</b>	<b>247</b>	<b>336</b>	<b>175</b>	<b>247</b>	<b>400</b>	<b>428</b>	<b>282</b>	<b>388</b>	<b>372</b>		

Table No. 7.5 contd.: Panicles/m<sup>2</sup> of entries in AVT1- MS, Kharif 2020

Entry No	IET No.	ZONE VII											Overall (29)
		TA		TA (2)	KA					KA (4)	PUD (1)	Zone VII (13)	
		ADT	CBT	Mean	MND	MGD	GNV	MLG	@SRS	Mean	KBP	Mean	Mean
5601	28732	317	322	320	287	266	370	175	324	274		311	262
5602	28760		315	315	280			172	290			252	
5603	28778	316	325	320	318	194	420	158	360	273	314	322	261
5604	28727	250	330	290	298	253	504	155	357	302	288	318	264
5605	28750	313	278	296	282	264	420	158	396	281	343	333	275
5606	28754		258	258	284			162	350	223		258	249
5607	28181	279	247	263	278	237	394	155	373	266	343	308	265
5608	BPT 5204 (NC)	325	327	326	307	342	414	139	333	300	395	330	281
5609	28730	271	278	275	298	231	478	165	333	293	299	297	259
5610	27394	329	315	322	284	304	381	155	370	281	355	315	271
5611	28178	290	298	294	304	244	399	185	363	283	374	310	263
5612	28746	310	325	318	276	225	462	139	357	275	369	312	258
5613	Zonal Check (ZC)	273	323	298	287	253	414	158	360	278	433	312	277
5614	27438	321	290	305	284	257	485	168	367	298	299	330	268
5615	28177	322	303	312	293	296	490	165	353	311	325	338	272
5616	28757	282	262	272	293	250	382	158	294	271	345	293	254
5617	JKRH 3333 (HC)	313	277	295	311	243	351	155	307	265		296	251
5618	28768	326	305	316	284	156	390	139	393	242	340	305	280
5619	28180	319	335	327	293	201	355	155	344	251	410	311	279
5620	27 P 63 (HC)	322	307	314	271	349	341	201	310	291	422	316	273
5621	WGL 14 (NC)	261	305	283	282	304	470	356	307	353	288	332	271
5622	Local Check (LC)	335	337	336	316	270	477	320	271	346	425	334	279
<b>Exp. Mean</b>		<b>304</b>	<b>303</b>	<b>302</b>	<b>291</b>	<b>257</b>	<b>420</b>	<b>177</b>	<b>341</b>	<b>284</b>	<b>354</b>	<b>311</b>	<b>267</b>

**Table No. 7.6: Grain quality characteristics of entries in AVT 1-Medium Slender Grain, kharif 2020**

Entry No.	Designation / IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
5601	28732	80.0	69.7	51.5	4.91	2.08	2.36	SB	VOC	5.0	26.28	66
5602	28760											
5603	28778	78.2	68.0	44.9	5.17	1.76	2.93	MS	VOC	5.0	26.57	42
5604	28727											
5605	28750	78.7	70.2	57.3	5.02	1.80	2.78	MS	A	5.0	24.49	55
5606	28754	70.6	65.5	60.6	5.17	1.80	2.87	MS	A	4.0	24.55	42
5607	28181	79.6	67.3	48.1	5.14	1.83	2.8	MS	VOC	4.0	26.75	22
5608	BPT 5204 (NC)	81.2	71.5	56.6	5.01	1.74	2.87	MS	A	5.0	24.61	22
5609	28730	81.4	69.0	55.0	5.07	1.83	2.77	MS	A	5.0	25.43	38
5610	27394	80.2	66.9	47.1	5.59	2.04	2.74	MS	VOC	5.0	25.66	54
5611	28178	80.6	70.2	52.3	5.03	1.85	2.71	MS	VOC	4.0	20.73	58
5612	28746	79.9	69.8	56.6	5.01	1.69	2.96	MS	A	4.0	24.11	22
5613	Zonal Check	76.7	68.7	56.3	4.93	1.88	2.62	MS	VOC	4.0	22.26	25
5614	27438	81.1	71.4	57.0	5.48	1.88	2.91	MS	A	4.0	25.52	38
5615	28177	77.3	64.2	43.8	5.17	1.93	2.67	MS	VOC	4.0	24.99	38
5616	28757	79.2	70.4	59.7	5.66	2.06	2.74	MS	VOC	5.0	25.81	50
5617	JKRH 3333 (HC)	79.5	68.0	58.0	5.13	1.94	2.64	MS	VOC	4.0	26.42	23
5618	28768	78.0	64.5	47.8	5.17	2.00	2.58	MS	VOC	5.0	26.95	45
5619	28180	80.0	69.6	53.0	5.22	1.93	2.69	MS	VOC	4.0	26.54	37
5620	27P63 (HC)	79.9	69.4	65.0	5.21	1.91	2.72	MS	VOC	4.0	23.93	26
5621	WGL 14 (NC)	78.4	67.0	57.4	5.11	1.89	2.7	MS	A	5.0	23.37	22
5622	Local Check	79.5	68.1	57.0	5.21	1.82	2.86	MS	VOC	7.0	25.69	49

**HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.**

**Table No. 7.7: Composition of entries in Initial Variety Trial– Medium Slender Grain (IVT-MS), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>1<sup>st</sup> Year of testing:</b>				
5701	29485	KNM 7715	RNR 15048 / GNV - 8 – 89 // WGL 32183	MS
5702	29486	NLR 3637	NLR 20083 / BPT 5204	MS
5703	29487	AD 16105	CO 51 / Tulasi	MS
5704	29488	BPT 3059	MTU 1061 / IR 78585-64-2-4-3	MS
5705	29489	OR 2552-1	Pratikshya / IR 62140	MS
5706	29490	CB 16217	CO 52 / JGL 17190	MS
5707	29491	R 1919-537-1-160-1	Shymala / G 93-02	
5708	29492	CSR 27SM160	CSR 27 / BPT 5204	MS
5709	29493	GNV 61-09	BPT 5204 muntant 1804	MS
5710	29494	Pusa 5287-4-6-2-61-1-1	ADT 49 / MTU 1150	MS
5711	29495	RP 5594-97-5-1	MTU 1010 / RPHR 1005	MS
5712	29496	NVSR-418	(CST-7-1 / IRGC 26872) / FL-478	MS
5713	29497	CRAC 3998-181-3	Doubled haploid of 27P63	MS
5714	29498	NP 9253-13	NP 14 / NP 4201	MS
5715	29499	NWGR-16022	GR-11 / IET 19791(26-3-1-1-1-1-1)	MS
5716	29500	CR 3898-113-4-2-1	CN 1231-11-7 / Jagabandhu // IR 71700-247-1-1-2	MS
5717	29501	RP Bio 5479-124-IJF12RIL	Jalmagna / Swarna	MS
5718	29502	WGL-1283	WGL-14 / JGL -17025	MS
5719	<b>WGL-14 (NC)</b>			
5720	29503	CR 3741-1-1-3-1-1-2	Pooja / Surendra	MS
5721	29504	RP 6112-MS-M-6-55-2-3-4-5-2-5	BPT 5204 Mutant	MS
5722	29505	MTU 1359 (MTUHROYTL8)	MTU 1078 / MTU 1075	MS
5723	29506	P.3289	PY7 / IR 50	MS
5724	29507	CR 3856-44-22-2-1-11-4-6-2	IR 73963-86-1-5-2-2 / CR 2324-1	MS
5725	29508	NWGR-15026	GR-11 / IET 19554 (24-2-1-4-1-1-1-1)	MS
5726	29509	SKL 8-33-1570-107-320-242-127	SYE-1 / RTN 1	MS
5727	29510	RNR 29094	BPT-5204 / BM-7 (BBM-1) // BPT-5204 / BM-71(BBM-2)	MS
5728	29511	AD 16148	AD 04072 / AD 08141	MS
5729	29512	CSR 27SM59	CSR27 / BPT5204	MS
5730	29513	RP 5405-13-1-1-1-1-1	RP 5405: Swarna / IRGC 4105 // Swarna	MS
5731	29514	CR 3993-514-2-15	CR 1009 / O. brachyantha // CR 1009	MS
5732	29515	NVSR 2965	GR-7 / GAR-13	MS
5733	<b>BPT 5204 (NC)</b>			
5734	29516	Pusa 5278-3-7-1-93-1-1-1	ADT 43 / BPT 5204	MS
5735	29517	NLR 3634	NLR 20084 / NLR 34452) / (NLR 33654 / NLR 20013)	MS

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Entry No.	IET No.	Designation	Cross combination	GT
5736	29518	RP 6475-CGRI-IL-1234	BPT 5204*2 / O. rufipogon (VN 90-1032-58 (3))	MS
5737	29519	CR 3890-35-1-3-4	CN 1920 / Savitri // IR 71700-247-1-1-2	MS
5738	29520	KPS 6097	JGL 11727/ NCR 3042	MS
5739	29521	CB 16142	IR 20 /JGL384	MS
5740	29522	RP 6211-PR/RIL-Q200	PR 116 / Ranbir Basmati	MS
5741	29523	R 2054-685-1-205-1	R 1033-2559-1-1 / Gopal bhog	
5742	29524	JGL 35071	(JGL 19621 / NLR 34449) / JGL 19621	MS
5743	29525	CR 4212-12-17-1-1-2-1-1	Sahabhagi Dhan / IR 20	MS
5744	29526	NVSR-566	(RP Bio-226 / IRGC 69910) / IET 22071	MS
5745	29527	RNR 29176	GK 5022 / Krishna	MS
5746	29528	GNV 1974	IET 24716 / NLR 34449	MS
5747	29529	RP 6112-MS-M-99-99-4-9-9-5-5-4	RP 5977 / BPT 5204	MS
5748	29530	CRAC 3998-101-1	Doubled haploid of 27P63	MS
5749	29531	RP 6332-76-5-8-3-2	Sugandha Samba / A69-1	MS
5750	29532	MTU 1360 (MTU 2411-74-1-1-1)	BPT 5204 / MTU 1075	MS
5751	<b>Improved Samba Mahsuri- Eastern &amp; Central, Ketekijoha- North Eastern, Karjat-6 – Western, ADT 49-Southern--ZC</b>			
5752	29533	CR 3525-24-2-2-1-1-1	Vijetha / Divya	MS
5753	29534	RP Bio 4918-B-B-248L	Swarna / O. nivara	MS
5754	29535	JGL 34828	JGL 11470 / BPT 5204	MS
5755	29536	OR 2674-14-6-2	CRMS 32A / OR 1889-5	MS
5756	29537	RP 6354-RMS-7-10-15-19	Samba Mashuri*2 / ST 12	MS
5757	29538	CR 2889-208-1-18	Apo / CR 143-2-2	MS
5758	29539	MTU 1362 (MTU 2578-5-2-1-1-1)	MTU 1156 / MTU 1081	MS
5759	29540	KNM 7714	RNR 15048 / GNV -8-89 // WGL 32183	MS
5760	29541	BPT 3082	BPT 5204 / MTU 1075	MS
5761	29542	CR 4330-420-2-1-1	Swarna Sub 1 / CR 1014	MS
5762	29543	AD 17033	Turantdhan / IET 22075	MS
5763	29544	CRAC 3998-43-1	Doubled haploid of 27P63	MS
5764	<b>Local Check</b>			



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**Table No.7.8: Grain Yield (Kg/ha) of entries in IVT -MS, Kharif 2020**

Entry No.	IET No.	ZONE III		ZONE V						ZONE VI (1)			
		OD		CH		MA (1)		Zone V (1)		GU (1)			
		@JYP		@RPR		SKL		Mean		NVS			
5701	29485	4583	6	476		4357	5 *	47%	4357	5 *	47%	3992	
5702	29486	3565				1347			1347			4234	
5703	29487	3878	10	400								5097	9 14%
5704	29488	4597	5			1837			1837			2987	
5705	29489	5617	1	3539	1	4107	6 *	39%	4107	6 *	39%	3965	
5706	29490	2513		402		4098	7 *	39%	4098	7 *	39%	5262	6 18%
5707	29491	1149		1512		3567	21%		3567	21%		3970	
5708	29492	3731		753		3284	11%		3284	11%		5310	5 19%
5709	29493	1232				1747			1747			3066	
5710	29494	1199		1146		3987	*	35%	3987	*	35%	5324	4 19%
5711	29495	1228		1664	10	3777	28%		3777	28%		4826	8%
5712	29496	1257		1588		3007			3007			4674	
5713	29497	861				2357			2357			3494	
5714	29498	889				2817			2817			3426	
5715	29499	815		905		3347	13%		3347	13%		4399	
5716	29500	861		456		2167			2167			4675	
5717	29501	4626	4			2587			2587			2017	
5718	29502	1150		448		4017	10 *	36%	4017	10 *	36%	5174	8 16%
5719	WGL-14 (NC)	1158				2687			2687			2577	
5720	29503	2289		2872	2	4857	2 *	64%	4857	2 *	64%	5205	7 17%
5721	29504	956				3827	29%		3827	29%		3748	
5722	29505	1157				1577			1577			3393	
5723	29506	2535		514		4097	8 *	39%	4097	8 *	39%	4745	6%
5724	29507	1236											
5725	29508	5479	3	748		3977	*	34%	3977	*	34%	3911	
5726	29509	924		2779	3	2307			2307			3509	
5727	29510	796		1486		2320			2320			4461	
5728	29511	1108		203		4717	3 *	60%	4717	3 *	60%	4542	
5729	29512	1560		2234	6	2877			2877			4504	
5730	29513	1104				3097			3097			3856	
5731	29514	3144				3527	19%		3527	19%		4010	
5732	29515	5535	2	2703	4	3648	23%		3648	23%		4938	10 11%
5733	BPT 5204 (NC)	3894	9			2387			2387			2978	
5734	29516	1300				1777			1777			3744	
5735	29517	1019				1737			1737			3829	
5736	29518	763				2324			2324			3492	
5737	29519	1163		1130		2387			2387			6187	1 * 39%
5738	29520	1335											
5739	29521	1683		718		2987			2987			3825	
5740	29522	1656		926		2127			2127			4599	
5741	29523	1125		1753	8	4097	8 *	39%	4097	8 *	39%	4716	6%
5742	29524	3211		401		2657			2657			4746	6%
5743	29525	817											
5744	29526	761		1176		4701	4 *	59%	4701	4 *	59%	4549	
5745	29527	2756		2025	7	5087	1 *	72%	5087	1 *	72%	5488	3 23%
5746	29528	2871		2500	5	3697	25%		3697	25%		4259	
5747	29529	1763		486		2897			2897			3605	
5748	29530	1386				2527			2527			3800	
5749	29531	2876				2257			2257			3575	
5750	29532	3333				2967			2967			3465	
5751	Zonal Check (ZC)	1213		720		2957			2957			3164	
5752	29533	3015		1622		3067			3067			3865	
5753	29534	4094	8	1672	9	3672	24%		3672	24%		4030	
5754	29535	2869		296		3487	18%		3487	18%		3021	
5755	29536	1151		1216		3337	13%		3337	13%		5678	2 * 27%
5756	29537	1136				3117	5%		3117	5%		3164	
5757	29538	4181	7	1069		3667	24%		3667	24%		4833	8%
5758	29539	981		868		3537	20%		3537	20%		4083	
5759	29540	1074				2697			2697			3131	
5760	29541	1957				2347			2347			3810	
5761	29542	1222		277		2290			2290			3602	
5762	29543	919		1269		3319	12%		3319	12%		4312	
5763	29544	1082		334		2577			2577			4332	
5764	Local Check (LC)	3424		1590		2477			2477			4466	
<b>Exp. Mean</b>		<b>2106</b>		<b>1222</b>		<b>3085</b>			<b>3085</b>			<b>4125</b>	
CD		686.41		420.63		942.54			942.54			1035.77	
CV%		<b>16.27</b>		<b>17.02</b>		<b>15.27</b>			<b>15.27</b>			<b>12.55</b>	
D/S		21-08-2020		21-08-2020		17-08-2020						17-08-2020	
D/P		16-09-2020		16-09-2020		31-08-2020						03-09-2020	
Local Check Name		Manaswini		Manaswini		CG Devbhog						PDKV Kisan	

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**Table No. 7.8 contd.: Grain Yield (Kg/ha) of entries in IVT -MS, Kharif 2020**

Entry No.	IET No.	ZONE VII											
		AP				AP (2)			TE			TE (2)	
		MTU		BPT		Mean			KMP	WGL		Mean	
5701	29485	7400	1	6183		6792	2	12%	3987		4286		4137
5702	29486	4486		6872	3	5679			3372				3372
5703	29487			3703		3703			3128		3143		3136
5704	29488			6785	5	6785	3	11%	3551		3333		3442
5705	29489	6780	7	6683	6	6732	4	11%	3359		3905		3632
5706	29490	6330		4217		5274			3756		4857	6	4307
5707	29491	4275		4563		4419			3833		5238	2	4536
5708	29492	5640		4972		5306			4167		3714		3941
5709	29493	4565		6520	9	5543			4013		3905		3959
5710	29494	3985		5932		4959			3564		4190		3877
5711	29495			5580		5580			5526		4667	8	5097
5712	29496			5423		5423			3821		3905		3863
5713	29497			4503		4503			3308		3810		3559
5714	29498	4570		4660		4615			5205		4381		4793
5715	29499	4025		4385		4205			2885		3143		3014
5716	29500	3075		5273		4174			6564				6564
5717	29501	5615		3529		4572			3897		4095		3996
5718	29502	5570		5782		5676			6705		3333		5019
5719	WGL-14 (NC)	7380	2	4545		5963	8		6949	10	3810		5380
5720	29503			3571		3571			5692		3714		4703
5721	29504	4330		4133		4232			5333		4095		4714
5722	29505	3395		6959	2	5177			5128		3143		4136
5723	29506	7030	3	7398	1	7214	1*	19%	7051	8	4762	7	5907
5724	29507	4325				4325							
5725	29508	4245		4285		4265			4244		4952	4	4598
5726	29509	4505		4225		4365			4692		4667	8	4680
5727	29510	5400		3637		4519			4590		4571	10	4581
5728	29511	4715		5292		5004			7526	3	4952	4	6239
5729	29512	4535		4720		4628			5333		5619	1*	5476
5730	29513	4395		6042		5219					4190		4190
5731	29514	4315		3878		4097			6897		3048		4973
5732	29515	4205		3613		3909			3577		2667		3122
5733	BPT 5204 (NC)	5660		6512	10	6086	7		4462		2952		3707
5734	29516	6295		5378		5837	10		3564		2667		3116
5735	29517	4420		4636		4528			3449		4571	10	4010
5736	29518	5670		5462		5566			4462		3048		3755
5737	29519			5412		5412			3564		2762		3163
5738	29520										4095		4095
5739	29521	5225		6155		5690			3795		3524		3660
5740	29522	4450		4228		4339			3090		3524		3307
5741	29523	6455		4833		5644			3897		3905		3901
5742	29524			4435		4435			2833		2771		2802
5743	29525												
5744	29526	6535	9	4418		5477			4128		4000		4064
5745	29527			5048		5048			3513		3333		3423
5746	29528	5865		4187		5026			3795		3905		3850
5747	29529	6645	8	5015		5830			4051		3429		3740
5748	29530	4640		3913		4277			1628		3333		2481
5749	29531	5350		5710		5530			3244		2667		2956
5750	29532	6865	6	6587	8	6726	5	11%	7282	6	2286		4784
5751	Zonal Check (ZC)	6990	4	3955		5473			4051		2476		3264
5752	29533	5855		3883		4869			6141		4000		5071
5753	29534	6095		4532		5314			7500	4	2857		5179
5754	29535	6895	5	4943		5919	9		4436		3619		4028
5755	29536	5885		6855	4	6370	6		4436		4095		4266
5756	29537	4620		5157		4889			5513		3238		4376
5757	29538	6260		4142		5201			7603	2	2762		5183
5758	29539	4505		4897		4701			5295		4000		4648
5759	29540	5475		5043		5259			7013	9	3810		5412
5760	29541			5783		5783			6654		3143		4899
5761	29542			5343		5343			7667	1	3619		5643
5762	29543	6460	10	4337		5399			7321	5	4952	4	6137
5763	29544	5105		4033		4569			5256		3143		4200
5764	Local Check (LC)	4470		6669	7	5570			7244	7	4381		5813
<b>Exp. Mean</b>		<b>5329</b>		<b>5072</b>		<b>5170</b>			<b>4809</b>		<b>3749</b>		<b>4288</b>
CD		604.77		1248.83		808.05			1051.18		1074.51		865.2
CV%		5.65		12.31		7.82			10.92		14.32		10.09
D/S		25-08-2020		19-08-2020					10-08-2020		24-08-2020		
D/P		14-09-2020		09-11-2020					16-09-2020		21-09-2020		
Local Check Name		GNR-7		MTU1190					BPT 2782		RNR-15048		

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**Table No.7.8 contd.: Grain Yield (Kg/ha) of entries in IVT -MS, Kharif 2020**

Entry No.	IET No.	ZONE VII										Overall (9)		
		TN			TN (2)		KA (1)		Zone VII (7)		Mean			
		ADT	CBT		Mean		MND		Mean					
5701	29485	5750		7871	3	6811	6	6178	9	6%	5951	4	5556	4
5702	29486	6344	8	5754		6049		844			4612		4157	
5703	29487	4594		4639		4617		4689			3983		4142	
5704	29488	6656	6	5868		6262		3197			4898		4277	
5705	29489	5031		5782		5407		7278	3 *	24%	5545		5210	10
5706	29490	6125		6907		6516		5008			5314		5173	
5707	29491	5500		5388		5444		5581			4911		4657	
5708	29492	5156		4411		4784		5292			4765		4661	
5709	29493	6281	9	7664	5	6973	5	4497			5349		4695	
5710	29494	7000	4 *	7318		7159	4	7297	2 *	25%	5612		5400	8
5711	29495	5344		7138		6241		7106	4 *	21%	5894	5	5496	6
5712	29496	5813		7607	6	6710	10	7669	1 *	31%	5706	8	5240	9
5713	29497	4438		3379		3909		4764			4034		3757	
5714	29498	5656		6218		5937		5722			5202		4739	
5715	29499	4438		3354		3896		4825			3865		3867	
5716	29500	5281		4625		4953		6483	5	11%	5217		4768	
5717	29501	4344		3311		3828		6136	10		4418		3948	
5718	29502	6063		7011		6537		6253	6	7%	5817	6	5545	5
5719	WGL-14 (NC)	5750		5296		5523		3183			5273		4686	
5720	29503	4656		3786		4221		6228	7	6%	4608		4714	
5721	29504	5500		6046		5773		4408			4835		4602	
5722	29505	7156	3 *	5696		6426		2322			4828		4308	
5723	29506	6719	5	6761		6740	8	4758			6354	1	5925	1 7%
5724	29507										4325		4325	
5725	29508	5063		7786	4	6425		6069			5235		4948	
5726	29509	4250		2871		3561		5675			4412		4078	
5727	29510	4406		2607		3507		5694			4415		4187	
5728	29511	5063		7338	10	6201		4672			5651	10	5424	7
5729	29512	4656		3746		4201		4772			4769		4529	
5730	29513	6469	7	6986		6728	9	3997			5347		4879	
5731	29514	6031		5418		5725		2867			4636		4443	
5732	29515	4844		725		2785		5183			3545		3711	
5733	BPT 5204 (NC)	5688		5111		5400		4686			5010		4493	
5734	29516	5375		3154		4265		1675			4015		3737	
5735	29517	6156		6682		6419		3750			4809		4359	
5736	29518	6281	9	6071		6176		1603			4657		4268	
5737	29519	5156		3114		4135		5972			4330		4319	
5738	29520			5150		5150					4623		4623	
5739	29521	6094		7396	9	6745	7	4528			5245		4837	
5740	29522	4219		3504		3862		5233			4035		3886	
5741	29523	5594		3711		4653		4853			4750		4673	
5742	29524	5969		3382		4676		4917			4051		3964	
5743	29525													
5744	29526	4688		2296		3492		5822			4555		4571	
5745	29527	4219		3321		3770		6128			4260		4517	
5746	29528	4063		3389		3726					4201		4145	
5747	29529	5750		7525	7	6638		5797			5459		4968	
5748	29530	6094		3057		4576		5000			3952		3777	
5749	29531	6094		6432		6263		2767			4609		4233	
5750	29532	5625		4004		4815		4592			5320		4853	
5751	Zonal Check (ZC)	4750		4746		4748		5097			4581		4243	
5752	29533	5094		4900		4997		6208	8	6%	5154		4779	
5753	29534	6156		6434		6295		5236			5544		5168	
5754	29535	4875		4214		4545		5742			4961		4581	
5755	29536	7406	2 *	9443	1	8425	1 *	5706		16%	6261	2	5871	2 6%
5756	29537	5719		5579		5649		6006			5119		4679	
5757	29538	5219		4989		5104		6006			5283		5053	
5758	29539	6063		5743		5903		5442			5135		4841	
5759	29540	7438	1 *	7414	8	7426	2	4211			5772	7	5137	
5760	29541	6094		6589		6342		5708			5662	9	5016	
5761	29542	4875		3257		4066		3578			4723		4279	
5762	29543	5063		3068		4066		5669			5267		4945	
5763	29544	4594		3179		3887		5064			4339		4143	
5764	Local Check (LC)	6000		8511	2	7256	3	5850			6161	3	5563	3
<b>Exp. Mean</b>		<b>5521</b>		<b>5237</b>		<b>5376</b>		<b>5025</b>			<b>4939</b>		<b>4644</b>	
CD		907.52		2037.98		1166.16		929.42			556.09		486.89	
CV%		<b>8.22</b>		<b>19.46</b>		<b>10.85</b>		<b>9.24</b>			<b>5.63</b>		<b>5.25</b>	
D/S		18-08-2020		26-08-2020				21-08-2020						
D/P		08-09-2020		26-09-2020				11-09-2020						
Local Check Name		WGL-32100		ADT 52				Thanu						

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**Table No. 7.9: Days to 50% flowering of entries in IVT- MS, Kharif 2020**

Entry No.	IET No.	ZONE III		ZONE V		ZONE VI (1)		ZONE VII		
		OD	CH	MA (1)	Zone V (1)	GU (1)	AP		AP (2)	
		@JYP	@RPR	SKL	Mean	NVS	MTU	BPT	Mean	
5701	29485	125	106	97	97	92	91	103	97	
5702	29486	125		111	111	118	88	111	99	
5703	29487	126	101			79		95	95	
5704	29488	122	124	107	107	93		112	112	
5705	29489	93	94	95	95	84	104	105	104	
5706	29490	128	107	108	108	87	99	107	103	
5707	29491	125	106	106	106	91	99	87	93	
5708	29492	102	104	103	103	90	105	102	103	
5709	29493	116	124	97	97	97	108	116	112	
5710	29494	100	97	96	96	86	107	107	107	
5711	29495	115	98	95	95	88		101	101	
5712	29496	102	96	87	87	79		90	90	
5713	29497	116	103	97	97	87		93	93	
5714	29498	117	104	98	98	91	104	111	108	
5715	29499	117	96	95	95	77	91	90	90	
5716	29500	103	95	106	106	81	92	93	93	
5717	29501	99	89	85	85	78	83	90	86	
5718	29502	121	100	95	95	87	91	104	97	
5719	WGL-14 (NC)	119	105	98	98	92	105	104	104	
5720	29503	100	90	83	83	80		98	98	
5721	29504	122	99	82	82	80	105	107	106	
5722	29505	109		96	96	108	110	112	111	
5723	29506	119	104	98	98	86	107	108	107	
5724	29507	97					99		99	
5725	29508	114	99	92	92	85	105	105	105	
5726	29509	124	82	75	75	75	85	89	87	
5727	29510	95	86	81	81	77	83	93	88	
5728	29511	107	100	97	97	92	109	94	101	
5729	29512	118	95	96	96	85	106	102	104	
5730	29513	122	104	98	98	92	105	102	103	
5731	29514	109	107	96	96	86	107	99	103	
5732	29515	96	84	76	76	76	79	97	88	
5733	BPT 5204 (NC)	122		97	97	91	106	114	110	
5734	29516	116		94	94	93	89	108	98	
5735	29517	124		94	94	92	101	100	100	
5736	29518	118		96	96	95	106	95	100	
5737	29519	119	101	86	86	84		100	100	
5738	29520	94								
5739	29521	124	100	99	99	94	103	102	103	
5740	29522	95	92	85	85	74	81	89	85	
5741	29523	121	102	96	96	91	99	113	106	
5742	29524	97	98	81	81	77		96	96	
5743	29525	92								
5744	29526	107	94	77	77	80	83	88	85	
5745	29527	92	84	69	69	75		94	94	
5746	29528	95	91	80	80	76	86	92	89	
5747	29529	125	105	93	93	89	104	94	99	
5748	29530	124	108	97	97	86	105	109	107	
5749	29531	119	106	99	99	91	103	100	101	
5750	29532	112	116	108	108	92	107	113	110	
5751	Zonal Check (ZC)	117	105	97	97	77	101	105	103	
5752	29533	91	97	85	85	79	90	101	95	
5753	29534	97	106	99	99	89	94	103	99	
5754	29535	90	124	98	98	91	101	108	104	
5755	29536	119	98	103	103	89	100	109	104	
5756	29537	116	90	106	106	92	105	106	105	
5757	29538	97	100	95	95	86	105	99	102	
5758	29539	119	104	98	98	89	105	105	105	
5759	29540	119	107	97	97	92	101	107	104	
5760	29541	117	121	106	106	91		63	63	
5761	29542	115	104	96	96	77		115	115	
5762	29543	98	95	84	84	78	99	99	99	
5763	29544	109	115	97	97	84	105	100	102	
5764	Local Check (LC)	94	101	96	96	95	104	107	105	
<b>Exp. Mean</b>		<b>111</b>	<b>101</b>	<b>94</b>	<b>94</b>	<b>86</b>	<b>99</b>	<b>101</b>	<b>99</b>	

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**Table No. 7.9 contd.: Days to 50% flowering of entries in IVT- MS, Kharif 2020**

Entry No.	IET No.	ZONE VII								Overall (9) Mean
		TE		TE (2)	TN		TN (2)	KA (1)	Zone VII (7)	
		KMP	WGL	Mean	ADT	CBT	Mean	MND	Mean	
5701	29485	91	95	93	103	105	104	101	98	97
5702	29486	119		119	95	114	104		105	108
5703	29487	91	91	91	94	94	94	88	92	90
5704	29488	101	114	107	92	112	102	99	105	104
5705	29489	95	97	96	95	94	94	95	98	96
5706	29490	98	104	101	106	103	104	99	102	101
5707	29491	98	95	96	108	100	104	101	98	98
5708	29492	99	96	97	108	102	105	98	101	100
5709	29493	101	109	105	122	110	116	106	110	107
5710	29494	98	100	99	99	95	97	95	100	98
5711	29495	91	92	91	98	102	100	97	97	95
5712	29496	89	89	89	94	91	92	91	90	88
5713	29497	94	92	93	96	101	98	98	96	95
5714	29498	101	95	98	109	103	106	106	104	102
5715	29499	88	90	89	96	90	93	94	91	90
5716	29500	89		89	97	90	93	88	91	92
5717	29501	87	95	91	95	100	97	96	92	90
5718	29502	92	94	93	100	102	101	101	98	96
5719	WGL-14 (NC)	94	96	95	106	106	106	106	102	100
5720	29503	87	90	88	97	94	95	89	92	89
5721	29504	85	89	87	106	101	103	94	98	94
5722	29505	92	115	103	116	115	115	87	106	105
5723	29506	99	102	101	96	103	99	98	102	99
5724	29507								99	99
5725	29508	95	98	96	96	94	95	96	98	96
5726	29509	87	76	81	93	85	89	83	85	83
5727	29510	86	83	84	94	85	89	88	87	85
5728	29511	68	102	85	123	104	113	75	96	96
5729	29512	69	92	80	107	103	105	97	96	95
5730	29513	69	109	89	101	102	101	106	99	98
5731	29514	69	100	84	105	105	105	101	98	96
5732	29515	85	75	80	98	83	90	83	86	83
5733	BPT 5204 (NC)	100	110	105	101	106	103	91	104	101
5734	29516	95	97	96	81	99	90	101	95	95
5735	29517	96	114	105	123	113	118	88	105	102
5736	29518	118	104	111	115	105	110	88	104	102
5737	29519	90	110	100	95	94	94	98	98	94
5738	29520		102	102		98	98		100	100
5739	29521	97	104	100	117	109	113	117	107	104
5740	29522	85	83	84	96	90	93	88	87	85
5741	29523	92	103	97	95	104	99	106	102	100
5742	29524	87	88	88	105	88	96	88	92	89
5743	29525									
5744	29526	87	84	85	95	91	93	89	88	86
5745	29527	85	83	84	95	89	92	85	88	84
5746	29528	86	83	84	101	90	95		89	86
5747	29529	89	99	94	96	102	99		97	95
5748	29530	94	97	96	98	98	98	77	97	95
5749	29531	99	101	100	104	106	105	76	98	97
5750	29532	94	112	103	115	109	112	106	108	106
5751	Zonal Check (ZC)	97	105	101	121	104	112	106	105	101
5752	29533	88	92	90	100	90	95	88	93	90
5753	29534	101	103	102	113	108	110	110	104	102
5754	29535	97	104	100	95	101	98	99	100	99
5755	29536	97	98	98	101	103	102	101	101	100
5756	29537	97	96	96	103	103	103	101	101	101
5757	29538	92	100	96	95	99	97	97	98	96
5758	29539	100	100	100	96	102	99	101	101	99
5759	29540	97	97	97	98	99	98	98	99	98
5760	29541	99	110	105	108	106	107	98	97	98
5761	29542	92	98	95	95	93	94	88	97	94
5762	29543	91	87	89	96	92	94	88	93	90
5763	29544	100	102	101	93	103	98	106	101	99
5764	Local Check (LC)	93	100	96	112	107	109	95	102	101
<b>Exp. Mean</b>		<b>92</b>	<b>97</b>	<b>95</b>	<b>101</b>	<b>99</b>	<b>100</b>	<b>95</b>	<b>98</b>	<b>96</b>

## Annual Progress Report 2020 Volume I - Varietal Improvement

**Table No. 7.10: Plant Height (cm) of entries in IVT -MS, Kharif 2020**

Entry No.	IET No.	ZONE III		ZONE V		ZONE VI (1)		ZONE VII	
		OD	CH	MA (1)	Zone V (1)	GU (1)	AP		AP (2)
		@JYP	@RPR	SKL	Mean	NVS	MTU	BPT	Mean
5701	29485	50.10	77.74	69.00	69.00	97.70	93.60	100.00	96.80
5702	29486	61.70		80.00	80.00	95.90	108.50	119.00	113.75
5703	29487	54.45	68.80			84.20		102.00	102.00
5704	29488	52.70	95.40	78.00	78.00	97.50		116.00	116.00
5705	29489	52.90	85.27	84.00	84.00	97.50	95.80	115.00	105.40
5706	29490	65.85	80.32	76.00	76.00	101.90	104.30	121.00	112.65
5707	29491	51.30	73.16	72.00	72.00	82.90	85.20	97.00	91.10
5708	29492	62.10	72.53	66.00	66.00	82.50	88.00	95.00	91.50
5709	29493	57.65	112.30	67.00	67.00	84.90	92.50	105.00	98.75
5710	29494	50.20	76.70	74.00	74.00	81.70	99.10	103.00	101.05
5711	29495	67.10	83.06	74.00	74.00	114.20		123.00	123.00
5712	29496	67.00	85.98	92.00	92.00	97.40		111.00	111.00
5713	29497	51.50	96.20	63.00	63.00	84.20		105.00	105.00
5714	29498	54.20	80.30	86.00	86.00	95.30	103.30	102.00	102.65
5715	29499	52.10	64.91	69.00	69.00	88.70	81.90	140.00	110.95
5716	29500	65.30	79.91	74.00	74.00	104.00	117.40	136.00	126.70
5717	29501	84.50	129.43	113.00	113.00	132.90	110.20	143.00	126.60
5718	29502	59.70	84.59	81.00	81.00	99.90	103.30	126.00	114.65
5719	WGL-14 (NC)	59.10	80.84	82.00	82.00	99.10	95.90	108.00	101.95
5720	29503	61.30	83.12	85.00	85.00	108.10		133.00	133.00
5721	29504	76.30	104.28	102.00	102.00	121.00	121.20	96.00	108.60
5722	29505	62.70		75.00	75.00	102.80	111.50	114.00	112.75
5723	29506	61.60	79.87	82.00	82.00	96.90	101.60	113.00	107.30
5724	29507	63.60					109.50		109.50
5725	29508	54.70	90.73	85.00	85.00	112.00	107.70	131.00	119.35
5726	29509	45.10	84.35	85.00	85.00	91.20	86.90	102.00	94.45
5727	29510	69.20	79.38	88.00	88.00	94.40	90.90	88.00	89.45
5728	29511	64.60	85.41	69.00	69.00	98.10	123.20	123.00	123.10
5729	29512	56.00	77.21	83.00	83.00	93.50	87.60	102.00	94.80
5730	29513	65.70	72.90	73.00	73.00	93.60	99.30	109.00	104.15
5731	29514	65.90	59.02	81.00	81.00	128.70	145.80	134.00	139.90
5732	29515	63.90	82.17	95.00	95.00	93.20	93.20	93.00	93.10
5733	BPT 5204 (NC)	52.90		84.00	84.00	95.90	83.20	116.00	99.60
5734	29516	54.00		57.00	57.00	78.00	85.70	95.00	90.35
5735	29517	61.70		69.00	69.00	117.90	125.20	142.00	133.60
5736	29518	43.50		93.00	93.00	73.50	79.50	88.00	83.75
5737	29519	44.60	74.17	58.00	58.00	81.60		96.00	96.00
5738	29520	46.20							
5739	29521	52.30	72.96	68.00	68.00	102.70	101.00	107.00	104.00
5740	29522	53.00	75.36	84.00	84.00	93.50	92.20	98.00	95.10
5741	29523	64.60	71.75	65.00	65.00	91.40	91.70	101.00	96.35
5742	29524	51.40	75.88	76.00	76.00	94.40		107.00	107.00
5743	29525	57.00							
5744	29526	68.90	88.58	86.00	86.00	111.40	100.00	107.00	103.50
5745	29527	59.50	85.82	73.00	73.00	110.00		106.00	106.00
5746	29528	61.50	82.70	84.00	84.00	97.70	91.60	105.00	98.30
5747	29529	63.80	82.82	85.00	85.00	95.80	97.60	101.00	99.30
5748	29530	46.70		84.00	84.00	82.70	84.00	96.00	90.00
5749	29531	65.40		64.00	64.00	117.80	117.40	126.00	121.70
5750	29532	53.20		84.00	84.00	83.00	103.80	114.00	108.90
5751	Zonal Check (ZC)	56.30	62.77	75.00	75.00	79.70	107.80	103.00	105.40
5752	29533	67.90	86.71	67.00	67.00	112.90	115.00	125.00	120.00
5753	29534	49.00	71.27	94.00	94.00	71.30	92.50	90.00	91.25
5754	29535	51.70	81.08	73.00	73.00	73.70	96.20	101.00	98.60
5755	29536	62.60	89.21	62.00	62.00	99.00	117.60	125.00	121.30
5756	29537	54.60	85.60	95.00	95.00	92.10	89.30	106.00	97.65
5757	29538	75.90	97.29	67.00	67.00	113.80	120.90	126.00	123.45
5758	29539	54.50	83.82	97.00	97.00	87.70	84.60	110.00	97.30
5759	29540	52.20	96.50	62.00	62.00	82.90	88.10	110.00	99.05
5760	29541	67.00	83.60	70.00	70.00	91.90		119.00	119.00
5761	29542	43.20	79.81	81.00	81.00	79.40		104.00	104.00
5762	29543	68.60	82.47	65.00	65.00	94.00	90.10	106.00	98.05
5763	29544	56.50	79.10	70.00	70.00	83.00	81.10	99.00	90.05
5764	Local Check (LC)	59.80	66.35	71.00	71.00	84.00	99.00	97.00	98.00
<b>Exp. Mean</b>		<b>58.59</b>	<b>82.34</b>	<b>77.77</b>	<b>77.77</b>	<b>95.55</b>	<b>99.85</b>	<b>110.34</b>	<b>106.09</b>

## Annual Progress Report 2020 Volume I - Varietal Improvement

**Table No. 7.10 contd.: Plant Height (cm) of entries in IVT -MS, Kharif 2020**

Entry No.	IET No.	ZONE VII								Overall (9) Mean
		TE		TE (2)	TA		TA (2)	KA (1)	Zone VII (7)	
		KMP	WGL	Mean	ADT	CBT	Mean	MND	Mean	
5701	29485	84.00	85.40	84.70	85.00	93.00	89.00	81.10	88.87	87.64
5702	29486	114.67		114.67	111.20	114.10	112.65	93.60	110.18	104.62
5703	29487	87.00	83.60	85.30	80.40	87.50	83.95	73.70	85.70	85.49
5704	29488	99.67	86.60	93.13	102.00	97.10	99.55	92.20	98.93	96.13
5705	29489	96.67	96.70	96.68	83.00	94.40	88.70	89.00	95.80	94.67
5706	29490	87.00	97.20	92.10	95.00	94.60	94.80	91.10	98.60	96.46
5707	29491	79.33	83.20	81.27	85.40	87.30	86.35	71.80	84.18	82.68
5708	29492	79.00	85.30	82.15	82.80	91.00	86.90	83.80	86.41	83.71
5709	29493	91.33	90.50	90.92	91.00	90.50	90.75	78.80	91.38	87.95
5710	29494	128.00	95.65	111.83	84.60	95.30	89.95	75.00	97.24	92.93
5711	29495	102.33	100.70	101.52	92.60	97.40	95.00	93.10	101.52	99.67
5712	29496	99.67	90.40	95.03	94.40	102.30	98.35	88.80	97.76	97.00
5713	29497	94.33	76.70	85.52	82.00	93.80	87.90	93.00	90.81	86.50
5714	29498	94.67	92.60	93.63	105.80	100.50	103.15	91.20	98.58	96.82
5715	29499	76.00	75.10	75.55	82.80	85.90	84.35	79.70	88.77	86.57
5716	29500	96.00		96.00	92.60	95.00	93.80	93.50	105.08	101.06
5717	29501	138.33	132.00	135.17	115.00	97.75	106.38	110.40	120.95	121.40
5718	29502	92.67	95.00	93.83	95.00	100.00	97.50	81.10	99.01	97.11
5719	WGL-14 (NC)	89.33	88.20	88.77	95.00	96.20	95.60	84.90	93.93	93.18
5720	29503	95.33	90.70	93.02	82.00	90.70	86.35	94.90	97.77	97.47
5721	29504	119.33	113.20	116.27	106.20	121.40	113.80	91.80	109.88	110.24
5722	29505	100.00	86.00	93.00	103.80	106.90	105.35	76.60	99.83	97.40
5723	29506	95.00	94.70	94.85	84.60	98.80	91.70	78.90	95.23	93.94
5724	29507								109.50	109.50
5725	29508	114.00	106.40	110.20	92.80	107.90	100.35	86.40	106.60	104.80
5726	29509	90.33	86.60	88.47	62.60	86.30	74.45	86.20	85.85	86.35
5727	29510	77.33	89.10	83.22	62.20	92.00	77.10	93.50	84.72	86.16
5728	29511	110.33	105.60	107.97	99.00	108.20	103.60	89.80	108.45	102.91
5729	29512	84.67	89.80	87.23	77.00	92.30	84.65	75.30	86.95	87.24
5730	29513	90.33	90.00	90.17	95.60	99.80	97.70	82.10	95.16	92.53
5731	29514	116.33	125.40	120.87	112.60	121.80	117.20	93.10	121.29	117.64
5732	29515	120.00	82.80	101.40	61.40	65.60	63.50	79.30	85.04	87.06
5733	BPT 5204 (NC)	110.00	71.90	90.95	84.80	94.90	89.85	81.90	91.81	91.40
5734	29516	120.00	80.20	100.10	85.00	83.20	84.10	83.40	90.36	85.28
5735	29517	120.00	113.90	116.95	121.80	126.15	123.98	87.80	119.55	113.75
5736	29518	73.67	72.90	73.28	83.40	81.80	82.60	75.60	79.27	80.15
5737	29519	84.33	63.40	73.87	92.00	93.20	92.60	83.50	85.41	81.50
5738	29520		85.00	85.00		96.50	96.50		90.75	90.75
5739	29521	92.00	85.50	88.75	90.40	99.80	95.10	82.70	94.06	92.12
5740	29522	91.67	86.00	88.83	75.00	89.00	82.00	95.70	89.65	89.45
5741	29523	97.00	75.10	86.05	85.00	89.00	87.00	80.50	88.47	86.19
5742	29524	102.00	93.70	97.85	81.80	79.30	80.55	89.10	92.15	90.41
5743	29525									
5744	29526	103.00	98.40	100.70	84.20	93.90	89.05	84.90	95.91	96.53
5745	29527	93.33	93.50	93.42	76.20	86.50	81.35	94.10	91.61	91.58
5746	29528	83.00	89.20	86.10	65.20	80.60	72.90		85.77	87.04
5747	29529	95.67	93.80	94.73	93.20	96.00	94.60	89.40	95.24	94.16
5748	29530	86.33	75.20	80.77	95.60	82.90	89.25	74.00	84.86	84.53
5749	29531	126.00	95.00	110.50	95.80	121.80	108.80	100.40	111.77	107.13
5750	29532	97.00	89.10	93.05	85.00	98.50	91.75	85.00	96.06	93.27
5751	Zonal Check (ZC)	97.33	76.80	87.07	82.00	86.70	84.35	82.80	90.92	87.90
5752	29533	87.00	98.40	92.70	84.80	101.00	92.90	82.40	99.09	97.06
5753	29534	94.33	71.95	83.14	85.00	86.70	85.85	71.40	84.55	84.13
5754	29535	75.33	71.30	73.32	74.60	83.20	78.90	72.60	82.03	80.10
5755	29536	121.33	108.30	114.82	102.80	100.40	101.60	98.60	110.58	103.89
5756	29537	103.00	84.80	93.90	94.80	94.90	94.85	83.20	93.71	93.68
5757	29538	101.00	107.70	104.35	94.60	106.70	100.65	97.60	107.79	103.92
5758	29539	87.33	78.10	82.72	75.00	87.90	81.45	71.60	84.93	86.58
5759	29540	87.33	86.30	86.82	82.00	89.70	85.85	89.00	90.35	86.37
5760	29541	97.33	85.30	91.32	93.60	98.30	95.95	80.00	95.59	91.93
5761	29542	78.33	76.15	77.24	86.20	78.90	82.55	70.80	82.40	81.85
5762	29543	86.33	88.70	87.52	74.00	87.40	80.70	88.40	88.70	86.66
5763	29544	72.00	72.65	72.33	66.20	94.40	80.30	84.10	81.35	80.27
5764	Local Check (LC)	75.33	85.00	80.17	100.20	104.10	102.15	90.90	93.08	89.61
<b>Exp. Mean</b>		<b>96.42</b>	<b>89.47</b>	<b>93.11</b>	<b>88.29</b>	<b>95.14</b>	<b>91.78</b>	<b>85.42</b>	<b>95.04</b>	<b>93.24</b>

## Annual Progress Report 2020 Volume I - Varietal Improvement

Table No. 7.11: Panicles of entries in IVT -MS, Kharif 2020

Entry No.	IET No.	ZONE III		ZONE V		ZONE VI (1)		ZONE VII		
		OD	CH	MA (1)	Zone V (1)	GU (1)	AP		AP (2)	
		@JYP	@RPR	SKL	Mean	NVS	MTU	BPT	Mean	
5701	29485	348	109	268	268	265	320	363	342	
5702	29486	320		223	223	226	274	274	274	
5703	29487	367	130			249		371	371	
5704	29488	313		181	181	264		276	276	
5705	29489	353	139	242	242	282	304	300	302	
5706	29490	342	138	203	203	254	314	316	315	
5707	29491	331	150	306	306	244	310	317	314	
5708	29492	344	136	203	203	307	307	339	323	
5709	29493	343		349	349	237	340	270	305	
5710	29494	356	127	183	183	271	320	276	298	
5711	29495	433	155	300	300	253		339	339	
5712	29496	343	160	191	191	256		280	280	
5713	29497	373		139	139	248		242	242	
5714	29498	390	136	181	181	286	294	270	282	
5715	29499	321	121	203	203	245	234	290	262	
5716	29500	334	105	258	258	241	360	242	301	
5717	29501	366	163	225	225	334	314	267	290	
5718	29502	354	159	196	196	249	271	248	259	
5719	WGL-14 (NC)	343	108	207	207	259	317	280	298	
5720	29503	353	163	205	205	244		313	313	
5721	29504	326	145	180	180	236	314	319	316	
5722	29505	380		169	169	220	330	297	313	
5723	29506	383	128	223	223	234	347	290	318	
5724	29507	296					297		297	
5725	29508	373	144	186	186	240	314	271	292	
5726	29509	355	183	162	162	240	310	250	280	
5727	29510	323	154	183	183	262	284	263	273	
5728	29511	375	94	291	291	177	251	304	277	
5729	29512	356	145	192	192	238	294	311	302	
5730	29513	332	149	192	192	254	281	276	278	
5731	29514	380	95	144	144	211	320	309	314	
5732	29515	329	137	129	129	230	228	205	216	
5733	BPT 5204 (NC)	378		153	153	270	347	264	305	
5734	29516	416		124	124	255	307	302	304	
5735	29517	333		179	179	190	297	216	257	
5736	29518	300		188	188	225	297	286	291	
5737	29519	354	150	195	195	240		312	312	
5738	29520	375								
5739	29521	390	147	165	165	240	284	268	276	
5740	29522	296	115	187	187	244	294	335	314	
5741	29523	403	132	167	167	238	287	283	285	
5742	29524	317	81	176	176	270		307	307	
5743	29525	400								
5744	29526	365	139	206	206	214	294	252	273	
5745	29527	346	140	175	175	226		261	261	
5746	29528	396	140	160	160	203	347	260	303	
5747	29529	406	142	194	194	225	281	282	281	
5748	29530	347		181	181	165	307	190	248	
5749	29531	320		139	139	222	284	268	276	
5750	29532	366		175	175	255	297	304	300	
5751	Zonal Check (ZC)	350	126	197	197	248	261	235	248	
5752	29533	373	147	207	207	240	277	265	271	
5753	29534	336	130	177	177	243	287	275	281	
5754	29535	318	136	188	188	275	251	246	248	
5755	29536	368	149	173	173	227	340	306	323	
5756	29537	326		224	224	205	304	265	284	
5757	29538	313	169	189	189	200	314	254	284	
5758	29539	403	115	170	170	253	343	229	286	
5759	29540	316		172	172	207	327	324	325	
5760	29541	363		169	169	225		316	316	
5761	29542	343	134	179	179	230		298	298	
5762	29543	353	142	150	150	193	281	290	285	
5763	29544	341	131	180	180	205	340	270	305	
5764	Local Check (LC)	296	130	199	199	225	254	251	252	
<b>Exp. Mean</b>		<b>352</b>	<b>136</b>	<b>194</b>	<b>194</b>	<b>239</b>	<b>301</b>	<b>281</b>	<b>291</b>	



## Annual Progress Report 2020 Volume I - Varietal Improvement

Table No. 7.11 contd.: Panicles of entries in IVT -MS, Kharif 2020

Entry No.	IET No.	ZONE VII								Overall (9) Mean
		TE		TE (2)	TA		TA (2)	KA (1)	Zone VII (7)	
		KMP	WGL	Mean	ADT	CBT	Mean	MND	Mean	
5701	29485	404	409	407	294	525	410	307	375	350
5702	29486	427		427	319	475	397	357	354	322
5703	29487	384	431	407	263	335	299	273	343	329
5704	29488	435	424	430	286	368	327	293	347	316
5705	29489	533	437	485	248	420	334	287	361	339
5706	29490	241	413	327	327	585	456	273	353	325
5707	29491	284	429	356	316	363	339	297	331	318
5708	29492	449	437	443	252	333	292	283	343	323
5709	29493	262	437	350	306	335	320	280	319	313
5710	29494	540	434	487	302	443	372	287	372	339
5711	29495	349	417	383	320	398	359	267	348	330
5712	29496	350	416	383	334	405	369	297	347	316
5713	29497	332	442	387	285	476	381	253	338	302
5714	29498	290	446	368	299	515	407	297	344	320
5715	29499	227	454	340	253	363	308	313	305	287
5716	29500	235		235	295	363	329	310	301	288
5717	29501	332	444	388	310	350	330	330	335	323
5718	29502	203	426	314	301	438	369	277	309	290
5719	WGL-14 (NC)	253	439	346	296	470	383	307	337	314
5720	29503	151	414	283	258	358	308	250	291	274
5721	29504	278	447	363	307	353	330	290	330	302
5722	29505	262	434	348	264	508	386	313	344	311
5723	29506	199	434	317	294	478	386	280	332	309
5724	29507								297	297
5725	29508	268	436	352	264	508	386	333	342	313
5726	29509	178	434	306	279	490	385	297	320	293
5727	29510	320	457	388	260	420	340	313	331	307
5728	29511	258	426	342	328	380	354	313	323	303
5729	29512	247	444	345	275	313	294	327	316	293
5730	29513	140	429	285	300	410	355	367	315	294
5731	29514	243	444	343	281	410	346	350	337	301
5732	29515	189	422	305	265	331	298	293	276	255
5733	BPT 5204 (NC)	150	447	299	343	433	388	287	324	299
5734	29516	131	427	279	273	299	286	317	294	270
5735	29517	199	434	317	326	555	441	310	334	301
5736	29518	294	414	354	309	428	368	303	333	305
5737	29519	251	432	342	319	510	414	287	352	318
5738	29520		424	424		510	510		467	467
5739	29521	363	419	391	276	450	363	273	333	304
5740	29522	274	426	350	261	365	313	280	319	296
5741	29523	405	404	405	280	325	303	260	321	294
5742	29524	430	436	433	276	350	313	267	344	314
5743	29525									
5744	29526	454	381	418	276	320	298	307	326	300
5745	29527	266	424	345	269	345	307	300	311	283
5746	29528	230	441	335	243	329	286		308	276
5747	29529	306	422	364	276	418	347	313	328	302
5748	29530	387	413	400	291	328	309	280	313	282
5749	29531	343	439	391	341	480	411	300	351	313
5750	29532	338	431	384	253	335	294	333	327	302
5751	Zonal Check (ZC)	433	460	446	274	370	322	290	332	307
5752	29533	312	437	375	250	415	333	293	321	300
5753	29534	261	432	347	329	375	352	263	318	294
5754	29535	214	403	308	281	510	396	273	311	293
5755	29536	495	444	470	249	373	311	337	363	327
5756	29537	358	436	397	328	340	334	307	334	307
5757	29538	216	454	335	286	400	343	280	315	288
5758	29539	279	426	353	258	373	315	290	314	291
5759	29540	559	447	503	299	455	377	280	384	341
5760	29541	421	426	424	321	475	398	297	376	331
5761	29542	348	467	408	321	370	345	273	346	311
5762	29543	280	421	350	266	405	335	260	315	283
5763	29544	290	426	358	263	370	317	310	324	295
5764	Local Check (LC)	209	421	315	308	435	372	287	309	288
<b>Exp. Mean</b>		<b>308</b>	<b>431</b>	<b>369</b>	<b>289</b>	<b>409</b>	<b>351</b>	<b>296</b>	<b>333</b>	<b>308</b>

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**Table No. 7.12: Grain quality characteristics of entries in IVT-MS, Kharif 2020**

Entry No.	IET No	KL	KB	L/B	Grain Type
5701	29485	4.43	1.66	2.66	MS
5702	29486	5.07	1.77	2.86	MS
5703	29487	4.79	1.66	2.88	MS
5704	29488	5.14	1.83	2.8	MS
5705	29489	5.18	2.11	2.45	SB
5706	29490	3.88	1.70	2.28	SB
5707	29491	4.29	2.05	2.09	SB
5708	29492	4.32	1.71	2.52	MS
5709	29493	4.39	1.78	2.46	SB
5710	29494	4.50	1.99	2.26	SB
5711	29495	5.14	1.88	2.73	MS
5712	29496	5.76	2.15	2.67	MS
5713	29497	5.46	1.91	2.86	MS
5714	29498	4.99	1.74	2.86	MS
5715	29499	4.16	1.68	2.47	SB
5716	29500	5.22	2.40	2.17	SB
5717	29501	5.59	2.43	2.3	SB
5718	29502	4.22	1.89	2.23	SB
5719	WGL-14 (NC)	5.04	1.82	2.76	MS
5720	29503	4.90	1.84	2.64	MS
5721	29504	5.17	1.86	2.77	MS
5722	29505	4.53	1.76	2.74	MS
5723	29506	4.75	1.88	2.52	MS
5724	29507	5.10	1.97	2.58	MS
5725	29508	4.99	1.95	2.55	MS
5726	29509	5.00	1.64	3.04	SS
5727	29510	5.03	1.84	2.73	MS
5728	29511	4.23	1.83	2.31	SB
5729	29512	4.65	1.83	2.54	MS
5730	29513	5.16	2.16	2.38	SB
5731	29514	5.28	1.75	3.01	SS
5732	29515	5.01	1.76	2.84	MS
5733	BPT 5204	4.76	1.82	2.61	MS
5734	29516	5.65	1.82	3.1	SS
5735	29517	5.02	1.59	3.15	SS
5736	29518	4.50	1.86	2.41	SB
5737	29519	5.64	2.02	2.79	MS
5738	29520	6.45	2.10	3.07	LS
5739	29521	4.11	1.88	2.18	SB
5740	29522	4.68	1.55	2.01	SB
5741	29523	4.55	2.00	2.27	SB
5742	29524	4.03	1.74	2.31	SB
5743	29525				
5744	29526	4.50	2.20	2.04	SB
5745	29527	5.27	1.88	2.8	MS
5746	29528	5.01	1.83	2.73	MS
5747	29529	4.25	1.58	2.68	MS
5748	29530	5.06	1.78	2.84	MS
5749	29531	5.16	2.32	2.22	SB
5750	29532	4.76	1.52	3.13	SS
5751	Zonal Check (ZC)				
5752	29533	4.69	1.98	2.36	SB
5753	29534	4.29	2.06	2.08	SB
5754	29535	4.02	1.70	2.36	SB
5755	29536	5.08	1.93	2.63	MS
5756	29537	4.36	1.72	2.53	MS
5757	29538	4.39	2.26	1.94	SB
5758	29539	4.44	1.81	2.45	SB
5759	29540	4.50	1.59	2.83	MS
5760	29541	4.99	1.68	2.97	MS
5761	29542	4.30	1.59	2.7	MS
5762	29543	4.86	1.76	2.76	MS
5763	29544	4.25	1.95	2.17	SB
5764	Local Check	4.69	1.74	2.69	MS

KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

## NEAR ISOGENIC LINES (NIL'S) IN ADVANCE VARIETY TRIAL

Near Isogenic lines (NIL's) were evaluated in various Advance Variety Trials (AVT) based on their duration. The NIL's along with their respective recurrent parents were evaluated for yield under regular yield trials in gazette notified states and for target traits viz., drought tolerance, submergence tolerance, herbicide tolerance, coastal salinity tolerance, bacterial leaf blight and blast resistance, a separate trials across the hot spot locations across the country were conducted. The yield trial and target trials data were analyzed as per the approved guidelines for testing of NILs during the breeder's group meeting held at 53<sup>rd</sup> Annual Rice Group Meetings (ARGM) on 13th April 2018 (Draft Proceedings of 53<sup>rd</sup> ARGM, 2018; Page 45) and 54<sup>th</sup> Annual Rice Group Meetings (ARGM) on 29th May, 2019 (Draft Proceedings of 54<sup>th</sup> ARGM, 2019; Page 6, 42-43).

### Near Isogenic Lines for Bacterial Leaf Blight and Blast Resistance

For bacterial leaf blight and blast resistance, a separate trial under NSN was conducted in hot spot regions across the country to determine the resistance of NILs against bacterial leaf blight and blast disease.

### Near Isogenic Lines for Coastal Salinity Tolerance

A separate submergence trial was conducted at four locations namely Danti, Machilipatnam, Brahmavar and Karaikal..

**Table No.8.1: Composition of entries in Advance Variety Trial 1– Near Isogenic Lines- Coastal Salinity (AVT 1-NIL-CS), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>2<sup>nd</sup> Year of testing:</b>				
6201	28010	MTU 1293	MTU 1010 / FL 478 // *3 MTU 1010	LS
6202	28008	MTU 1291	MTU 1010 / FL 478 // *3 MTU 1010	LS
6203	<b>MTU 1010 (RP)</b>			
6204	28783	CSR 189-11-123	Sarjoo 52 / FL 478 /*4	SB
6205	<b>Sarjoo 52 (RP)</b>			
<b>1<sup>st</sup> Year of testing:</b>				
6206	28784 (R)	RP 6287-188-45-12-88	Improved Samba Mahsuri *3 /// FL 478	MS
6207	<b>Improved Samba Mahsuri (RP)</b>			
6208	<b>FL 478 (DP)</b>			

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**Table No. 8.2.: Grain Yield of entries in AVT 1- NIL (CS), Kharif 2020**

Entry No	IET No	Zone VI (1)		Zone VII						Overall (3)				
		GU (1)		AP (1)	KA	PUD(1)		Zone VII (2)		Mean	Mean			
		DNT		MPM	@BRM	KRK	Mean							
6201	28010	1992	5	743	6	103	2	2044	6	1394	6	1593	7	
6202	28008	2057	4	2420	4	75	3	1967	8	2194	4	2148	4	
6203	MTU 1010 (RP)	2300	3	2440	3	150	1	2721	1	2581	3	2487	3	
6204	28783	1730	8	3886	2			2267	2	3077	2	2628	2	
6205	Sarjoo 52 (RP)	2585	2	4518	1			2000	7	3259	1	3034	1	
6206	28784 (R )	1956	6	2234	5	20	5	2144	4	2189	5	2111	5	
6207	Improved Samba Mahsuri (RP )	2683	1	216	8	10	6	2200	3	8%	1208	8	1700	6
6208	FL 478 (DP)	1772	7	415	7	25	4	2100	5		1258	7	1429	8
<b>Exp. Mean</b>		2134.26		2108.85		63.75		2180.42			2144.63		2141.18	
<b>CD</b>		508.15		624.71				596.02			441.8		320.01	
<b>CV%</b>		13.6		16.92				15.61			11.76		8.53	
<b>D/S</b>		04-08-2020		06-08-2020		10-08-2020		07-08-2020						
<b>D/P</b>		05-09-2020		27-08-2020		02-09-2020		11-09-2020						
<b>Local Check Name</b>						MO-4								

**Table No. 8.3: Days to 50% Flowering of entries in AVT 1- NIL (CS), Kharif 2020**

Entry No	IET No	Zone VI (1)		Zone VII				Overall (3)				
		GU (1)		AP (1)	KA	PUD(1)	Zone VII (2)	Mean				
		DNT		MPM	@BRM	KRK	Mean					
6201	28010	84		86		106		83		85		84
6202	28008	86		83		103		88		86		86
6203	MTU 1010 (RP)	84		83		92		87		85		85
6204	28783	89		87		101		91		89		89
6205	Sarjoo 52 (RP)	98		94		98		96		95		96
6206	28784 (R )	99		95		96		96		95		96
6207	Improved Samba Mahsuri (RP )	105		92		111		96		94		97
6208	FL 478 (DP)	84		84		108		94		89		87
<b>Exp. Mean</b>		91		88		102		91		90		90

**Table No. 8.4: Plant Height of entries in AVT 1- NIL (CS) Normal Kharif 2020**

Entry No	IET No	Zone VI (1)		Zone VII				Overall (3)				
		GU (1)		AP (1)	KA	PUD(1)	Zone VII (2)	Mean				
		DNT		MPM	@BRM	KRK	Mean					
6201	28010	112.80		79.07		71.00		114.03		96.55		101.97
6202	28008	110.70		89.17		69.00		118.87		104.02		106.24
6203	MTU 1010 (RP)	113.60		79.43		62.50		111.67		95.55		101.57
6204	28783	98.90		88.43		64.50		122.73		105.58		103.36
6205	Sarjoo 52 (RP)	100.50		90.03		62.00		121.30		105.67		103.94
6206	28784 (R )	114.20		83.83		43.00		119.77		101.80		105.93
6207	Improved Samba Mahsuri (RP )	112.80		71.93		64.50		107.70		89.82		97.48
6208	FL 478 (DP)	110.10		69.43		63.00		114.40		91.92		97.98
<b>Exp. Mean</b>		109.20		81.42		62.44		116.31		98.86		102.31

**Table No. 8.5: Panicle/m2 of entries in AVT 1- NIL (CS) Normal Kharif 2020**

Entry No	IET No	Zone VI (1)		Zone VII				Overall (3)				
		GU (1)		AP (1)	KA	PUD(1)	Zone VII (2)	Mean				
		DNT		MPM	@BRM	KRK	Mean					
6201	28010	294		45		75		667		356		335
6202	28008	276		104		89		544		324		308
6203	MTU 1010 (RP)	312		134		48		733		434		393
6204	28783	276		186		48		611		398		358
6205	Sarjoo 52 (RP)	324		176		46		644		410		381
6206	28784 (R )	279		103		53		656		379		346
6207	Improved Samba Mahsuri (RP )	339		4		56		556		280		300
6208	FL 478 (DP)	279		24		40		489		256		264
<b>Exp. Mean</b>		297		97		57		612		355		336

## AVT 1 - LOW PHOSPHORUS TOLERANCE (AVT 1 –LPT)

**Locations: 2**

**Test Entries: 11**

**Checks: Positive – Swarna and Rasi; Susceptible - Improved Samba Mahsuri, BPT 5204. Table: 9.1**

Phosphorus is an important nutrient for rice production but the use efficiency of this nutrient is very low (20-30%) and phosphorus deficiency has been identified as one of the major constraint limiting production of rice. Enhancing phosphorus use efficiency (PUE) in rice would offer an affordable option for improving yields and economic returns with reduced inputs. Further, research studies have revealed that genotypic differences for PUE exist. There is a need to identify the cultivars which are adapted to low P situations and have higher P use efficiency.

The present trial was constituted with 11 test entries in second year of testing, with four checks (Swarna and Rasi – Positive), Improved Samba Mahsuri and BPT 5204 (Susceptible checks). The trial was sent to 6 locations but data received from 2 locations (ICAR-IIRR and Raipur). Split plot design was adopted with 4 main plots of phosphorus levels (P<sub>1</sub>- No Phosphorus (Control) (N and K Constant), P<sub>2</sub>: 50 %of recommended P dose (N and K is constant), P<sub>3</sub>: 100 % of recommended dose of P and P<sub>4</sub>: 150% of recommended P dose (N and K constant). Subplots consist of 11 advanced cultures and 4 checks. The results were summarized and presented in and the salient findings are as followed. Interaction effect of phosphorus level and advanced cultures on grain yield was found to be non-significant at ICAR-IIRR, but the results of Raipur location were found to be significant and discussed here under. The trial was conducted by the scientists of crop production and the detailed results are presented in progress report of Crop production **Table 4.1n(ix)**.

At Raipur, under no application of phosphorus, three entries, IET 27641 (4.79 t/ha), IET 28818 (4.77 t/ha) and IET 28816 (4.51 t/ha) performed better than the best check Swarna (4.29 t/ha). Hence these are promoted to AVT 2 for third year of performance. Under 50% of phosphorus application, same three entries IETs 27641, 28818 and 28816 yielded higher grain yield than the best check Swarna but yields were on par with Swarna.

Performance of NILs: Among the NILs, IET 28061 (3.55 t/ha) performed better than corresponding recurrent parent Improved Samba Mahsuri (2.89 t/ha). At 50% phosphorus application, the entry IET 28061 also it has performed (3.99 t/ha) better than the recurrent parent Improved Samba Mahsuri (2.98t/ha). Other three NILs (IETs 28066, 28821 and 28065) under the back ground of MTU 1010 an KMR 3 will be repeated with corresponding recurrent parents.

- **Promoted: IETs 27641, 28818 and 28816, IET 28961 (NIL)**
- **Repeat: IETs 28066 (NIL), 28821(NIL) and 28065 (NIL)**

**IVT LOW- PHOSPHORUS TOLERANCE (IVT-LPT)****Locations: 1****Test Entries: 19****Checks: Positive – Swarna and Rasi; Susceptible - Improved Samba Mahsuri, BPT 5204. Table: 9.4**

The trial was constituted with 19 test entries and four checks. The trial was sent to 6 four locations. Due to the corona virus pandemic, the data from only one location ICAR-IIRR was obtained. Hence the trial will be recommended for repeat in Kharif 2021.

**Table No. 9.1: Composition of entries in Advance Variety Trial 1– Low Phosphorus Tolerance Trial (AVT 1-LPT), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>2<sup>nd</sup> Year of testing:</b>				
5801	27641	RP Bio 4919-B-B-NSR 86	KMR3 / O. rufipogon	SB
5802	28070	RP Bio 4919-B-B-13-7	KMR 3 / O. rufipogon	SB
5803	28816	MTU 1329 (MTU 2513-24-2-2-1)	BPT 5204 / NLR 34449	MS
5804	<b>Swarna (Positive Check)</b>			
5805	28066	RP 5973-13-1-6-67-129-57	MTU 1010*2 / Swarna	MS
5806	28075	RP Bio 5477-NH-663	N 22 Mutant	SB
5807	<b>Improved Samba Mahsuri (Negative Check)</b>			
5808	28061	RP 5970-2-6-19-16-24-1	Improved Samba Mahsuri*2 / Swarna	MS
5809	28821	RP 5964-82	KMR 3R / Swarna*1	MS
5810	<b>BPT 5204 (Sensitive Check)</b>			
5811	28818	RP 6317-S35-BC2F4-49-25-6-21	MTU 1121 / Swarna	MS
5812	28065	RP 5972-13-1-6-67-129-266	MTU 1010*2 / Vandana	SB
5813	28776	RP 6166-47	MTU 1010 / O.rufipogon	MS
5814	28076	RP Bio 4918-B-B-166-30	Swarna / O. nivara	SB
5815	<b>Rasi (Positive Check)</b>			

**Table No. 9.2: Summary of data on grain yield and ancillary characters of selected NIL LPT AVT -1 cultures grown under transplanted conditions**

P-levels	Varieties	ICAR-IIRR						
		Grain Yield (t/ha)	Rank	Panicle/m <sup>2</sup> (No.)	Panicle wt (g)	Tes wt (g)	No of grains /panicle	P res. (kg grain/kg P) (Base level 5% RDP)
P1: No Phosphorous (Control) (N and K is constant)	V1							
	V2							
	V3							
	V4							
	V5							
	V6							
	V7							
	V8							
	V9							
	V10							
	V11							
	V12							
	V13							
	V14							
	V15							
P2: 50% of recommended P dose (N and K is constant)	V1	3.76	42	249	2.09	18.63	149	
	V2	3.94	38	295	2.01	18.93	134	
	V3	4.16	33	270	2.04	17.03	159	
	V4	4.04	36	281	2.10	13.43	146	
	V5	3.91	41	270	2.11	17.33	132	
	V6	4.14	34	274	1.84	16.50	126	
	V7	4.30	31	238	2.05	11.97	130	
	V8	3.92	39	238	1.99	20.77	91	
	V9	4.25	32	288	2.13	21.73	160	
	V10	3.69	44	356	2.00	15.00	165	
	V11	3.59	45	281	1.97	17.37	106	
	V12	3.73	43	242	2.09	17.13	130	
	V13	3.92	39	288	2.04	13.00	129	
	V14	4.08	35	235	2.05	17.13	111	
	V15	4.00	37	288	2.05	20.70	145	
P3: 100% of recommended P dose	V1	5.89	1	348	2.27	19.40	147	71.00
	V2	5.47	6	384	1.88	18.50	124	51.00
	V3	5.13	12	359	2.24	16.97	164	32.33
	V4	5.25	11	356	2.35	15.30	134	40.33
	V5	5.63	4	402	2.47	18.17	130	57.33
	V6	5.13	12	412	1.96	16.47	127	33.00
	V7	5.46	7	480	2.06	13.70	127	38.67
	V8	5.34	9	466	2.15	18.70	88	47.33
	V9	5.02	14	405	2.23	20.63	155	25.67
	V10	5.54	5	420	1.87	16.43	152	61.67
	V11	5.89	1	412	1.83	17.80	111	76.67
	V12	5.68	3	444	2.16	18.17	132	65.00
	V13	5.27	10	420	1.96	15.03	121	45.00
	V14	5.42	8	423	1.80	16.77	113	44.67
	V15	4.95	15	405	2.29	20.40	124	31.67

**Table No. 9.2 contd.: Summary of data on grain yield and ancillary characters of selected NIL LPT AVT -1 cultures grown under transplanted conditions**

P-levels	Varieties	ICAR-IIRR						
		Grain Yield (t/ha)	Rank	Panicle/m <sup>2</sup> (No.)	Panicle wt (g)	Tes wt (g)	Panicle/m <sup>2</sup> (No.)	Phos. res. (kg grain/kg N) (Base level 0% RDN)
P4: 150% of recommended P dose	V1	4.47	30	398	2.04	19.07	129	11.83
	V2	4.80	17	427	1.82	19.03	127	14.33
	V3	4.67	24	398	1.95	19.50	145	8.50
	V4	4.60	26	409	2.26	16.83	133	9.33
	V5	4.57	27	473	2.25	17.53	134	11.00
	V6	4.76	20	420	1.95	16.60	124	10.33
	V7	4.95	15	416	1.97	14.33	139	10.83
	V8	4.64	25	434	2.04	20.90	89	12.00
	V9	4.80	17	437	2.04	19.83	154	9.17
	V10	4.54	29	452	1.75	18.20	135	14.17
	V11	4.74	21	427	1.86	19.03	116	19.17
	V12	4.56	28	466	2.13	19.00	123	13.83
	V13	4.72	22	444	1.85	17.27	109	13.33
	V14	4.70	23	416	1.88	17.47	128	10.33
	V15	4.79	19	409	2.09	20.40	131	13.17
Interaction								
P at same V		NS		NS	NS	1.55	9.89	
V at same P		NS		NS	NS	1.51	9.81	
F1								
F2		3.96	3	273	2.04	17.11	134	
F3		5.40	1	409	2.10	17.50	130	48.09
F4		4.69	2	428	1.99	18.33	128	12.09
C.D.(0.05)		0.16		30.91	NS	0.35	NS	
C.V.(%)		9.38		22.30	12.20	5.32	7.36	
Mean of varieties:								
V1	27641	4.71	5	332	2.13	19.03	142	41.42
V2	28070	4.74	3	369	1.90	18.82	128	32.67
V3	28816	4.65	10	343	2.08	17.83	156	20.42
V4	Swarna	4.63	13	348	2.24	15.19	138	24.83
V5	28066	4.70	6	382	2.28	17.68	132	34.17
V6	28075	4.68	8	369	1.92	16.52	126	21.67
V7	RP Bio 226	4.90	1	378	2.03	13.33	132	24.75
V8	28061	4.63	12	379	2.06	20.12	89	29.67
V9	28821	4.69	7	377	2.13	20.73	156	17.42
V10	BPT 5204	4.59	14	409	1.87	16.54	151	37.92
V11	28818	4.74	2	373	1.89	18.07	111	47.92
V12	28065	4.66	9	384	2.13	18.10	129	39.42
V13	28776	4.64	11	384	1.95	15.10	120	29.17
V14	28076	4.73	4	358	1.91	17.12	117	27.50
V15	Rasi	4.58	15	367	2.14	20.50	133	22.42
C.D.(0.05)		NS		NS	0.13	0.90	5.71	
C.V.(%)		7.62		11.82	6.65	5.44	4.68	
Expt. Mean		4.68		370	2.04	17.65	131	
Soil type		Black clay						
pH		7.5						
P - levels (kg/ha)								
F1		0						
F2		30						
F3		60						
F4		90						
Recommended NPK (kg/ha)		120:60:40						



**Table No. 9.2 contd.: Summary of data on grain yield and ancillary characters of selected NIL LPT AVT -1 cultures grown under transplanted conditions**

P-levels	Varieties	RAIPUR							Mean Grain Yield (t/ha)	Rank
		Grain Yield (t/ha)	Rank	Panicle/m <sup>2</sup> (No.)	Tes wt (g)	Days for 50% Flowering	No of grains /panicle	Phosphorous. res. (kg grain/kg P) (Base level 0% RDP)		
P1: No Phosphorous (Control) (N and K is constant)	V1	4.79	12	198	23.17	97	149		4.79	14
	V2	4.16	22	211	23.03	110	134		4.16	41
	V3	4.51	15	190	20.07	107	217		4.51	31
	V4	4.29	20	241	19.53	102	126		4.29	37
	V5	3.21	40	231	21.97	97	66		3.21	57
	V6	3.71	31	193	21.33	108	132		3.71	50
	V7	2.89	42	248	14.23	99	149		2.89	59
	V8	3.55	35	175	14.67	107	142		3.55	55
	V9	3.61	34	174	24.87	101	131		3.61	54
	V10	3.67	32	219	14.97	103	127		3.67	52
	V11	4.77	13	153	22.57	108	201		4.77	16
	V12	4.02	25	199	18.90	95	143		4.02	44
	V13	3.51	36	174	22.23	97	132		3.51	56
	V14	3.79	29	187	16.50	97	169		3.79	47
	V15	1.91	45	230	21.03	95	130		1.91	60
P2: 50% of recommended P dose (N and K is constant)	V1	5.02	7	209	23.50	97	157	4.60	4.39	34
	V2	4.51	15	233	23.20	110	147	7.00	4.23	39
	V3	4.93	9	205	20.43	107	243	8.40	4.55	28
	V4	4.91	10	277	19.83	102	130	12.40	4.48	32
	V5	3.47	38	253	22.07	97	75	5.20	3.69	51
	V6	4.36	19	206	21.80	108	140	13.00	4.25	38
	V7	2.98	41	294	14.97	99	158	1.80	3.64	53
	V8	3.99	27	237	14.80	107	152	8.80	3.96	45
	V9	4.12	23	181	25.03	101	138	10.20	4.19	40
	V10	3.83	28	245	15.23	103	136	3.20	3.76	49
	V11	5.10	5	197	23.10	108	221	6.60	4.35	35
	V12	4.49	17	245	19.23	95	151	9.40	4.11	42
	V13	3.62	33	189	22.80	97	142	2.20	3.77	48
	V14	4.02	25	224	16.60	97	196	4.60	4.05	43
	V15	2.10	44	252	21.00	95	138	3.80	3.05	58
P3: 100% of recommended P dose	V1	5.17	4	225	23.50	96	166	3.80	5.53	2
	V2	4.82	11	238	23.57	109	155	6.60	5.15	6
	V3	5.28	3	227	20.53	106	267	7.70	5.21	4
	V4	5.02	7	283	19.77	101	137	7.30	5.14	7
	V5	3.51	36	263	22.57	96	85	3.00	4.57	25
	V6	4.46	18	223	21.83	107	146	7.50	4.80	13
	V7	3.23	39	315	15.03	98	172	3.40	4.35	35
	V8	4.18	21	244	15.17	106	160	6.30	4.76	17
	V9	5.36	2	203	25.17	100	144	17.50	5.19	5
	V10	4.06	24	256	15.20	102	140	3.90	4.80	10
	V11	6.13	1	203	23.27	107	243	13.60	6.01	1
	V12	5.05	6	261	19.90	94	156	10.30	5.37	3
	V13	3.76	30	215	22.93	96	146	2.50	4.52	30
	V14	4.55	14	238	16.87	96	205	7.60	4.99	8
	V15	2.68	43	296	21.43	94	146	7.70	3.82	46

**Table No. 9.2 contd.: Summary of data on grain yield and ancillary characters of selected NIL LPT AVT -1 cultures grown under transplanted conditions**

P-levels	Varieties	RAIPUR						Mean Grain Yield (t/ha)	Rank		
		Grain Yield (t/ha)	Rank	Panicle/m <sup>2</sup> (No.)	Tes wt (g)	Panicle/m <sup>2</sup> (No.)	Panicle/m <sup>2</sup> (No.)			Phos. res. (kg grain/kg N) (Base level 0% RDN)	
P4: 150% of recommended P dose	V1							4.47	33		
	V2							4.80	10		
	V3							4.67	22		
	V4							4.60	24		
	V5							4.57	25		
	V6							4.76	17		
	V7							4.95	9		
	V8							4.64	23		
	V9							4.80	10		
	V10							4.54	29		
	V11							4.74	19		
	V12							4.56	27		
	V13							4.72	20		
	V14							4.70	21		
	V15							4.79	14		
Interaction											
P at same V		0.39		NS	NS	NS	NS				
V at same P		0.38		NS	NS	NS	NS				
F1		3.76	3	202	19.94	102	143	3.76	4		
F2		4.10	2	230	20.24	101	155	6.75	3		
F3		4.48	1	246	20.45	101	165	7.25	1		
F4		-		-	-	-	-	-	4.69	2	
C.D.(0.05)		0.06		6.81	0.24	0.27	2.18				
C.V.(%)		3.75		8.06	3.11	0.71	3.79				
Mean of varieties:											
V1		27641	4.99	2	211	23.39	97	157	4.20	4.85	2
V2		28070	4.50	6	227	23.27	110	145	6.80	4.62	5
V3		28816	4.91	3	207	20.34	107	242	8.05	4.78	3
V4		Swarna	4.74	4	267	19.71	102	131	9.85	4.69	4
V5		28066	3.40	13	249	22.20	97	75	4.10	4.05	13
V6		28075	4.18	8	208	21.65	108	139	10.25	4.43	8
V7		RP Bio 226	3.03	14	285	14.74	99	160	2.60	3.97	14
V8		28061	3.91	10	219	14.88	107	151	7.55	4.27	10
V9		28821	4.36	7	186	25.02	101	138	13.85	4.53	7
V10		BPT 5204	3.85	11	240	15.13	103	134	3.55	4.22	11
V11		28818	5.33	1	184	22.98	108	222	10.10	5.04	1
V12		28065	4.52	5	235	19.34	95	150	9.85	4.59	6
V13		28776	3.63	12	193	22.65	97	140	2.35	4.13	12
V14		28076	4.12	9	216	16.66	97	190	6.10	4.43	8
V15		Rasi	2.23	15	259	21.15	95	138	5.75	3.41	15
C.D.(0.05)		0.23		12.82	0.71	0.43	7.41				
C.V.(%)		5.90		6.08	3.74	0.46	5.15				
Expt. Mean		4.11		226	20.21	101	154		4.40		
Soil type		-									
pH		7.1									
P - levels (kg/ha)											
F1		0									
F2		30									
F3		60									
F4		-									
Recommended NPK (kg/ha)		100:60:40									

**Table No. 9.3: Grain quality characteristics of entries in AVT 1-LPT, kharif 2020.**

Entry No.	IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
5801	27641	75.0	62.6	37.0	4.90	2.30	2.13	SB	VOC	5.0	25.84	46
5802	28070	75.8	64.5	42.4	4.80	2.26	2.12	SB	VOC	5.0	26.07	30
5803	28816	78.0	65.3	54.9	4.97	1.94	2.56	MS	VOC	5.0	24.81	25
5804	Swarna	78.1	66.4	56.5	4.97	2.03	2.44	SB	VOC	4.5	24.34	22
5805	28066	78.0	67.6	47.2	5.61	2.03	2.76	MS	VOC	4.0	24.25	70
5806	28075	78.2	68.1	54.8	4.97	2.17	2.29	SB	A	4.0	20.03	43
5807	Improved Samba Mahsuri	75.5	60.3	56.7	5.01	1.88	2.66	MS	A	7.0	23.29	22
5808	28061	77.2	62.1	51.2	5.36	2.12	2.52	MS	VOC	7.0	25.22	22
5809	28821	75.2	64.3	51.1	5.59	2.09	2.67	MS	VOC	7.0	24.96	22
5810	BPT 5204	78.3	71.6	60.2	5.34	1.99	2.68	MS	VOC	5.0	24.64	22
5811	28818	75.7	65.9	53.1	5.37	2.04	2.63	MS	A	7.0	25.19	46
5812	28065	77.6	67.3	54.7	4.89	2.04	2.39	SB	VOC	7.0	26.22	45
5813	28776	77.5	69.1	67.6	5.45	2.02	2.69	MS	VOC	5.0	23.49	25
5814	28076	77.8	66.2	48.8	4.90	2.22	2.20	SB	A	7.0	24.69	22
5815	Rasi	78.7	68.5	62.4	5.37	2.55	2.10	SB	SB	7.0	25.69	22

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB: Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

**Table No. 9.4: Composition of entries in Initial Variety Trial– Low Phosphorus Tolerance Trial (IVT-LPT), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>1<sup>st</sup> Year of testing:</b>				
5901	29545	MTU 1365 (MTUHR OYT11)	MTU1078 / Swarna Sub1	MS
5902	29546	Pusa 5417-15-11-9-54-17	Pusa 44 / IR64-Pup 1-F // Pusa 44*2	LB
5903	29547	CRR 759-1	Sahbhagi Dhan / IR 87707-446-B-B	LB
5904	29548	RP 5974-RMS-3-2-8-38-255-32	IR64*2 / Swarna	LS
5905	29549	RP 5977-MS-M-112-1-9-22-4-6-3	BPT 5204 Mutant	MS
5906	29550	RP 6484- RAF-5 (GSR IR-1-DQ-129-Y4-L1)		LS
5907	29551	CR 4341-17328-5-6-7	CR Dhgan 801 / CR Dhan 310	MB
5908	<b>Rasi (Positive Check)</b>			
5909	29552	RP 5976-RMS-340	Wazuhophek / Improved Samba Mahsuri	MB
5910	29553	MTU 1366 (MTU 2691-56-2-1)	MTU 1156 / MTU 7029	MS
5911	29554	RP 6462-C5-2	Swarna / O. nivara 166-2 // Swarna	MB
5912	29555	RP 6112-MS-M-38-8-4-2-99-7-5	BPT 5204 Mutant	MS
5913	<b>Swarna (Positive Check)</b>			
5914	29556	RP Bio 5477-NH 4811	N22 Mutant	MB
5915	29557	RP 6479-MSA-16-887	VPB 60-2-27-2 / Swarna	LS
5916	29558	Pusa 5417-15-11-9-50-27	Pusa 44 / IR64-Pup 1-F // Pusa 44*2	LS
5917	29559	MTU 1367 (MTU 2545-43-1-1-1)	RNR 15048 / MTU 1121	MS
5918	29560	RP 5593-83-27-1	MTU 1010 / N22	LB
5919	<b>BPT 5204 (Sensitive Check)</b>			
5920	29561	RP Bio 5477-NH 4733	N22 mutant	LB
5921	29562	RP 6167-SN124	Swarna / O. nivara	MS
5922	<b>Improved Samba Mahsuri (Negative Check)</b>			
5923	29563	RP 5594-103-4-1	MTU 1010 / RPHR 1005	MS

## AVT 1- LOW NITROGEN TOLERANCE (AVT 1-LNT)

**Locations:** 2 **Test Entries:** 9  
**Checks:** **Positive – Varadhan, Tella Hamsa, Swarna, Rasi;** **Table:** 9.5  
**Susceptible - Improved Samba Mahsuri, BPT 5204.**

The productivity of rice is very low due to imbalanced and excessive use of nitrogen fertilizers by the farmers. It has been reported that the apparent recovery efficiency of applied nitrogen is approximately about 30-33%. The remaining amount of N is either lost through surface runoff, leaching, volatilization or denitrification and further adds to increased cost of production and environmental degradation. The use of efficient and economical rates of nitrogen fertilizer is important for enhancing crop productivity and maintaining environmental sustainability. To achieve this, it is imperative to identify high nitrogen efficient cultivars which can minimize the losses. Large numbers of rice cultivars have been released in India so far, but the question is that whether these cultivars are capable to utilizing the nitrogen efficiently and there by enhance NUE. Inter varietal differences for nitrogen use efficiency has been reported by many researchers. Therefore, there is a need to identify the cultivars which can efficiently utilize the N and to develop a sustainable nitrogen rate recommendation for these cultivars which can further give enhanced yield and resource use efficiency.

Hence the present trial is constituted with 9 test entries and 6 checks to evaluate the identified cultures and cultivars. The trial was sent to 6 locations but data was received from two locations ICAR-IIRR and Raipur. Split plot design was adopted with 4 main plots of nitrogen levels (N<sub>1</sub>- No nitrogen, N<sub>2</sub>: 50 %of recommended N dose (P and K is constant), N<sub>3</sub>: 100 % of recommended dose of N (P and K constant) and N<sub>4</sub>: 150% of recommended dose of N. Subplots consists of 15 advanced cultures. The results were summarized and presented in and the salient findings are as followed. Interaction effect of nitrogen level and advanced cultures on grain yield was found significant at ICAR-IIRR and Raipur. The trial was conducted by the scientists of crop production and the detailed results are presented in progress report of Crop production Table 4.1. n(vii).

Under no application of nitrogen, the check Varadhan yielded highest grain at ICAR-IIRR where as the check Swarna yielded highest grain at Raipur. Under 50% of nitrogen application, the entry IET 28084 yielded highest grain yield of 6.06 t/ha at ICAR-IIRR. This is the only entry which yielded 5% better than the best check at ICAR-IIRR and hence promoted to AVT 2 for third year of testing. At Raipur no variety performed better yield than the best check Swarna at 50% of nitrogen application.

- **IET 28084 promoted to AVT 2 for third year of testing**

**IVT- LOW NITROGEN TOLERANCE (IVT-LNT)****Locations: 1****Test Entries: 22****Checks: Positive – Varadhan, Tella Hamsa, Swarna, Rasi;  
Susceptible - Improved Samba Mahsuri, BPT 5204.****Table: 9.8**

The trial was constituted with 22 test entries and six checks. The trial was sent to 6 four locations. Due to the corona virus pandemic, the data from only one location ICAR-IIRR was obtained. The data from ICAR – IIRR consisted of many missing data due to poor germination or non germination of many entries. Hence the trial will be recommended for repeat in Kharif 2021.

**Table No. 9.5: Composition of entries in Advance Variety Trial 1– Low Nitrogen Tolerance Trial (AVT 1-LNT), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>2<sup>nd</sup> Year of testing:</b>				
6001	27730	MTU 1286 (MTU 2546 A-12-13-3-10)	MTU 7029* 3 / MTU II 110-9-1-1-1-1	MS
6002	28830	CR 3750-1-2-3-2-1-1	Indravati / Vijetha	MS
6003	28080	RP 5977-MS-M-18-4-9-2-5-7-22-11	BPT 5204 Mutant	SS
6004	<b>Varadhan (Check)</b>			
6005	28831	RP 6257-ST/RIL	Sampada / Jaya	SB
6006	28081	CR 3783-3-2-1-1-1-1-2	Surendra / Abhaya	MS
6007	28827	MTU 1328 (MTU 2515-42-1-3)	MTU 7029 / MTU 1031	MS
6008	28084	CR 3549-6-1-1-3-1-1	ADT 43 / Annapurna	SB
6009	28082	RP 6252-300-17-2-7-14-6-6	Varadhan / BPT 5204	SB
6010	<b>Swarna (Tolerant Check)</b>			
6011	<b>Rasi (Check)</b>			
6012	28087	CR 3511-1-1-1-4-1	IR 36 / Surendra	MS
6013	<b>Tella Hamsa (Check)</b>			
6014	<b>Improved Samba Mahsuri (Check)</b>			
6015	<b>BPT 5204 (Sensitive Check)</b>			

**Table No 9.6: Summary of data on grain yield and ancillary characters of selected NIL LNT AVT -1 cultures grown under:**

N-levels	Varieties	ICAR-IIRR						
		Grain Yield (t/ha)	Rank	Panicle/m <sup>2</sup> (No.)	Panicle wt (g)	Tes wt (g)	No of grains/panicle	Nitrogen. res. (kg grain/kg N) (Base level 0% RDN)
N1: No nitrogen (Control) (P and K is constant)	V1	1.98	58	348	2.15	17.00	119	
	V2	3.68	42	363	1.74	17.47	115	
	V3	2.25	56	313	2.14	16.80	125	
	V4	3.89	39	327	2.06	18.27	120	
	V5	3.84	40	267	2.22	17.70	86	
	V6	1.46	60	313	2.26	16.70	98	
	V7	3.47	46	331	2.10	17.00	132	
	V8	3.54	45	295	2.28	17.20	89	
	V9	2.79	53	366	1.94	17.03	105	
	V10	3.12	49	306	2.33	17.03	123	
	V11	1.69	59	338	1.92	17.37	111	
	V12	2.95	51	366	2.11	20.07	138	
	V13	2.33	55	302	2.01	20.13	97	
	V14	3.36	47	384	2.12	18.63	166	
	V15	3.11	50	366	1.85	19.50	94	
N2: 50% of recommended N dose (P and K is constant)	V1	2.78	54	252	1.92	18.33	130	13.33
	V2	5.41	16	334	1.85	16.60	114	28.83
	V3	3.22	48	320	2.14	15.43	131	16.17
	V4	5.70	9	345	2.32	19.17	104	30.17
	V5	5.79	7	409	2.35	19.07	93	32.50
	V6	2.21	57	373	2.25	16.40	105	12.50
	V7	5.62	11	249	2.10	17.20	134	35.83
	V8	6.06	3	423	2.24	18.43	93	42.00
	V9	4.94	27	576	2.21	16.33	117	35.83
	V10	4.51	35	281	2.25	17.17	131	23.17
	V11	2.82	52	364	1.99	17.37	149	18.83
	V12	3.91	38	715	2.30	20.73	155	16.00
	V13	3.56	44	388	2.27	21.23	102	20.50
	V14	4.63	30	427	2.08	21.47	196	21.17
	V15	3.68	42	320	2.04	21.43	92	9.50
N3: 100% of recommended N dose	V1	4.32	37	316	2.19	17.23	150	19.50
	V2	5.82	6	313	2.15	17.57	140	17.83
	V3	5.26	21	327	2.26	18.47	127	25.08
	V4	4.56	34	366	2.18	19.27	144	5.58
	V5	5.55	13	356	2.45	17.90	109	14.25
	V6	5.88	5	405	2.21	18.27	112	36.83
	V7	5.47	15	292	2.31	17.23	146	16.67
	V8	7.70	1	377	2.41	18.90	138	34.67
	V9	6.41	2	533	2.34	17.50	121	30.17
	V10	3.69	41	334	2.32	17.33	143	4.75
	V11	4.46	36	327	2.33	18.57	143	23.08
	V12	4.76	29	597	2.33	18.70	139	15.08
	V13	5.01	26	370	1.97	17.93	193	22.33
	V14	5.25	22	420	2.50	18.87	181	15.75
	V15	4.58	32	313	2.57	18.63	167	12.25

**Table No. 9.6 contd.: Summary of data on grain yield and ancillary characters of selected NIL LNT AVT -1 cultures grown under:**

N-levels	Varieties	ICAR-IIRR						
		Grain Yield (t/ha)	Rank	Panicle/m <sup>2</sup> (No.)	Panicle wt (g)	Tes wt (g)	Panicle/m <sup>2</sup> (No.)	Nitrogen. res. (kg grain/kg N) (Base level 0% RDN)
N4: 150% of recommended N dose	V1	5.36	18	377	2.34	18.77	150	18.78
	V2	5.79	7	313	2.41	17.37	140	11.72
	V3	5.34	20	356	2.51	18.27	127	17.17
	V4	5.67	10	370	2.26	18.90	144	9.89
	V5	5.24	23	295	2.38	19.63	109	7.78
	V6	4.58	32	434	2.24	20.13	112	17.33
	V7	5.40	17	363	2.45	19.87	146	10.72
	V8	5.49	14	484	2.27	19.50	138	10.83
	V9	5.35	19	359	2.30	19.23	121	14.22
	V10	5.19	24	295	2.23	18.70	143	11.50
	V11	5.60	12	402	2.22	18.60	143	21.72
	V12	4.59	31	494	2.11	18.07	139	9.11
	V13	5.91	4	377	2.12	16.77	193	19.89
	V14	5.18	25	423	2.36	18.13	181	10.11
	V15	4.89	28	423	2.07	18.40	167	9.89
Interaction								
N at same V		0.58		84.79	0.20	2.55	11.45	
V at same N		0.58		85.32	0.21	2.60	11.44	
F1		2.90	4	332	2.08	17.86	115	
F2		4.32	3	385	2.15	18.42	123	23.76
F3		5.25	2	376	2.30	18.16	143	19.59
F4		5.31	1	384	2.28	18.69	143	13.38
C.D.(0.05)		0.17		30.15	0.09	NS	3.70	
C.V.(%)		7.51		15.82	7.98	11.46	5.47	
<b>Mean of varieties:</b>								
V1	27730	3.61	14	324	2.15	17.83	137	17.20
V2	28830	5.18	2	331	2.04	17.25	127	19.46
V3	28080	4.02	12	329	2.26	17.24	127	19.47
V4	Varadhan	4.96	5	352	2.21	18.90	128	15.21
V5	28831	5.11	3	332	2.35	18.58	99	18.18
V6	28081	3.53	15	381	2.24	17.88	107	22.22
V7	28827	4.99	4	308	2.24	17.83	140	21.07
V8	28084	5.70	1	395	2.30	18.51	114	29.17
V9	28082	4.87	6	459	2.20	17.52	116	26.74
V10	Swarna	4.13	9	304	2.28	17.56	135	13.14
V11	Rasi	3.64	13	358	2.12	17.98	136	21.21
V12	28087	4.05	11	543	2.21	19.39	143	13.40
V13	Tella Hamsa	4.20	8	359	2.09	19.02	146	20.91
V14	RP Bio 226	4.61	7	413	2.27	19.28	181	15.68
V15	BPT 5204	4.07	10	356	2.13	19.49	130	10.55
C.D.(0.05)		0.29		42.40	0.10	1.27	5.72	
C.V.(%)		8.09		14.19	5.59	8.62	5.40	
<b>Expt. Mean</b>		<b>4.44</b>		<b>370</b>	<b>2.21</b>	<b>18.28</b>	<b>131</b>	
Soil type		Black clay						
pH		7.5						
<b>N - levels (kg/ha)</b>								
F1		0						
F2		60						
F3		120						
F4		180						
Recommended NPK (kg/ha)		120:60:40						

**Table No. 9.6 contd.: Summary of data on grain yield and ancillary characters of selected NIL LNT AVT -1 cultures grown under**

N-levels	Varieties	RAIPUR							Mean Grain Yield (t/ha)	Rank
		Grain Yield (t/ha)	Rank	Panicle/m <sup>2</sup> (No.)	Tes wt (g)	Days for 50% Flowering	No of grains/panicle	Nitrogen. res. (kg grain/kg N) (Base level 0% RDN)		
N1: No nitrogen (Control) (P and K is constant)	V1	2.58	41	218	18.7	101	135		2.28	57
	V2	3.34	23	184	21.0	105	117		3.51	45
	V3	3.19	29	202	19.0	106	142		2.72	53
	V4	3.16	31	230	17.3	105	109		3.53	44
	V5	3.14	32	209	26.1	102	116		3.49	46
	V6	2.44	43	211	21.1	100	98		1.95	60
	V7	2.59	40	183	22.4	105	124		3.03	51
	V8	3.32	26	203	22.4	99	101		3.43	47
	V9	2.63	39	193	22.1	103	101		2.71	54
	V10	3.34	23	231	19.9	102	130		3.23	48
	V11	2.37	44	192	21.2	95	87		2.03	59
	V12	3.34	23	217	19.4	107	118		3.15	50
	V13	2.01	45	189	24.3	95	69		2.17	58
	V14	2.66	38	225	13.9	102	112		3.01	52
	V15	3.27	27	233	14.7	106	144		3.19	49
N2: 50% of recommended N dose (P and K is constant)	V1	4.67	6	266	18.7	101	173	41.80	3.73	40
	V2	4.05	16	233	21.7	106	151	14.20	4.73	22
	V3	4.06	15	224	19.1	107	164	17.40	3.64	43
	V4	3.81	18	250	17.3	106	132	13.00	4.76	20
	V5	3.68	21	218	26.9	103	131	10.80	4.74	21
	V6	2.71	37	230	21.3	101	106	5.40	2.46	56
	V7	3.18	30	207	22.7	106	153	11.80	4.40	32
	V8	4.25	12	219	22.7	100	139	18.60	5.16	16
	V9	2.83	36	244	22.3	104	105	4.00	3.89	39
	V10	5.12	2	292	19.9	103	180	35.60	4.82	19
	V11	2.56	42	233	21.3	96	106	3.80	2.69	55
	V12	5.15	1	261	19.6	108	191	36.20	4.53	27
	V13	4.40	9	270	24.6	96	113	47.80	3.98	38
	V14	4.16	14	276	14.4	103	189	30.00	4.40	33
	V15	3.75	19	258	14.7	107	164	9.60	3.72	41
N3: 100% of recommended N dose	V1	4.99	3	274	18.8	101	188	24.10	4.66	24
	V2	4.68	5	241	21.7	106	175	13.40	5.25	12
	V3	3.69	20	231	19.0	107	157	5.00	4.48	30
	V4	4.34	11	281	17.4	106	146	11.80	4.45	31
	V5	4.98	4	258	26.9	103	162	18.40	5.27	11
	V6	3.11	33	241	21.6	101	130	6.70	4.50	28
	V7	3.27	27	217	22.9	106	191	6.80	4.37	34
	V8	4.42	8	234	22.8	100	152	11.00	6.06	1
	V9	3.04	34	250	22.8	104	118	4.10	4.73	23
	V10	4.40	9	319	20.1	103	149	10.60	4.05	37
	V11	2.89	35	250	21.4	96	127	5.20	3.68	42
	V12	4.20	13	286	19.7	108	169	8.60	4.48	29
	V13	3.40	22	295	24.6	96	85	13.90	4.21	36
	V14	4.46	7	314	14.5	103	208	18.00	4.86	18
	V15	3.98	17	270	15.1	107	176	7.10	4.28	35



**Table No. 9.6 contd.: Summary of data on grain yield and ancillary characters of selected NIL LNT AVT -1 cultures grown under**

N-levels	Varieties	RAIPUR							Mean Grain Yield (t/ha)	Rank
		Grain Yield (t/ha)	Rank	Panicle/m <sup>2</sup> (No.)	Tes wt (g)	Panicle e/m <sup>2</sup> (No.)	Panicle /m <sup>2</sup> (No.)	Nitrogen. res. (kg grain/kg N) (Base level 0% RDN)		
N4: 150% of recommended N dose	V1	-		-	-	-	-		5.36	8
	V2	-		-	-	-	-		5.79	3
	V3	-		-	-	-	-		5.34	10
	V4	-		-	-	-	-		5.67	4
	V5	-		-	-	-	-		5.24	13
	V6	-		-	-	-	-		4.58	26
	V7	-		-	-	-	-		5.40	7
	V8	-		-	-	-	-		5.49	6
	V9	-		-	-	-	-		5.35	9
	V10	-		-	-	-	-		5.19	14
	V11	-		-	-	-	-		5.60	5
	V12	-		-	-	-	-		4.59	25
	V13	-		-	-	-	-		5.91	2
	V14	-		-	-	-	-		5.18	15
	V15	-		-	-	-	-		4.89	17
Interaction										
N at same V		0.23		21.75	NS	NS	14.36			
V at same N		0.22		21.09	NS	NS	14.09			
F1		2.89	3	208	20.23	102	114		2.89	4
F2		3.89	2	245	20.48	103	146	20.00	4.11	3
F3		3.99	1	264	20.62	103	155	10.98	4.62	2
F4		-		-	-	-	-	-	5.31	1
C.D.(0.05)		0.13		7.55	0.87	3.28	3.28			
C.V.(%)		13.97		11.47	10.99	6.64	6.64			
Mean of varieties:										
V1	27730	4.08	3	253	18.73	101	165	32.95	3.85	11
V2	28830	4.02	4	219	21.48	106	147	13.80	4.60	2
V3	28080	3.65	10	219	19.03	107	154	11.20	3.83	12
V4	Varadhan	3.77	7	253	17.32	106	129	12.40	4.36	4
V5	28831	3.93	6	228	26.62	103	136	14.60	4.52	3
V6	28081	2.75	14	227	21.34	101	112	6.05	3.14	14
V7	28827	3.01	12	202	22.67	106	156	9.30	4.00	8
V8	28084	4.00	5	219	22.64	100	131	14.80	4.85	1
V9	28082	2.83	13	229	22.42	104	108	4.05	3.85	10
V10	Swarna	4.29	1	281	19.96	103	153	23.10	4.21	5
V11	Rasi	2.61	15	225	21.30	96	107	4.50	3.12	15
V12	28087	4.23	2	254	19.55	108	159	22.40	4.14	7
V13	Tella Hamsa	3.27	11	251	24.51	96	89	30.85	3.74	13
V14	RP Bio 226	3.76	8	272	14.27	103	169	24.00	4.18	6
V15	BPT 5204	3.67	9	254	14.82	107	161	8.35	3.87	9
C.D.(0.05)		0.23		18.47	0.83	5.86	5.86			
C.V.(%)		7.69		8.81	5.24	5.92	5.92			
Expt. Mean		3.59		239	20.44	103	138		4.02	
Soil type		-								
pH		7.1								
N - levels (kg/ha)										
F1		0								
F2		50								
F3		100								
F4		-								
Recommended NPK (kg/ha)		100:60:40								

**Table No. 9.7: Grain quality characteristics of entries in AVT 1- LNT, kharif 2020**

Entry No.	IET No.	Hull	Mill	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
6001	27730	79.1	70.0	60.8	5.31	2.05	2.59	MS	A	4.0	24.81	40
6002	28830	81.2	69.8	62.3	5.67	2.04	2.77	MS	A	4.0	26.13	71
6003	28080	80.9	71.5	61.6	5.66	1.87	3.02	SS	A	7.0	25.16	22
6004	Varadhan	80.9	72.2	60.8	4.83	2.23	2.16	SB	VOC	5.0	25.72	62
6005	28831	80.8	68.4	38.9	5.58	2.47	2.25	SB	VOC	4.0	27.33	57
6006	28081	79.8	68.8	48.1	5.09	1.98	2.57	MS	VOC	5.0	27.39	38
6007	28827	79.1	65.5	40.3	5.51	2.06	2.67	MS	VOC	4.0	26.48	51
6008	28084	81.2	71.8	60.7	5.00	2.38	2.10	SB	VOC	4.0	24.14	22
6009	28082	78.0	66.6	42.4	5.07	2.29	2.21	SB	VOC	5.0	25.13	45
6010	Swarna	75.5	66.4	56.9	4.80	2.19	2.19	SB	VOC	4.0	24.14	22
6011	Rasi	79.0	70.4	56.0	4.88	2.29	2.13	SB	VOC	7.0	26.16	25
6012	28087	78.4	69.6	65.2	5.23	2.07	2.52	MS	VOC	7.0	26.10	45
6013	Tella Hamsa	81.3	74.9	55.2	6.22	2.04	3.04	LS	VOC	7.0	27.89	22
6014	Improved Samba Mahsuri	75.8	64.3	56.9	4.86	1.73	2.80	MS	A	5.0	23.52	22
6015	BPT 5204	79.0	66.0	56.4	4.91	1.78	2.75	MS	A	5.0	24.42	22

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB: Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

**Table No. 9.8: Composition of entries in Initial Variety Trial – Low Nitrogen Tolerance Trial (IVT-LNT), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	GT
<b>1<sup>st</sup> Year of testing:</b>				
6101	29564	CR 3511-7-1-1-1-1-2	IR 36 / Surendra	MS
6102	29565	MTU 1369 (MTU 2691-25-1-1)	MTU 1156 / MTU 7029	MS
6103	29566	RP 6317-RMS-S35-BC2F4-49-25-6-21	MTU 1121 / Swarna	MB
6104	29567	RP 6255-BV / RIL / BPT / Varadhan / 1698	BPT 5204 / Varadhan	SB
6105	29568	RP 6112-MS-M-38-1-5-7-3-6-8	BPT 5204 Mutant	MS
6106	29569	CR 4340-1-4-GSR IR2-1-Y17-N2-N5-N6-N9	WTR / Haoannong	LS
6107	<b>Rasi (Check)</b>			
6108	29570	RP 6322-RAF-253	GSR IR1-8-S6-S3-Y2 / GSR IR1-5-D7-Y3-S1	LS
6109	29571	MTU 1370 (MTU 2650-60-1-1-1)	MTU 1075 / NLR 34449	MS
6110	<b>Improved Samba Mahsuri (Check)</b>			
6111	29572	RP 6255-BV / RIL / BPT / Varadhan / 1694	BPT 5204 / Varadhan	SB
6112	29573	CR 3553-1-5-2-1-1-1	ADT 43 / Ananga	SB
6113	<b>Varadhan (Check)</b>			
6114	29574	RP 6462-C5	Swarna / O. nivara 166-2 // Swarna	SB
6115	29575	RP 5975-RMS-5	Rasi / Improved Samba Mahsuri	SB
6116	<b>Tella Hamsa (Check)</b>			
6117	29576	MTU 1368 (MTU2613-33-1-1)	MTU 1075 / CR 3598-1-4-2-1	LS
6118	29577	RP 5594-71-14-2-1 (PSV 2008)	MTU 1010 / RPHR 1005	MS
6119	29578	CR 3756-2-4-2-1-1-1	Salivahana / Krishnaveni	MS
6120	29579	RP Bio 4918-B-B-166-23	Swarna / O. nivara	LS
6121	<b>BPT 5204 (Sensitive Check)</b>			
6122	29580	RP 6355-RAF-261	GSR-IR-12-D10-S1-D1/GSR-IR1-5-Y3-Y1-D1	LS
6123	29581	RP 6255-BV / RIL / BPT / Varadhan / 1696	BPT 5204 / Varadhan	MB
6124	29582	RP 5599-21-40-1 (PSV 2046)	MTU 1010 / KMR 3	LB
6125	29583	CR 3561-5-2-1-1-1	Surendra / Annapurna	MS
6126	<b>Swarna (Tolerant Check)</b>			
6127	29584	RP 6112-MS-M-13-22-9-11-4-6-3	BPT5204 Mutant	LB
6128	29585	RP 5970-RMS-1-3-17-65-27-41	Improved Samba Mahsuri*2 / Swarna	MS

## RAINFED UPLAND

In typical upland ecology short duration rice cultivars are usually grown that come to 50% flowering in around 80 days. This ecology is spread throughout the country but more areas are concentrated in Eastern India cultivated by resource poor farmers with limited inputs application. It is basically rainfed in nature and direct seeding is practiced. The success of the crop depends on quantity of rainfall received and its distribution during the crop growth. Most often crop faces drought at various stages of growth starting from sowing, early to late vegetative, primordial initiation, flowering and maturity stage. Since the crop is grown in rainfed upland situations in marginal soil, it faces various abiotic stresses like drought, poor supply of major nutrient and sometime iron deficiency whereas biotic stresses like weeds, termites, nematode and other disease pests. Therefore, this ecology requires genotypes with short duration of around 105-110 days (seed to seed), early vigour, weed competitiveness to have good stand establishment and drought tolerance ability for vegetative and reproductive stage. Hence the genotypes promoted should have short duration of 105-110 days, drought tolerance and yield advantage over checks. Two experiments were conducted during *khari* 2020 i.e. AVT 1- EDS and IVT - EDS at specified locations to identify genotypes with these characteristics for which results are presented below.

### ADVANCE VARIETY TRIAL 1 – EARLY DIRECT SEEDED (AVT 1 – E DS)

<b>Locations:</b>	<b>13</b>	<b>Test Entries: 15</b>
<b>Checks:</b>	<b>Sahbhagidhan and Vandana (RP) – National; Govind (Northern), Narendra 97 (Eastern), Samaleswari (Central), Varalu (RP and Western), Tulasi (Southern), Anjali (RP and All zones), Gangavati Ageti (Sensitive) and Local Check</b>	<b>Table:10.1</b>

The trial constituted of 15 test entries of which one entry was in third year of testing and twelve entries were in second year of testing which includes two repeat entries, five NIL entries; three in the background of Anjali and one in the background of Vandana and one in the background of Varalu, two entries in first year of testing basically from NIL drought of which one entry was repeated, one in the background of Anjali and one in the background of Varalu, two national checks (Sahbhagidhan and Vandana), six regional checks (Govind, Narendra 97, Samaleswari, Varalu, Tulasi and Anjali), sensitive check GNV Ageti and local check. There was inclusion of Vandana and Anjali as national and zonal check, respectively and also Varalu as recurrent parent across test locations. All the entries were varietal entry. All together twenty two genotypes were evaluated including national, zonal, recurrent parent, sensitive and local check across the locations. The trial was sent to eighteen test locations, and data were received from thirteen locations; while at Hazaribag trial was conducted both in field as well as in rain out shelter (RoS). However, data from Hatwara and Rewa were not considered for analysis because of incomplete data. Conduction of the trial was not possible in few locations due to late arrival of seed materials because of COVID-19 restrictions as per the feedback. The trial was conducted under rainfed direct seeded conditions at NRRI,

Cuttack, Jeypore, Pusa, Hazaribag, Jagdalpur, Raipur, Rewa, Derol, Vyara, Coimbatore, Tirur and Mugad in zone III, V, VI and VII of the country in states Odisha, Bihar, Jharkhand, Chattisgarh, M.P., Gujrat, Tamilnadu and Karnataka. The trial was sown during 2<sup>nd</sup> week of July to 4<sup>th</sup> week of August 2020 at different places.

Based on total rainfall received and its distribution during crop growth stages, these centres were classified as stress centre for moisture (drought); these were Jeypore in Odisha, Hazaribag in Jharkhand and Derol and Vyara in Gujrat; while other locations received sufficient rainfall and there was no moisture stress (drought) during crop growth stages.

#### General information on drought situations in different locations

Location	Description of situation	Expt. yield (kg/ha)	C.V. (%)
Coimbatore	Normal rainfall	4721.8	13.51
NRRI, Cuttack	Normal rainfall	2996.4	8.24
Pusa	Normal rainfall	3119.6	8.75
Jagdalpur	Normal rainfall	3231.3	11.07
Raipur	Normal rainfall	2491.7	14.28
Tirur	Normal rainfall	2240.6	11.63
Mugad	Normal rainfall	4057.6	13.33
Jeypore	Drought- moderate stress at grain filling	1975.8	13.13
Hazaribag	Drought – at flowering and grain filling	2201.2	9.39
Hazaribag (Rain out shelter)	Severe stress imposed from booting to maturity	-	-
Derol	Drought – severe drought at flowering and grain filling	1088.7	13.04
Vyara	Drought – moderate stress at flowering and grain filling	2073.0	20.88
Hatwara	Normal rainfall	data not provided	
Rewa	Drought	Very poor yield	

#### Performance of entries under drought situation

The entries were evaluated in different locations across the zones and the drought prevailed only in Jeypore, Odisha and Hazaribag, Jharkhand in zone III and Derol and Vyara in Gujrat in zone VI, hence performance of entries were presented in these two zones under drought stress with a special mention. The drought was very severe in Rewa (M.P in zone V) where very low experimental mean yield of 404.5 kg/ha was obtained of the yielded entries. Six entries didn't flower at all. As per guide line, the location where grain yield was < 1000.0 kg/ha was not considered for analysis. The performance of NILs under drought is discussed separately since NILs are to be compared with their respective recurrent parent for the trait of interest.

### Zone III

Under drought situation two locations qualify for analysis were Jeypore in Odisha and Hazaribag in Jharkhand in addition to rain out shelter (RoS) in Hazaribag, where moisture stress was imposed from booting stage onwards. This was for trait verification of drought tolerant entries including tolerant and susceptible checks Sahbhagidhan, Vandana, Anjali and drought sensitive check GNV Ageti. In this zone, the grain yield of entries varied from 814 kg/ha (Narendra 97) to 3242 kg/ha (Anjali) with a mean grain yield of 2076.4 kg/ha, days to 50% flowering from 71 (GNV Ageti and IET 29024) to 103 days (IET 28259) with a mean 50% flowering duration of 82.4 days; plant height of 61 cm (Narendra 97) to 94 cm (IET 27523 and IET 20924) with mean height of 83 cm and panicles/m<sup>2</sup> ranged from 180 (Vandana –NC &RP) to 284 (IET 28250) with a mean panicles/m<sup>2</sup> of 245.28. The data pertaining to grain yield, days to 50% flowering, plant height, number of EBT/m<sup>2</sup> and grain quality are presented in tables 1.2, 1.3, 1.4, 1.5 and 1.6. The mean grain yield of Anjali which was zonal check for all the zones and also recurrent parent of NIL yielded highest of 3242 kg/ha followed by IET 28241 (CRR 797-71-2-1-2) a cross derivative of Vandana and IR 9385-123-B with 3044 kg/ha and local check with 2870 kg/ha in this zone. Sensitive check GNV Ageti yielded 2794 kg/ha and stood 4<sup>th</sup> among entries. None of the entries promoted in this zone as no entries had minimum yield superiority over the best check.

### Zone VI

Two locations in zone VI i.e. Derol and Vyara in Gujrat experienced drought situation, there was very severe stress at Derol at flowering and grain filling stage, whereas moderate drought of 20 days was experienced at Vyara. At Vyara an experimental mean grain yield of 1088.7 kg/ha was obtained with CV 13.04, while mean grain yield of Derol was 2073 kg/ha with CV 20.88. with a state and zonal mean of 1579.3 kg/ha from both the locations. In this zone the mean grain yield of entries ranged from 907 kg/ha (IET 28835) to 2666 kg/ha (IET 27523) with zonal and state mean of 1579.3 kg/ha. Days to 50% flowering of entries varied from 66 days (Local check) to 106 (Vandana –NC) with a mean of 79.3 days; plant height ranged from 83 cm (IET 28835) to 110 cm (IET 27523) with an average height of 98 cm among entries. Panicles/m<sup>2</sup> was lowest in Vandana (157) while highest in IET 28250 (241) with a mean of 215.51 among the entries. Based on zonal mean for grain yield, two entries (IET 27523 and IET 28248) outperformed than the best yielding national check Sahbhagidhan with required yield advantage of 5% or more. IET 27523 (CRR 514-6-1-1-1-6) registered yield advantage of 36% and IET 28248 (CRR 716-4-8) out yielded 14% than the best check Sahbhagidhan.

Based on the results, **IET 27523 (CRR 514-6-1-1-1-6) which was in 3<sup>rd</sup> year of testing found promising on the basis of yield superiority and grain quality parameters. Similarly, IET 28248 (CRR 716-4-8) which is in 2<sup>nd</sup> year of testing, is promoted for 3<sup>rd</sup> year of testing in zone VI.**

**IET 27523 (CRR 514-6-1-1-1-6)**, a derivative of cross Browngora/N 22 // CR 143-2-2 ranked 1<sup>st</sup> among the entries. It possessed long slender grain with 50% flowering duration of 72 days. It recorded 36 % yield advantage over the best check Sahbhagidhan (NC). The entry exhibited HRR (53.8%), intermediate AC (22.1%), ASV (4) and GC (34 mm) as desired grain quality traits. This entry also recorded about 14% yield advantage over best check i.e. local check when overall performance over four drought locations is considered.

**IET 28248 (CRR 716 -4-8)** a derivative from cross IR 78933-B-24 / Anjali stood 2<sup>nd</sup> among the entries. It possesses long bold grain with 84 days flowering duration. It showed a yield advantage of 14 % over best check Sahbhagidhan (NC). The entry exhibited HRR(51.3%), intermediate AC (22.6 %), ASV (6) and low GC (28.5mm) as desired grain quality traits.

**Performance of promising entries of AVT 1 –E DS under drought condition in Zone VI during Kharif2020**

IET No./ Designation/ Cross combination	GY/FD/ GT	Yield adv. (%) over NC ZC LC SC	% increase over best check			
			State	Rank	Yield	% BC
27523 CRR 514-6-1-1-1-6 Brown gora / N 22 // CR 143-2-2	2666 72 LS	<b>36</b> 151 43.5 146	GU	1	2666	36
28248 CRR 716-4-8 IR 78933-B-24 / Anjali	2224 84 LB	<b>14</b> 109 19 105	GU	2	2224	14
Sahbhagidhan NC	<b>1954</b> 82					
Zonal check	1062 91					
<b>Local check</b>	1857 66					
GangavatiAgeti (Sensitive check)	1082 75					

Bold Italics: Best check & over best check NC - National check; ZC - Zonal check, LC - Local check; SC - Sensitive check, GY - Grain Yield, FD - Flowering duration, GT - Grain Type

**Overall performance of promising entries of AVT 1 –E DS under drought condition (4 locations) during Kharif 2020**

IET No. Designation Cross combination	GY/ FD/ GT	Yield adv. (%) over NC, ZC LC SC	% increase over best check			
			State	Rank	Yield	% BC
27523 CRR 514-6-1-1-1-6 Brown gora / N 22 // CR 143-2-2	2685 77 LS	27.5 25.7 <b>14</b> 38	GU	1	2666	36
28241 <b>CRR 797-71-2-1-2</b> Vandana/IR 9385-123-B	2540 76 LS	20.6 18.9 <b>7</b> 31	GU	32037		7
			OD	13207		16
Sahbhagidhan NC	2105 82					
Anjali -Zonal check	2136 71					
<b>Local check</b>	<b>2363</b> <b>71</b>					
GangavatiAgeti (Sensitive check)	1938 74					

Bold Italics: Best check & over best check NC - National check; ZC - Zonal check, LC - Local check; GY - Grain Yield

### Overall performances of entries across drought situation

There were four locations where drought prevailed, two in zone III and two in zone VI in Gujarat. Two entries that performed well in zone VI also performed better if all drought locations are considered in an overall basis. The entry IET 27523 (CRR 514 - 6-1-1-1-6) had performed better than the best check (Local check) with 13.6% yield advantage. Similarly, IET 28241(CRR 797-71-2-1-2) a cross combination of Vandana and IR 9385-123-B had outperformed the best check by 7.5 %. Therefore, **IET 27523 (CRR 514-6-1-1-1-6) that has completed 3<sup>rd</sup> year of testing found promising on overall basis in drought situation in Jharkhand, Odisha and Gujarat, however it is not consistent over the years in any of the zone except Jharkhand in 2018 and 2019 but keeping its performance on overall basis as well as in Gujarat in 3<sup>rd</sup> year one more chance is given as the material seems to be promising, hence repeated. Similarly, IET 28241 (CRR 797-71-2-1-2) is promoted for 3<sup>rd</sup> year of testing on overall basis.**

### Performance of IET 27523 for three years is discussed below under drought situation

The entry IET 27523 (CRR 514 -6-1-1-1-6) a cross combination of Brown gora/ N22 and CR 143-2-2 was promoted under moderate stress category in 2018 on overall basis with mean grain yield of 2281 kg/ha that had yield advantage of 11% than the best check. During 2019, it performed better in zone III only under drought situation with grain yield of 1962 kg/ha and outperformed best check by 26% more yield. During 2020, this entry didn't show yield advantage over best check Anjali (ZC, 3242 kg/ha) though yielded 2705 kg/ha under drought condition in zone III. But, this was the top yielder in zone VI with grain yield of 2666 kg/ha that is 36% more than best check Sahbhagidhan (NC). When overall grain yield under four drought locations are considered, this entry registered grain yield of 2685 kg/ha that is 14% more than the best check (LC).

Although, the performance was inconsistent over the years in a particular zone, but performed well in 1<sup>st</sup> year under moderate drought on overall basis, registered yield advantage in zone III in 2<sup>nd</sup> year and also top yielder in zone VI as well as on overall basis over four drought locations in 3<sup>rd</sup> year. Therefore, this entry (**IET 27523, CRR 514 -6-1-1-1-6**) is promising in drought prone locations in zone VI (Gujarat) and zone III (Jharkhand and Odisha) may be identified.

### Three years performance of IET 27523 under drought condition

IET No	Year/ Trial	Overall mean	% yield over NC/ZC/LC	State rank	Yield (kg/ha)	% increase over best check	Zone rank	Yield (kg/ha)	% increase over best check
27523	2018/ IVT- E DS	2281	11	JH-2 <sup>nd</sup> M.P.- 7 <sup>th</sup>	2250 2479	40.62 26.66	ZV – 7 <sup>th</sup>	2479	26.66
	2019/ AVT1 –EDS	-	-	JH -2 <sup>nd</sup>	2188	33	Z III -1 <sup>st</sup>	1962	26
	2020/ AVT1- EDS	2685	14	GU -1 <sup>st</sup>	2666	36	Z VI-1 <sup>st</sup>	2666	36

### **Normal Rainfall condition:**

There are seven location classified as normal based on rainfall received during crop growth stages. Those locations are Cuttack in Odisha and Pusa in Bihar (Z - III), Jagadapurand Raipur in Chhattisgarh (Z -V) and Coimbatore and Tirur in Tamilnadu and Mugad in Karnataka (Z –VII).

#### **Zone III**

The mean grain yield was 2996.4 kg/ha in Cuttack and 3119.6 kg/ha in Pusa with CV 8.24 and 8.75 respectively. A zonal mean grain yield of 3059.7 kg/ha was obtained where Sahbhagidhan (NC) is the best yielder and ranked 1<sup>st</sup>(3968 kg/ha), hence no entry in this zone found promising.

#### **Zone V**

The mean grain yield at Jagdalpur is 3231kg/ha and at Raipur is 2491.75 kg/ha with CV of 11.07% and 14.28% respectively while zone mean grain yield was 2872.2 kg/ha. In both the location and on Zonal basis also Zonal check is the best yielder, therefore no entry found promising.

#### **Zone VII**

In zone VII, mean grain yield of 4721.8 kg/ha was realized in Coimbatore, 2240.6 kg/ha in Tirur and 4057.64 kg/ha in Mugad and CV respectively was 13.51%, 11.63% and 13.33%. The mean grain yield in this zone was 3593.4 kg/ha.

On overall basis also none of the entries yielded better than national check Sahbhagidhan. So under normal rainfall situations none of the entry performed better than the best check in any of the tested zone.

### **Near Isogenic lines (NILs)**

Fine Near Isogenic lines (NILs) are tested in AVT1 EDS trial. All the 5 NILs (IETs 28834, 28835, 28836, 26753 and 29024) were introgressed with drought QTLs.

From the trait verification trial of NIL(DRT) table 64 where only IET 29024 (RP Anjali) and IET 26573(RP Varalu) a repeat entry were tested; IET 29024 found not promising on overall and zonal basis as the performance of NIL, recurrent parent (RP), sensitive check (SC) and best check (BC) were not on par statistically; while IET 26753 found promising on overall and zonal basis as the performance of NIL, RP, SC and BC were on par under drought stress conditions.



**Performance of Near Isogenic lines (NILs) under drought**

NILs were evaluated in zones for which respective recurrent parent (RP) is released or notified. All the 5 NILs were evaluated in Zone III and Zone VI. Zone wise performance of NILs are discussed below

**ZONE III**

NIL	Grain yield (Kg/ha)	% increase over RP	Remarks
IET 28834 (RP-Anjali)	1663	-	Dropped
IET 28835 (RP-Anjali)	1935	-	Dropped
IET 29024 (RP-Anjali)	2547	-	Dropped
IET 28836 (RP-Vandana)	1931	53.6	Repeated
<b>Anjali (RP)</b>	<b>3242</b>	-	
<b>Vandana (RP)</b>	<b>1257</b>	-	
GNV Ageti (sensitive check)	2794		
Sahbhagi Dhan(NC)			

RP- Recurrent parent

IET28834, IET 28835 and IET 29024 recorded grain yield of 1663 kg/ha, 1935 kg/ha and 2547 kg/ha in Zone III, whereas the recurrent parent Anjali yielded significantly higher (3242 kg/ha) than all the three NILs. Hence the NILs in the genetic background of Anjali were not promoted. Similarly, IET 28836 yielded 1931 kg/ha, 53.6% more than their respective recurrent parents Vandana. As Vandana is a drought tolerant variety as well as national check, the performance of NIL, IET 28836 showed significant yield superiority over the RP and check, hence it is found promising. **However, this entry (IET 28836) has not been verified under trait verification trial i.e., AVT1 NIL Drt during 2020 Kharif, hence repeated for 2<sup>nd</sup> year of testing.**

**Zone VI**

**As none of the recurrent parents of the NILs have been released and notified for any of the states under zone VI, the data and results are not discussed here.**

**Zone VII**

In Zone VII, one NIL i.e., IET 26753 introgressed with drought QTLs was tested. Here Coimbatore, Tirur and Mugad were the locations in Zone VII in which AVT 1 E DS trial was conducted. But these locations also did not experience drought and classified as normal location. Hence IET 26753 did not experience drought. Similarly, this entry was also not found promising in trait verification trial (AVT1-NIL-Drt, Kh 2020). In this context, IET 26753 is discontinued.

**Promising entries**

**Overall: IET 27523 and IET 28241 (Drought locations)**

**Zone VI: IET 27523 and IET 28248**

**Repetition: IET 28834, IET 28835, IET 29024, IET 28836 and IET 26753.**

**INITIAL VARIETY TRIAL-EARLY DIRECT SEEDED (IVT-E DS)****Locations: 18****Test Entries: 33**

**Checks: Sahbhagidhan and Vandana – National; Govind (Northern), Narendra 97 (Eastern), Samaleswari (Central), Varalu (Western), Tulasi (Southern)— Zonal; Anjali (RP and All zones), US 314 --Hybrid; GangavatiAgeti (Sensitive) and Local Check**

**Table:10.7**

The trial was constituted with 40 entries, including 7 checks, national (Sahbhagidhan and Vandana), Zonal (Govinda, Narendra 97, Samaleswari, Varalu and Tulasi– Early), all zone check (Anjali), Hybrid check (US 314), Sensitive check (GangavatiAgeti) and local check. The trial was sent to 18 locations but data from 5 locations (CAU- Imphal, Derol, Lembucherra, Ranchi and Sabour) was not received. The trial was evaluated at 13 locations under rainfed direct seeded condition covering states of Odisha, West Bengal, Chattishgarh, Gujarat, TamilNadu, Bihar, Jharkhand, Karnataka, Madhya Pradesh in zone III, zone V, zone VI and zone VII. In all 13 locations, the trial was sown in the month of July (Bankura, Hathwara, Jagdalpur, Jaypore, Mugad, Pusa, Raipur, Rewa and Vyara) and August (Cuttack, Coimbatore, Hazaribag and Tirur). Considering the situation, the locations were grouped into drought and normal rainfall locations for analysis of data and accordingly the performance of entries discussed. Drought situation was experienced at 3 locations viz., Hazaribag, Pusa and Raipur during flowering and grain filling stage whereas rest of the 9 locations experienced normal rainfall. The entries are evaluated based on the performance under drought conditions. The information on drought and general performance is given below.

**Performance of entries under Drought condition**

Drought condition was experienced at two locations in Zone III viz., Pusa and Hazaribag; and one location in zone V that is Raipur. The experimental mean grain yield at Pusa, Hazaribag, and Raipur was 2964.16 kg/ha, 1411.07 kg/ha and 2801.13 kg/ha and CV was 5.25%, 12.45%, and 16.55% respectively. The location Rewa recorded lower grain yield (<1000 kg/ha) and the data of only 6 entries were available, hence not considered for analysis. Overall grain yield under drought condition ranged from 1659 kg/ha (IET 29055, ZC) to 3295 kg/ha (IET 29054); days to 50% flowering ranged from 59 days (Anjali all zone check) to 91 days (IET 29055); plant height ranged from 88 cm (IET29044) to 132 cm (IET 29037) and number of panicles per m<sup>2</sup> ranged from 96 (IET 29055) to 220 (IET 29047). The data pertaining to yield, days to 50% flowering, plant height and number of panicles/m<sup>2</sup> are presented in tables 10.8-10.11.

**General information on drought situation in different locations**

Location	Drought situation	Average Expt. Yield (Kg/ha)	CV%
Cuttack	Normal	2907.46	10.59
Jeypore	Normal	3632.35	12.56
Bankura	Normal	4398.76	9.42
Hathwara	Normal	3691.18	15.40
Jagdalpur	Normal	3619.60	37.52
Tirur	Normal	2879.32	9.31
Mugad	Normal	3193.99	9.49
Vyara	Normal	2908.64	25.62

Location	Drought situation	Average Expt. Yield (Kg/ha)	CV%
Pusa	Drought	2964.16	5.25
Hazaribag	Drought	1411.07	12.45
Raipur	Drought	2801.13	16.55

On the basis of overall mean, entries IET29054 (13%), IET 29063 (9%), IET 29036 (7%) and IET 29045 (5%) significantly out yielded the best check (Sahbhagidhan-2927 kg/ha), hence these entries are promoted to second year of testing in AVT 1 EDS on overall mean basis.

#### Over all mean performance of promising entries under drought condition in IVT EDS during Kharif 2020

IET No./ Designation/ Cross Combination	GY/ FD/ GT	Overall Yield advantage (%) over BC%	% increase over best check Zone			
			Zone		State	
			Zone Rank Yield	%BC	State Rank Yield	%BC
<b>IET 29054</b> CR 4116-3-2-1-1-1 (CR 4043-3-1-1-1/CR DHAN 204)	3295 86 LS	13	Zone III 2 3626	45	BI 3 3626	
<b>IET 29063</b> CR 4033-3-2-2-3-1 (CR Dhan 203/CR 2706)	3197 75 LS	9	Zone III 1 3758	50	BI 1 3758	6
<b>IET 29036</b> RCPR-68-IR-83929-B-B-291-2- 1-1-2 IR78878-53-2-2-2 / CT6510-24- 1-2	3126 69 LB	7	Zone V 1 4399	16	BI 5 3501	-
<b>IET 29045</b> TM 15021 ADT43/Senthuram	3077 84 MS	5	Zone III - 3137	25	BI 3137	-
<b>Sahabhagidhan (NC)</b>	2927 76					
Local check	2631 73					
Gangavati Ageti (Sensitive check)	2048 65					

#### Performance of promising entries at Zone III and Zone V

IET No./ Designation/ Cross combination	GY/ FD/ GT	% increase over best check		
		Zone	Rank	
			Rank	% BC
<b>IET 29063</b> CR 4033-3-2-2-3-1 CR Dhan 203/CR 2706	3758 63 LS	Zone III	1	50%
<b>IET 29054</b> CR 4116-3-2-1-1-1 CR 4043-3-1-1-1/CR DHAN 204	3626 84 LS	Zone III	2	45%
<b>IET 29039</b> CR 4115-2-5-3-2-1 CR 4042-1-2-1-1-1/ CR DHAN 201	3501 62 LS	Zone III	3	40%

IET No./ Designation/ Cross combination	GY/ FD/ GT	% increase over best check		
		Zone		
			Rank	% BC
<b>IET 29040</b> CR 3845-5-1-5-2-1 GONTRAVIDHAN/SRIMATI	3288 64 LS	Zone III	4	31%
<b>IET 29044</b> HUR-9-sarjoo52-sub-1 Sarjoo-52/IR-64-Sub-1	3181 80 MB	Zone III	5	27%
<b>IET 29045</b> TM 15021 ADT43/Senthuram	3137 80 MS	Zone III	6	25%
<b>IET29052</b> CR-2889-208-1 Apo/CR 143-2-2	3137 63 MS	Zone III	7	25%
<b>IET29048</b> CR 4121-1-2-1-1-1 CR DHAN203/CR 2706	3105 83 LS	Zone III	8	24%
<b>IET29047</b> CR 4114-2-4-1-1-2-1 CR 3848-1-1-2-1-1/VANDANA	3104 74 MS	Zone III	9	24%
<b>IET 29060</b> CR 4032-2-4-2-1-1 CR DHAN 201/CR DHAN 203	2974 82 LS	Zone III	10	19%
<b>IET 29038</b> CRR523-2-2-1-3 Kalinga III/Bhupen	2941 72 LS	Zone III	11	18%
<b>IET 29067</b> CB 16680 CB 08504/CO 41	2792 74 MS	Zone III	12	12%
<b>IET 29046</b> CRR 759-B-36-B-1 Sahbhagidhan/IR 87707-446-B-B	2670 72 LS	Zone III	13	7%
<b>IET 29036</b> RCPR-68-IR-83929-B-B-291-2-1-1-2 IR78878-53-2-2-2 / CT6510-24-1-2	4399 79 LB	Zone V	1	16%

### Zone III

In Zone III, IET 29063, IET 29054, IET 29039, IET 29040, IET 29044, IET 29045, IET 29052, IET 29048, IET 29047, IET 29060, IET 29038, IET 29067 and IET 29046 produced superior yield over the best check, hence promoted to second year of testing in Zone III.

### Zone V

In Zone V, IET29036 produced superior grain yield over the best check (16%) hence it is promoted to second year of testing in Zone VI.

### Performance of entries under normal condition

On overall mean basis under normal condition, grain yield ranged from 2220 kg/ha (IET 29055) to 4243 kg/ha (IET 29049) with experimental mean of 3404 kg/ha. Days to 50% flowering ranged from 69 days (Anjali, all zone check) to 95 days (Vandana, NC), plant height ranged from 76 cm (IET 29044) to 103 cm (IET 29037) and number of

panicles/m<sup>2</sup> ranged from 132 (IET 29055) to 236 (IET 29045). The experimental CV of Jagadapur was above acceptable level (37.52), hence data from this location was not considered for mean analysis. The data received from Coimbatore was also not considered for analysis because the trial was done with very small net plot area (0.9 m<sup>2</sup>). Among the test entries, four entries, IETs 29036, 29049, 29054 and 29062 out yielded the best check on overall mean basis. The entry IET 29036 is only promoted to AVT 1 E DS for second year of testing.

**Table No.10.1: Composition of entries in Advance Variety Trial 1–Early Direct Seeded (AVT 1 - EDS), Kharif 2020**

Entry No.	IET No.	Designation	Cross Combination	Grain Type
<b>3<sup>rd</sup> year of testing:</b>				
101	27523	CRR 514-6-1-1-1-6	Brown gora / N 22 // CR 143-2-2	LS
<b>2<sup>nd</sup> year of testing:</b>				
102	28241	CRR 797-71-2-1-2	Vandana / IR 9385-123-B	LS
103	28242	RCPR65-IR99784-255-29-1-1-1-2	IR 98003:257 / MR 219	LB
104	28248	CRR 716-4-8	IR 78933-B-24 / Anjali	LB
105	28250	RCPR 64-IR 97069-1-1-1-1	IR09L317 / IR10L137	LS
106	28253	CRR 688-25-B-1-B-4	IR 80501-25-B-1 / Vandana	LB
107	28256	R 2220-382-1-243-1	R 1546-1328-1-40-1 / Mahamaya	MS
108	28258	CRR 696-42-B-1-B	Vandana / CT 9993-5-10-1M	LB
109	<b>Shabhagidhan (NC)</b>			
110	28259	CR 4043-3-1-1-1-1	IR 79643-39-2-2 / CR Dhan 305	LS
111	<b>Govind (Northern), Narendra 97 (Eastern), Samaleshwari (Central), Varalu and Tulasi (Western &amp; Southern)—ZC</b>			
112	27525 (R)	R-RF-127	Selection from IR 83929-B-B-132-2	LS
<b>2<sup>nd</sup> year of testing:</b>				
113	28834	CRR 809-11-1-9-B	IR 84984-83-15-481-B / 3*Anjali // IR 81896-B-B-195 / 3* Anjali	SB
114	28835	CRR 752-3-1-B	Anjali*3 / IR 81896-B-195	SB
115	<b>Anjali (ZC for all zones &amp; RP)</b>			
116	28836	CRR 677-1	IR 79971-B-102-B-B / 3* Vandana	LB
117	<b>Vandana (NC &amp; RP)</b>			
<b>1<sup>st</sup> year of testing:</b>				
118	26753(R)	RP 6270-MSM 36-Bio-62-4-15	Varalu *3 / Vandana NIL	LS
119	<b>Varalu (RP)</b>			
120	<b>GNV Ageti – Sensitive Check</b>			
121	29024	CRR 753-5-1-B	Anjali*3/IR 84984-83-15-18-B-B-93	SB
122	<b>Local Check</b>			

**Table No.10.2: Grain yield (Kg/ha) of entries in AVT 1- EDS Kharif2020**

Entry No	IET NO	Zone III Drought					
		OD (1)		JH (1)		Zone III (2)	
		JYP		HZB		Mean	
101	27523	1851		3559	3	2705	5
102	28241	3207	1 * 16%	2881	7	3044	2
103	28242	2104	9	1130		1617	
104	28248	2263	7	2599	8	2431	7
105	28250	2642	4	1327		1985	
106	28253	2356	5	2443	10	2400	8
107	28256	2300	6	918		1609	
108	28258	1331		3248	5	2290	9
109	Sahbhagidhan (NC)	1954	10	2557	9	2256	10
110	28259	1670				1670	
111	Narendra 97 (ZC)	871		757		814	
112	27525	2120	8	2302		2211	
113	28834	1291		2034		1663	
114	28835	1709		2161		1935	
115	Anjali ( ZC for all zones & RP)	2755	3	3729	2	3242	1
116	28836	1616		2246		1931	
117	Vandana (NC & RP)	1923		591		1257	
118	26753(R)	1731		763		1247	
119	Varalu (RP)	1440		890		1165	
120	GNV Ageti- Sensitive check	1797		3791	1	2794	4
121	29024	1760		3333	4	2547	6
122	Local Check (LC)	2774	2	2966	6	2870	3
	<b>Exp. Mean</b>	1975.76		2201.19		2076.41	
	<b>CD</b>	427.59		341.02		304.1	
	<b>CV%</b>	13.13		9.39		8.89	
	<b>D/S</b>	21.07.2020		13.08.2020			
	<b>Local Check Name</b>	Mandakini		CR Dhan 40			

\*Superior to best check % superior over best check

**Table 10.2 contd.: Grain yield (Kg/ha) of entries in AVT 1-E DS Drought Kharif 2020**

Entry No	IET NO	Zone VI Drought				Zone VI (2)	
		GU		DRL		GU(2)	
		VYR				Mean	
101	27523	1644	3	3687	1 *	2666	1 * 36%
102	28241	1396	5	2677	3	2037	3
103	28242	652		2563	6	1608	10
104	28248	1179	10	3269	2 *	2224	2 * 14%
105	28250	983		2146		1565	
106	28253	1226	9	2128		1677	9
107	28256	997		2509	7	1753	8
108	28258	1336	6	2636	4	1986	4
109	Sahbhagidhan (NC)	1540	4	2368	8	1954	5
110	28259	996		2586	5	1791	7
111	Varalu (ZC)	306		1817		1062	
112	27525	1667	2	1478		1573	
113	28834	1071		1394		1233	
114	28835	613		1200		907	
115	Anjali (ZC for all zones & RP)	630		1431		1031	
116	28836	1314	7	1347		1331	
117	Vandana (NC & RP)			1021		1021	
118	26753(R)	972		2155	10	1564	
119	Varalu (RP)	695		2218	9	1457	
120	GNV Ageti- Sensitive check	551		1612		1082	
121	29024	1313	8	1434		1374	
122	Local Check (LC)	1781	1	1932		1857	6
	<b>Exp. Mean</b>	1088.67		2073.02		1579.3	
	<b>CD</b>	234.26		713.15		392.23	
	<b>CV%</b>	13.04		20.88		15.07	
	<b>D/S</b>	14.07.2020		13.07.2020			
	<b>Local Check Name</b>	Purna		GR - 9			

\*Superior to best check % superior over best check

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**Table 10.2 contd.: Grain yield (Kg/ha) of entries in AVT 1 – EDS Drought Kharif2020**

Entry No	IET NO	Overall (4)	
		Mean	
101	27523	2685	1 * 14%
102	28241	2540	2* 7%
103	28242	1612	
104	28248	2328	4
105	28250	1775	
106	28253	2038	8
107	28256	1681	
108	28258	2138	5
109	Sahbhagidhan (NC)	2105	7
110	28259	1751	
111	Narendra 97 and Varalu (ZC)	938	
112	27525	1892	
113	28834	1448	
114	28835	1421	
115	Anjali ( ZC for all zones & RP)	2136	6
116	28836	1631	
117	Vandana (NC & RP)	1178	
118	26753(R)	1405	
119	Varalu (RP)	1311	
120	GNV Ageti- Sensitive check	1938	10
121	29024	1960	9
122	Local Check (LC)	2363	3
	<b>Exp. Mean</b>	1830.56	
	<b>CD</b>	253.72	
	<b>CV%</b>	8.41	

\*Superior to best check % superior over best check

**Table 10.2 contd.:Grain yield (Kg/ha) of entries in AVT 1– EDS Normal Kharif 2020**

Entry No	IET NO	Zone III Normal					
		OD (1)		BI (1)		Zone III (2)	
		CTK		PSA		Mean	
101	27523	3466	6	2196		2831	
102	28241	3268	8	3906	1	3587	4
103	28242	3965	2	3517	7	3741	3
104	28248	2569		3300	9	2935	
105	28250			3848	2	3848	2
106	28253	2699		3266	10	2983	
107	28256	3301	7	3806	4	3554	5
108	28258	2631		3103		2867	
109	Sahbhagidhan (NC)	4100	1	3835	3	3968	1
110	28259			2058		2058	
111	Narendra 97 (ZC)			3158		3158	9
112	27525	3666	4	2970		3318	6
113	28834	2967	10	2606		2787	
114	28835	2764		3609	6	3187	8
115	Anjali ( ZC for all zones & RP)	2469		3655	5	3062	
116	28836	1832		3149		2491	
117	Vandana (NC & RP)	1965		2676		2321	
118	26753(R)	3100	9	3153		3127	
119	Varalu (RP)	3469	5	2677		3073	
120	GNV Ageti- Sensitive check	3865	3	2560		3213	7
121	29024	2068		2079		2074	
122	Local Check (LC)	2767		3505	8	3136	10
	<b>Exp. Mean</b>	2996.44		3119.65		3059.73	
	<b>CD</b>	408.65		449.69		263.57	
	<b>CV%</b>	8.24		8.75		5.23	
	<b>D/S</b>	22.08.2020		18.07.2020			
	<b>Local Check Name</b>	Annada		Prabhat			

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**Table 10.2 contd.: Grain yield (Kg/ha) of entries in AVT 1– EDS Normal Kharif 2020**

Entry No	IET NO	Zone V Normal				Zone V (2)	
		CG				CG(2)	
		JDP		RPR		Mean	
101	27523	2992		3446	3	3219	5
102	28241	3048		3500	2	3274	4
103	28242	3304	6	2676	10	2990	10
104	28248	3109		3074	6	3092	9
105	28250	3280	7	2622		2951	
106	28253	3520	4	2893	9	3207	6
107	28256	3791	2	3151	5	3471	3
108	28258	3082		1852		2467	
109	Sahbhagidhan (NC)	3742	3	3294	4	3518	2
110	28259	3029		2285		2657	
111	Samaleshwari (ZC)	4049	1	3589	1	3819	1
112	27525	3307	5	3067	7	3187	7
113	28834	2952		2331		2642	
114	28835	3125		1364		2245	
115	Anjali ( ZC for all zones & RP)	3280	8	2289		2785	
116	28836	2933		1839		2386	
117	Vandana (NC & RP)	2964				2964	
118	26753(R)	3144		1057		2101	
119	Varalu (RP)	3013		1448		2231	
120	GNV Ageti- Sensitive check	3194	9	2430		2812	
121	29024	3042		1066		2054	
122	Local Check (LC)	3189	10	3053	8	3121	8
	<b>Exp. Mean</b>	3231.32		2491.75		2872.27	
	<b>CD</b>	589.39		586.99		424.87	
	<b>CV%</b>	11.07		14.28		8.98	
	<b>D/S</b>	11.07.2020		10.07.2020			
	<b>Local Check Name</b>	Dantesswari		Indira Aerobic			

**Table 10.2 contd.: Grain yield (Kg/ha) of entries in AVT 1– EDS Normal, Kharif 2020**

Entry No	IET NO	Zone VII Normal						Zone VII (3)		Overall (7)			
		TN			TN (2)		KA		Mean				
		CBT	TRR	Mean	Mean	MGD	Mean						
101	27523	7256	1* 13.7*	1418		4337	3	5006	4	4560	2	3683	4
102	28241	5697	5	2144		3921	6	3206		3682		3538	7
103	28242	5181	7	1920		3551		3672		3591		3462	
104	28248	4889		1402		3146		3549		3280		3127	
105	28250	5950	3	2865	4	4408	1	4548	7	4454	4	3852	3
106	28253	5028	9	2227		3628	9	3942		3732	10	3368	
107	28256	4112		3187	1* 5.46	3650	8	4305	9	3868	9	3665	5
108	28258	4821		1838		3330		3165		3275		2927	
109	Sahbhagidhan (NC)	5706	4	3022	3	4364	2	4432	8	4387	5	4019	1
110	28259	5445	6	2613	7	4029	4	5647	1	4568	1	3513	10
111	Zonal Check (ZC)	5014	10	2718	6	3866	7	4929	5	4220	6	3910	2
112	27525	4302		2780	5	3541		4558	6	3880	8	3521	9
113	28834	3232		2258		2745		2791		2760		2734	
114	28835	3450		3107	2	3279		2801		3119		2889	
115	Anjali (ZC for all zones & RP)	2690		1713		2202		3731		2711		2832	
116	28836	4042		1545		2794		3186		2924		2647	
117	Vandana (NC & RP)	6377	2	1546		3962	5	5604	2	4509	3	3522	8
118	26753(R)	5088	8	2042		3565		3933		3688		3074	
119	Varalu (RP)	4333		2336	9	3335		3966		3545		3035	
120	GNV Ageti- Sensitive check	3203		1698		2451		4228	10	3043		3025	
121	29024	3205		2591	8	2898		2624		2807		2382	
122	Local Check (LC)	4857		2325	10	3591	10	5448	3	4210	7	3592	6
	<b>Exp. Mean</b>	4721.8		2240.62		3481.21		4057.64		3593.39		3240.39	
	<b>CD</b>	1051.13		429.39		600.91		1124.78		531.8		273.15	
	<b>CV%</b>	13.51		11.63		10.48		13.33		8.98		5.12	
	<b>D/S</b>	26.08.2020		13.08.2020				13.07.2020					
	<b>Local Check Name</b>	CO 53		TKM (R) 12				MGD 101					



**Table 10.3: Days to 50% flowering of entries in AVT 1-EDS Drought, Kharif 2020**

Entry No	IET NO	OD (1)	JH (1)	Zonell (2)
		JYP	HZB	Mean
101	27523	88	76	82
102	28241	82	70	76
103	28242	93	87	90
104	28248	88	71	80
105	28250	89	86	88
106	28253	87	79	83
107	28256	91	91	91
108	28258	85	68	77
109	Sahbhagidhan (NC)	88	75	82
110	28259	103		103
111	Narendra 97 (ZC)	88	87	88
112	27525	86	80	83
113	28834	79	63	71
114	28835	83	75	79
115	Anjali ( ZC for all zones & RP)	84	62	73
116	28836	82	63	73
117	Vandana (NC & RP)	104	89	97
118	26753(R)	91	91	91
119	Varalu (RP)	90	90	90
120	GNV Ageti- Sensitive check	82	62	72
121	29024	82	62	72
122	Local Check (LC)	88	63	76
	<b>Exp. Mean</b>	87.79	75.78	82.41
	<b>CD</b>	3.16	2.06	1.92
	<b>CV%</b>	2.18	1.65	1.41

**Table 10.3 contd.: Days to 50% flowering of entries in AVT 1-E DS Drought, Kharif 2020**

Entry No	IET NO	GU		Zone VI (2)	Overall (4)
		DRL	VYR	GU (2)	Mean
				Mean	
101	27523	67	77	72	77
102	28241	74	78	76	76
103	28242	83	80	82	86
104	28248	84	84	84	82
105	28250	82	86	84	86
106	28253	76	86	81	82
107	28256	85	84	85	88
108	28258	75	77	76	76
109	Sahbhagidhan (NC)	84	79	82	82
110	28259	99	79	89	94
111	Varalu (ZC)	102	80	91	89
112	27525	82	79	81	82
113	28834	67	70	69	70
114	28835	67	71	69	74
115	Anjali (ZC for all zones & RP)	70	67	69	71
116	28836	66	76	71	72
117	Vandana (NC & RP)		106	106	100
118	26753(R)	97	68	83	87
119	Varalu (RP)	87	79	83	87
120	GNV Ageti- Sensitive check	75	75	75	74
121	29024	69	79	74	73
	Local Check (LC)	64	67	66	71
	<b>Exp. Mean</b>	78.76	78.53	79.26	80.66
	<b>CD</b>	2.22	6.7	3.43	1.88
	<b>CV%</b>	1.71	5.18	2.62	1.42

**Table 10.3 contd.: Days to 50% flowering of entries in AVT 1-E DS Normal, Kharif 2020**

Entry No	IET NO	OD	BI	Zone III (2)
		CTK	PSA	Mean
101	27523	74	68	71
102	28241	73	71	72
103	28242	81	68	75
104	28248	74	66	70
105	28250		76	76
106	28253	73	75	74
107	28256	88	70	79
108	28258	72	76	74
109	Sahbhagidhan (NC)	75	69	72
110	28259		84	84
111	Narendra 97 (ZC)		68	68
112	27525	81	68	75
113	28834	71	58	65
114	28835	70	59	65
115	Anjali (ZC for all zones & RP)	81	59	70
116	28836	73	55	64
117	Vandana (NC & RP)	80	98	89
118	26753(R)	87	86	87
119	Varalu (RP)	78	80	79
120	GNV Ageti- Sensitive check	70	61	66
121	29024	87	60	74
	Local Check (LC)	77	69	73
	<b>Exp. Mean</b>	77.14	70.23	73.62
	<b>CD</b>	2.91	6.61	4.29
	<b>CV%</b>	2.28	5.71	3.53

**Table 10.3 contd.: Days to 50% flowering of entries in AVT 1-E DS Normal, Kharif 2020**

Entry No	IET NO	CG		Zone V (2)
		JDP	RPR	CG(2) Mean
101	27523	82	71	77
102	28241	76	67	72
103	28242	88	77	83
104	28248	81	75	78
105	28250	89	77	83
106	28253	84	73	79
107	28256	89	79	84
108	28258	77	69	73
109	Sahbhagidhan (NC)	79	73	76
110	28259	101	88	95
111	Samaleshwari (ZC)	89	82	86
112	27525	83	71	77
113	28834	75	62	69
114	28835	73	61	67
115	Anjali (ZC for all zones & RP)	72	60	66
116	28836	68	62	65
117	Vandana (NC & RP)	73		73
118	26753(R)	92	55	74
119	Varalu (RP)	91	83	87
120	GNV Ageti- Sensitive check	80	67	74
121	29024	67	63	65
122	Local Check (LC)	75	78	77
	<b>Exp. Mean</b>	81.09	71.11	76.14
	<b>CD</b>	0	1.69	0.83
	<b>CV%</b>	01.44	0.66	

**Table 10.3 contd.: Days to 50% flowering of entries in AVT 1-EDS Normal, Kharif 2020**

Entry No	IET NO	Zone VII				Zone VII (3) Mean	Overall (7) Mean
		TN		TN (2)	KA		
		CBT	TRR	Mean	MGD		
101	27523	72	78	75	85	78	76
102	28241	63	90	77	82	78	75
103	28242	81	77	79	90	83	80
104	28248	73	73	73	85	77	75
105	28250	75	76	76	89	80	80
106	28253	73	87	80	85	82	79
107	28256	76	91	84	91	86	83
108	28258	87	70	79	80	79	76
109	Sahbhagidhan (NC)	73	95	84	86	85	79
110	28259	102	75	89	102	93	92
111	Samaleshwari (ZC)	101	78	90	102	94	87
112	27525	72	75	74	93	80	78
113	28834	64	94	79	78	79	72
114	28835	61	85	73	76	74	69
115	Anjali (ZC for all zones & RP)	62	73	68	80	72	70
116	28836	63	75	69	76	71	67
117	Vandana (NC & RP)	102	75	89	109	95	90
118	26753(R)	73	71	72	89	78	79
119	Varalu (RP)	76	72	74	91	80	82
120	GNV Ageti- Sensitive check	71	67	69	86	75	72
121	29024	64	75	70	75	71	70
122	Local Check (LC)	78	90	84	87	85	79
	<b>Exp. Mean</b>	75.52	79.14	77.33	86.86	79.49	77.08
	<b>CD</b>	1.05	2.39	1.34	4.1	2.2	1.53
	<b>CV%</b>	0.84	1.84	1.06	2.27	1.68	1.21

**Table 10.4: Plant height (cm) of entries in AVT 1 EDS Drought, Kharif 2020**

Entry No	IET NO	OD (1)	JH (1)	Zone III (2)
		JYP	HZB	Mean
101	27523	103	85	94
102	28241	94	80	87
103	28242	89	65	77
104	28248	104	82	93
105	28250	90	71	80
106	28253	96	78	87
107	28256	78	69	73
108	28258	91	80	85
109	Sahbhagidhan (NC)	83	69	76
110	28259	91	67	79
111	Narendra 97 (ZC)	67	54	61
112	27525	94	70	82
113	28834	91	68	79
114	28835	98	68	83
115	Anjali (ZC for all zones & RP)	103	80	91
116	28836	98	84	91
117	Vandana (NC & RP)	100	82	91
118	26753(R)	82	72	77
119	Varalu (RP)	78	72	75
120	GNV Ageti- Sensitive check	80	76	78
121	29024	100	87	94
	Local Check (LC)	101	84	92
	<b>Exp. Mean</b>	91	75	83

**Table 10.4contd.: Plant height (cm) of entries in AVT 1- EDS Drought, Kharif 2020 and**

Entry No	IET NO	GU		Zone III (2)	Overall (4)
		DRL	VYR	GU	
				Mean	
101	27523	101	119	110	102
102	28241	95	109	102	94
103	28242	84	109	97	87
104	28248	102	105	104	98
105	28250	91	98	95	87
106	28253	97	100	99	93
107	28256	92	93	93	83
108	28258	102	107	105	95
109	Sahbhagidhan (NC)	99	98	99	87
110	28259	95	109	102	91
111	Narendra 97 (ZC)	96	110	103	82
112	27525	99	87	93	88
113	28834	90	83	87	83
114	28835	85	81	83	83
115	Anjali ( ZC for all zones & RP)	87	91	89	90
116	28836	101	97	99	95
117	Vandana (NC & RP)		105	105	95
118	26753(R)	94	96	95	86
119	Varalu (RP)	96	95	96	85
120	GNV Ageti- Sensitive check	87	92	90	84
121	29024	95	107	101	97
	Local Check (LC)	96	115	106	99
	<b>Exp. Mean</b>	94	100	98	90

**Table 10.4contd.: Plant height (cm) of entries in AVT 1 E DS Normal, Kharif 2020**

Entry No	IET NO	OD (1)	BI (1)	Zone III (2)
		CTK	PSA	Mean
101	27523	100	120	110
102	28241	87	111	99
103	28242	82	94	88
104	28248	94	114	104
105	28250	.	96	96
106	28253	94	113	104
107	28256	86	94	90
108	28258	104	113	108
109	Sahbhagidhan (NC)	92	102	97
110	28259	.	105	105
111	Narendra 97 (ZC)	.	85	85
112	27525	104	105	105
113	28834	92	104	98
114	28835	94	117	106
115	Anjali (ZC for all zones & RP)	91	185	138
116	28836	99	101	100
117	Vandana (NC & RP)	99	103	101
118	26753(R)	89	134	111
119	Varalu (RP)	96	106	101
120	GNV Ageti- Sensitive check	92	90	91
121	29024	108	120	114
	Local Check (LC)	103	88	96
	<b>Exp. Mean</b>	95	109	102

**Table 10.4contd.: Plant height (cm) of entries in AVT 1 E DS Normal, Kharif 2020**

Entry No	IET NO	CG		Zone V (2)
		JDP	RPR	Mean
101	27523	77	142	109
102	28241	84	122	103
103	28242	70	117	93
104	28248	92	135	114
105	28250	62	113	88
106	28253	74	136	105
107	28256	74	113	93
108	28258	90	138	114
109	Sahbhagidhan (NC)	78	111	94
110	28259	72	134	103
111	Narendra 97 (ZC)	78	117	97
112	27525	82	119	101
113	28834	80	135	108
114	28835	75	113	94
115	Anjali (ZC for all zones & RP)	76	114	95
116	28836	79	134	107
117	Vandana (NC & RP)	75	.	75
118	26753(R)	71	106	88
119	Varalu (RP)	79	106	93
120	GNV Ageti- Sensitive check	66	108	87
121	29024	89	146	117
	Local Check (LC)	49	108	78
	<b>Exp. Mean</b>	76	122	98

**Table 10.4contd.: Plant height (cm) of entries in AVT 1-E DS Normal, Kharif 2020**

Entry No	IET NO	Zone VII (2)			KA	Zone VII (3)	Overall (7)
		TN		TN (2)			
		CBT	TRR	Mean	MGD	Mean	Mean
101	27523	114	70	92	107	97	104
102	28241	88	74	81	79	80	92
103	28242	95	66	81	85	82	87
104	28248	102	92	97	101	98	104
105	28250	84	104	94	93	94	92
106	28253	97	80	89	105	94	100
107	28256	78	82	80	92	84	88
108	28258	85	73	79	108	89	102
109	Sahbhagidhan (NC)	64	87	76	93	82	90
110	28259	84	71	77	102	85	95
111	Narendra 97 (ZC)	86	93	90	98	92	93
112	27525	82	83	83	100	89	97
113	28834	97	94	96	100	97	100
114	28835	95	90	93	89	91	96
115	Anjali ( ZC for all zones & RP)	79	100	89	100	93	106
116	28836	70	69	70	87	75	91
117	Vandana (NC & RP)	118	70	94	103	97	95
118	26753(R)	90	72	81	91	84	93
119	Varalu (RP)	92	84	88	99	92	95
120	GNV Ageti- Sensitive check	65	91	78	85	80	85
121	29024	109	80	95	87	92	106
	Local Check (LC)	88	95	92	105	96	91
	<b>Exp. Mean</b>	89	83	86	96	89	96

**Table 10.5: Panicles/m<sup>2</sup> of entries in AVT 1-E DS Drought, Kharif 2020**

Entry No	IET NO	OD (1)	JH (1)	Zone III (2)
		JYP	HZB	Mean
101	27523	273	257	265
102	28241	296	250	273
103	28242	317	189	253
104	28248	235	260	248
105	28250	291	276	284
106	28253	240	253	247
107	28256	226	135	181
108	28258	292	247	270
109	Sahbhagidhan (NC)	228	223	226
110	28259	277		277
111	Narendra 97 (ZC)	239	228	234
112	27525	215	226	221
113	28834	277	235	256
114	28835	279	216	248
115	Anjali ( ZC for all zones & RP)	279	264	272
116	28836	229	262	246
117	Vandana (NC & RP)	221	139	180
118	26753(R)	229	224	227
119	Varalu (RP)	230	237	234
120	GNV Ageti- Sensitive check	253	266	260
121	29024	277	217	247
	Local Check (LC)	253	254	254
	<b>Exp. Mean</b>	257.08	231.4	245.28
	<b>CD</b>	30.29	42.91	26.59
	<b>CV%</b>	7.15	11.24	6.58

**Table 10.5 contd.: Panicles/m<sup>2</sup> of entries in AVT 1-E DS Drought, Kharif**

Entry No	IET NO	GU		Zone VI (2)	Overall (4)
		DRL	VYR	GU (2) Mean	Mean
101	27523	219	177	198	232
102	28241	240	134	187	230
103	28242	252	139	196	224
104	28248	273	114	194	221
105	28250	273	123	198	241
106	28253	220	124	172	209
107	28256	252	144	198	189
108	28258	229	137	183	226
109	Sahbhagidhan (NC)	300	143	222	224
110	28259	292	118	205	229
111	Narendra 97 (ZC)	243	109	176	205
112	27525	255	91	173	197
113	28834	233	91	162	209
114	28835	253	125	189	218
115	Anjali ( ZC for all zones & RP)	241	98	170	221
116	28836	244	101	173	209
117	Vandana (NC & RP)		110	110	157
118	26753(R)	260	145	203	215
119	Varalu (RP)	268	162	215	224
120	GNV Ageti- Sensitive check	280	125	203	231
121	29024	264	115	190	218
	Local Check (LC)	215	132	174	214
	<b>Exp. Mean</b>	252.7	125.3	185.76	215.51
	<b>CD</b>	30.46	39.27	26.11	18.51
	<b>CV%</b>	7.3	19.02	8.53	5.21

**Table 10.5 contd.: Panicles/m<sup>2</sup> of entries in AVT 1-E DS Normal, Kharif 2020**

Entry No	IET NO	OD (1)	BI (1)	Zone III (2)
		CTK	PSA	Mean
101	27523	246	164	205
102	28241	279	216	248
103	28242	277	207	242
104	28248	223	192	208
105	28250		176	176
106	28253	271	210	241
107	28256	195	219	207
108	28258	276	208	242
109	Sahbhagidhan (NC)	238	184	211
110	28259		204	204
111	Narendra 97 (ZC)		210	210
112	27525	211	199	205
113	28834	177	181	179
114	28835	240	207	224
115	Anjali (ZC for all zones & RP)	248	207	228
116	28836	221	100	161
117	Vandana (NC & RP)	205	175	190
118	26753(R)	248	237	243
119	Varalu (RP)	214	101	158
120	GNV Ageti- Sensitive check	251	178	215
121	29024	245	186	216
	Local Check (LC)	187	111	149
	<b>Exp. Mean</b>	234.39	185.02	207.11
	<b>CD</b>	19.38	8.14	10.18
	<b>CV%</b>	4.99	2.67	2.98

**Table 10.5 contd.: Panicles/m<sup>2</sup> of entries in AVT 1-E DS Normal, Kharif 2020**

Entry No	IET NO	CG		Zone V (2)
		JDP	RPR	CG(2) Mean
101	27523	123	142	133
102	28241	108	145	127
103	28242	103	125	114
104	28248	114	141	128
105	28250	103	132	118
106	28253	98	127	113
107	28256	102	165	134
108	28258	98	153	126
109	Sahbhagidhan (NC)	119	167	143
110	28259	83	148	116
111	Samaleshwari (ZC)	105	224	165
112	27525	107	113	110
113	28834	105	107	106
114	28835	100	82	91
115	Anjali (ZC for all zones & RP)	122	97	110
116	28836	100	112	106
117	Vandana (NC & RP)	121		121
118	26753(R)	111	151	131
119	Varalu (RP)	104	135	120
120	GNV Ageti- Sensitive check	101	149	125
121	29024	102	81	92
122	Local Check (LC)	44	162	103
	<b>Exp. Mean</b>	103.36	136.03	119.36
	<b>CD</b>	66.77	39.37	44.25
	<b>CV%</b>	39.2	17.54	22.5

**Table 10.5 contd.: Panicles/m<sup>2</sup> of entries in AVT 1-E DS Normal, Kharif 2020**

Entry No	IET NO	Zone VII				Zone VII (3) Mean	Overall (7) Mean
		TN		TN (2)	KA		
		CBT	TRR	Mean	MGD		
101	27523	381	220	301	236	279	216
102	28241	359	228	294	200	262	219
103	28242	382	247	315	251	293	227
104	28248	347	249	298	189	262	208
105	28250	368	202	285	251	274	205
106	28253	315	183	249	207	235	202
107	28256	312	228	270	276	272	214
108	28258	283	182	233	202	222	200
109	Sahbhagidhan (NC)	275	231	253	250	252	209
110	28259	390	224	307	257	290	218
111	Samaleshwari (ZC)	416	247	332	258	307	243
112	27525	348	228	288	211	262	202
113	28834	623	257	440	198	359	235
114	28835	348	248	298	234	277	208
115	Anjali ( ZC for all zones & RP)	331	226	279	196	251	204
116	28836	353	189	271	208	250	183
117	Vandana (NC & RP)	304	188	246	213	235	201
118	26753(R)	329	183	256	264	259	218
119	Varalu (RP)	388	206	297	254	283	200
120	GNV Ageti- Sensitive check	337	211	274	247	265	211
121	29024	383	260	322	225	289	212
122	Local Check (LC)	432	256	344	211	300	200
	<b>Exp. Mean</b>	363.83	222.36	293.09	228.75	277.84	209.53
	<b>CD</b>	49.06	20.99	26.24	93.63	24.94	16.78
	<b>CV%</b>	8.18	5.73	5.43	19.68	5.45	4.86

**Table No. 10.6: Grain quality characteristics of entries in AVT 1-E DS, Kharif 2020**

Entry No.	IET No.	Hull	Mill	HRR	KL	KB	L/B	GT	Chalkiness	ASV	AC	GC	WU	VER	KLAC	ER
101	27523	74.2	62.6	53.8	6.11	2.20	2.78	LB	VOC	4.0	22.1	34.0	85	4.0	11	1.88
102	28241	74.4	63.4	38.7	5.51	2.08	2.68	MS	VOC	4.5	23.6	38.0	140	3.8	10	1.82
103	28242	77.8	66.6	49.9	6.59	2.06	3.21	LS	VOC	3.5	23.2	53.0	120	4.0	11	1.66
104	28248	75.5	66.2	51.3	5.74	2.02	2.89	MS	VOC	6.0	22.6	28.5	170	3.8	10	1.73
105	28250	76.0	62.0	57.0	6.11	2.10	2.90	LB	A	5.0	21.0	34.0	55	4.0	11	1.94
106	28253	76.1	66.7	52.4	5.65	2.21	2.58	MS	VOC	3.5	21.4	53.5	100	4.0	9	1.63
107	28256	76.8	65.6	50.9	5.45	2.01	2.71	MS	VOC	4.0	24.9	48.5	90	3.8	9	1.71
108	28258	74.9	65.0	46.2	5.91	1.98	3.01	MS	VOC	3.5	23.0	46.0	75	3.8	9	1.46
109	Shahbhagidhan (NC)	73.2	63.7	56.2	5.49	2.03	2.75	MS	VOC	5.5	22.7	47.5	140	3.8	10	1.74
110	28259	76.0	62.0	57.0	6.11	2.10	2.90	LB	A	5.0	25.5	32.0	55	4.0	12	1.96
111	NDR-97	71.5	58.2	52.8	5.61	1.72	3.32	SS	VOC	5.0	24.4	33.5	120	3.8	10	1.76
111	SAMLESHWAR	73.0	63.0	52.0	5.41	1.89	2.86	MS	A	4.0	23.9	35.0	75	3.8	9	1.66
111	GOVIND	70.0	60.0	54.0	6.25	2.31	2.70	LB	VOC	4.0	19.7	32.0	45	3.8	10	1.60
111	TULASI	73.0	60.0	50.0	5.85	2.12	2.75	MS	VOC	4.0	22.4	37.0	85	4.0	11	1.88
111	VARALU	72	64	60	5.08	1.47	3.45	SS	VOC	6	24.9	39.0	255	3.8	9	1.77
112	27525 (R)	76.9	66.9	53.1	6.64	2.26	2.94	LB	VOC	7.0	21.1	33.5	215	3.8	11	1.64
113	28834	77.0	64.1	43.1	5.51	2.41	2.29	SB	VOC	3.5	23.1	30.0	70	3.8	9	1.59
114	28835	76.7	65.1	43.7	5.38	2.30	2.34	SB	VOC	3.5	23.3	29.5	65	3.8	11	2.08
115	Anjali (ZC for all zones & RP)	76.9	63.5	54.0	5.34	2.32	2.31	SB	VOC	3.5	23.7	37.5	95	3.8	9.6	1.80
116	28836	76.6	62.4	40.0	5.20	2.21	2.35	SB	VOC	4.0	25.7	26.5	125	3.8	9	1.70
117	Vandana (NC & RP)	70.9	60.8	47.9	5.75	1.96	2.94	MS	VOC	4.5	23.1	38.5	85	3.8	10	1.68
118	26753(R)	76.8	66.5	52.9	6.11	1.98	3.15	LS	VOC	6.5	24.6	26.0	275	3.8	9.6	1.57
119	Varalu (RP)	77.1	65.6	56.1	5.48	1.80	3.07	SS	VOC	7.0	23.6	27.0	260	4.0	9	1.66
120	GNV Ageti – Sensitive Check	77.8	68.6	62.3	4.88	2.04	2.41	SB	VOC	3.5	25.0	26.0	75	3.8	9	1.84
121	29024	76.9	63.9	41.1	5.60	2.08	2.71	SB	VOC	3.5	22.0	26.5	70	4.0	9	1.57
122	Local Check (Annada)	76.8	63.8	48.7	5.30	2.39	2.22	SB	VOC	3.5	24.4	29.5	45	3.75	9	1.73

**Abbreviations:** Hull% : Hulling; Mill% : Milling; HRR :Head Rice Recovery; KL : Kernel length; KB : Kernel Breadth; L/B : Length Breadth ratio; ASV : Alkali spreading value; WU: Water uptake; VER : Volume expansion ratio; KLAC : Kernel length after cooking; ER : Elongation ratio; AC : Apparent amylose content; GC: Gel consistency.

\*Mean quality data from two centers, NRRI and IIRR.



**Trial No. 10.7: Composition of entries in Initial Variety Trial 1–Early Direct Seeded (IVT-EDS), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	Grain type
201	29035	CBMAS 14110-20	Improved white Ponni/Apo	MS
202	29036	RCPR-68-IR-83929-B-B-291-2-1-1-2	IR78878-53-2-2-2 / CT6510-24-1-2	LB
203	29037	CRR 747-16-3-B	Vandana*4/C101451//IR-84984-83-15-862-B	LB
204	29038	CRR523-2-2-1-3	Kalinga III/Bhupen	LS
205	29039	CR 4115-2-5-3-2-1	CR 4042-1-2-1-1-1/ CR DHAN 201	LS
206	29040	CR 3845-5-1-5-2-1	GOTRAVIDHAN/SRIMATI	LS
207	29041	RCPR-69-IR88964-24-2-1-4	IRRI 123 /IR05N372	LS
<b>208</b>	<b>Shabhagidhan (NC)</b>			
209	29042	RCPR-76-CHANDINI	Selection from Farmers Variety	MS
210	29043	OR J-1347	IR-10L128/IR 09N520	MB
211	29044	HUR-9-sarjoo52-sub-1	Sarjoo-52/IR-64-Sub-1	MB
212	29045	TM 15021	ADT43/Senthuram	MS
213	29046	CRR 759-B-36-B-1	Sahabhagidhan/IR 87707-446-B-B	LS
214	29047	CR 4114-2-4-1-1-2-1	CR 3848-1-1-2-1-1/VANDAN	MS
215	29048	CR 4121-1-2-1-1-1	CR DHAN203/CR 2706	LS
216	29049	CRR822-2	IR qqL152/Savitri	LS
217	29050	REWA1120-10-17	870/RR 616-2-57	MS
218	29051	CRR806-21	IR 98003:257/MR 219	LS
219	29052	CR-2889-208-1	Apo/CR 143-2-2	MS
220	29053	CR-4060-1318-1-1-1-1-1-1-4	IET 22729/BROWN GORA	LS
221	29054	CR 4116-3-2-1-1-1	CR 4043-3-1-1-1/CR DHAN 204	LS
222	29055	CR-3552-3-1-1-1-1-2	ADT 43/ IR 36	MB
223	29056	HTW-36	Selection from Chiayi-Wu-KO	MB
<b>224</b>	<b>Anjali (all zones)</b>			
225	29057	HDW-25-IR-9745-21-1-1-2	#IR09L272/IR09L337	MS
226	29058	NVSR 2272	Jaya/Purna	LS
227	29059	CR 4114-2-4-1-1-2-2	REETA/CR 2324-4-1	MS
<b>228</b>	<b>Vandana (NC)</b>			
229	29060	CR 4032-2-4-2-1-1	CR DHAN 201/CR DHAN 203	LS
230	29061	REWA1149-54-5	VNR207/Vandana	MB
<b>231</b>	<b>Govind (Northern-II), Narendra 97 (Eastern-III and IV), Samaleshwari (Central-V), Varalu (western-VI)and Tulasi (Southern-VII)— ZC</b>			
232	29062	R-1882-306-4-243-1-1	R 1207-2282-2-1/RP 4092	MS
<b>233</b>	<b>US 314 (hybrid check)</b>			
234	29063	CR 4033-3-2-2-3-1	CR DHAN 203/CR 2706	LS
235	29064	R-1670-3269-2-3926-1	R 1027-2282-2-1/Poornima	MS
<b>236</b>	<b>GNV Ageti – Sensitive Check</b>			
237	29065	CB13801	Norungan/Swarna Sub1//Norungan	MS
238	29066	NVSR 2601	Taichun/ GR-5	LB
239	29067	CB 16680	CB 08504/CO 41	MS
<b>240</b>	<b>Local check</b>			

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**Table No. 10.8: Grain yield (Kg/ha) of entries in IVT-E DS Drought, Kharif 2020**

Entry No.	IET No.	Zone III			Zone III (2)		Zone V		Zone V (1)		Overall mean(3)	
		BI (1)		JH (1)	Mean		CG (1)	MP (1)	Mean			
		PSA	HZB	RPR			@REW					
201	29035	2196		1051		1624		2726		2726		1991
202	29036	3501	5.5	1478		2490		4399	1	4399	1 16%	3126 3 7%
203	29037	3231	10	2017	6	2624		2169		618		2472
204	29038	2899		2983	1 *	2941	* 18%	3194		570		3025 6
205	29039	3501	5.5			3501	3 * 40%	2462				2982 8
206	29040	3288	8			3288	4 * 31%	1954				2621
207	29041	3018		1103		2061		3415	9			2512
208	NC_Shabhagidhan	2961		2040	5	2501		3779	2			2927 10
209	29042	2572		1591		2082		2699		137		2287
210	29043	2704		938		1821		3430	8			2357
211	29044	3181				3181	5 * 27%	2531				2856
212	29045	3137				3137	6.5 * 25%	3016				3077 4 5%
213	29046	2930		2409	3 *	2670	7%	3690	3	358		3010 7
214	29047	3708	2	2500	2 *	3104	9 * 24%	2729				2729 9
215	29048	3105				3105	8 * 24%	2966				3036 5
216	29049	2905		1228		2067		3526	6			2553
217	29050	2792		886		1839		1729				1802
218	29051	2961		648		1805		2708				2106
219	29052	3137				3137	6.5 * 25%	2433				2785
220	29053	2949		665		1807		2645				2086
221	29054	3626	3			3626	2 * 45%	2963				3295 1 * 13%
222	29055	2033				2033		1284				1659
223	29056	3080		1807	7	2444		3600	4			2829
224	Anjali	3049		1341		2195		1672				2021
225	29057	2842		733		1788		2552				2042
226	29058	2209		1375		1792		2390				1991
227	29059	3432	7	597		2015		2622				2217
228	NC_Vandana	2133				2133						2133
229	29060	2974				2974	10 * 19%	2796				2885
230	29061	2974		1727	9	2351		2465				2389
231	ZC_Govind	3551	4	898		2225		2944				2464
232	29062	2760		665		1713		3558	5			2328
233	HC_US314	2823		710		1767		3463	7			2332
234	29063	3758	1			3758	1 * 50%	2635				3197 2 9%
235	29064	3137		761		1949		3414	10			2437
236	SC_GNV_A	2321		1716	10	2019		2108				2048
237	29065	3262	9	1591		2427		2862		260		2572
238	29066	2196		2296	4	2246		2862		285		2451
239	29067	2792				2792	* 12%	1682				2237
240	Local_check	2949		1762	8	2356		3183				2631
	<b>Exp. Mean</b>	<b>2964.16</b>		<b>1411.07</b>		<b>2434.23</b>		<b>2801.13</b>	<b>371</b>	<b>2801.13</b>		<b>2518.42</b>
	CD	314.79		360.54		251.81		938.57		938.57		357.05
	CV%	<b>5.25</b>		<b>12.45</b>		<b>5.11</b>		<b>16.55</b>		<b>16.55</b>		<b>7.01</b>
	D/S	18.07.2020		13.08.2020				10.07.2020		24.07.2020		
	Local Check	Prabhat		CR Dhan 40				Indira Aerobic 1		-		

**Table No. 10.9: Days to 50% flowering of entries in IVT-E DS Drought, Kharif 2020**

Entry No.	IET No.	Zone III		ZONE III (2)	Zone V		ZONE V (1)	Overall mean (3)
		BI (1)	JH (1)		CG (1)	MP (1)		
		PSA	HZB	Mean	RPR	@REW	Mean	
201	29035	73	90	82	82		82	82
202	29036	49	80	65	79	86	79	69
203	29037	62	66	64	63	78	63	64
204	29038	70	73	72	71	80	71	71
205	29039	62		62	87	93	87	75
206	29040	64		64	90	94	90	77
207	29041	69	86	78	79	91	79	78
208	NC_Shabhagidhan	76	75	76	76	83	76	76
209	29042	64	70	67	64	75	64	66
210	29043	50	88	69	81	92	81	73
211	29044	80		80	87		87	84
212	29045	80		80	87	91	87	84
213	29046	69	74	72	72	82	72	72
214	29047	80	67	74	86		86	78
215	29048	83		83	88	92	88	86
216	29049	73	82	78	72	88	72	76
217	29050	73	73	73	76	86	76	74
218	29051	66	88	77	74	84	74	76
219	29052	63		63	98	93	98	81
220	29053	72	87	80	77	94	77	79
221	29054	84		84	88	89	88	86
222	29055	85		85	96	99	96	91
223	29056	69	69	69	74	97	74	71
224	Anjali	54	62	58	60	73	60	59
225	29057	71	90	81	86	88	86	82
226	29058	69	70	70	67	79	67	69
227	29059	73	82	78	78	89	78	78
228	NC_Vandana	77		77				77
229	29060	82		82	85	99	85	84
230	29061	83	71	77	74	85	74	76
231	ZC_Govind	74	85	80	84	89	84	81
232	29062	69	88	79	81	91	81	79
233	HC_US314	49	82	66	78	84	78	70
234	29063	63		63	87	93	87	75
235	29064	72	91	82	81	89	81	81
236	SC_GNV_A	58	70	64	66	83	66	65
237	29065	70	81	76	72	81	72	74
238	29066	68	62	65	69	81	69	66
239	29067	74		74	78		78	76
240	Local_check	69	69	69	80	85	80	73
	<b>Exp. Mean</b>	<b>69.55</b>	<b>77.38</b>	<b>73.03</b>	<b>78.36</b>	<b>8.14</b>	<b>78.36</b>	<b>75.41</b>
	CD	3.12	2.81	2.93	4.36		4.36	2.15
	CV%	2.22	1.77	1.98	2.75		2.75	1.41

**Table No. 10.10: Plant height (cm) of entries in IVT-E DS Drought, Kharif 2020**

Entry No.	IET No.	Zone III		Zone III	Zone V		Zone V	Overall (3)
		BI (1)	JH (1)		CG (1)	MP (1)		
		PSA	HZB	Mean	RPR	@REW	Mean	
201	29035	95	74	95	109	71	109	102
202	29036	91	80	91	132	82	132	112
203	29037	128	91	128	137	101	137	132
204	29038	77	71	77	133	93	133	105
205	29039	81	55	81	108	74	108	94
206	29040	88	65	88	111	64	111	99
207	29041	93	70	93	112	72	112	103
208	Shabhagidhan (NC)	73	79	73	120	81	120	97
209	29042	85	78	85	100	77	100	93
210	29043	92	64	92	113		113	102
211	29044	86	40	86	98		98	92
212	29045	94	56	94	110	70	110	102
213	29046	94	88	94	132	87	132	113
214	29047	110	78	110	133		133	121
215	29048	100	64	100	129	60	129	115
216	29049	74	63	74	112	70	112	93
217	29050	89	65	89	110	76	110	99
218	29051	82	59	82	110	73	110	96
219	29052	95	74	95	125	78	125	110
220	29053	91	56	91	90	63	90	90
221	29054	98	72	98	123	77	123	111
222	29055	105	.	105	109	64	109	107
223	29056	108	78	108	111	75	111	110
224	Anjali (all zones)	100	81	100	112	98	112	106
225	29057	93	74	93	120	79	120	107
226	29058	104	81	104	136	102	136	120
227	29059	88	67	88	122	4	122	105
228	Vandana (NC)	105	91	105	.		.	105
229	29060	103	68	103	111	71	111	107
230	29061	87	75	87	107	87	107	97
231	Narendra 97 (Eastern-III and IV), Samaleshwari (Central- V)	67	67	67	110	79	110	88
232	29062	103	67	103	109	75	109	106
233	US 314 (hybrid check)	87	68	87	114	67	114	100
234	29063	97	64	97	121	70	121	109
235	29064	87	72	87	109	82	109	98
236	GNV Ageti – Sensitive Check	95	70	95	100	70	100	97
237	29065	85	71	85	107	77	107	96
238	29066	96	81	96	119	93	119	108
239	29067	83	56	83	100		100	91
240	Local check	77	80	77	113	70	113	95
	<b>Exp. Mean</b>	<b>92</b>	<b>70</b>	<b>92</b>	<b>115</b>	<b>75</b>	<b>115</b>	<b>103</b>

**Table No. 10.11: Panicles/m<sup>2</sup> of entries in IVT-E DS Drought, Kharif 2020**

Entry No.	IET No.	Zone III		Zone III(2) Mean	Zone V		Zone V(1) Mean	Overall mean(3)
		BH (1)	JH (1)		CG(1)	MP (1)		
		PSA	HZB	RPR	@REW			
201	29035	197	154	176	163	93	163	171
202	29036	139	213	176	137	125	137	163
203	29037	216	222	219	92	163	92	177
204	29038	200	250	225	170	60	170	207
205	29039	165		165	144	37	144	155
206	29040	106		106	149	55	149	128
207	29041	241	117	179	154	92	154	171
208	NC_Shabhagidhan	97	203	150	171	135	171	157
209	29042	115	241	178	122		122	159
210	29043	113	130	122	186		186	143
211	29044	210		210	132	40	132	171
212	29045	175		175	138	83	138	157
213	29046	136	207	172	175		175	173
214	29047	257	251	254	151	52	151	220
215	29048	185		185	132	69	132	159
216	29049	131	194	163	139	79	139	155
217	29050	136	138	137	145	55	145	140
218	29051	113	109	111	106	78	106	109
219	29052	104		104	187	50	187	146
220	29053	202	86	144	135	57	135	141
221	29054	212		212	173	5	173	193
222	29055	109		109	83	33	83	96
223	29056	205	185	195	115	72	115	168
224	Anjali	244	173	209	64	97	64	160
225	29057	124	125	125	146	62	146	132
226	29058	91	186	139	99	53	99	125
227	29059	211	145	178	107		107	154
228	NC_Vandana	215		215		55		215
229	29060	143		143	152	81	152	148
230	29061	163	180	172	142	58	142	162
231	ZC_Govind	186	148	167	169	61	169	168
232	29062	234	99	167	171	81	171	168
233	HC_US314	109	105	107	147	65	147	120
234	29063	125		125	135	63	135	130
235	29064	197	74	136	148	23	148	140
236	SC_GNV_A	208	167	188	123	118	123	166
237	29065	147	165	156	129	111	129	147
238	29066	197	205	201	101		101	168
239	29067	139		139	127	31	127	133
240	Local_check	202	176	189	161	93	161	180
	<b>Exp. Mean</b>	<b>167.21</b>	<b>165.77</b>	<b>165.19</b>	<b>138.71</b>		<b>138.71</b>	<b>156.49</b>
	CD	15.43	31.62	16.82	30.43		30.43	16.99
	CV%	4.56	9.3	5.03	10.84		10.84	5.37

**Table No. 10.8: Grain yield of entries in IVT-E DS Normal, Kharif 2020**

Entry No.	IET No.	Zone III											Zone III (4)		
		OD (2)					WB (2)						Mean		
		CTK		JYP		Mean	BNK		HTW		Mean				
201	29035	2396		4319		3358		4298		3501		3900		3629	
202	29036	3078		5662	2 *	4370	2 * 18%	4925	4.5	5639	1 *	5282	1 * 25%	4826	2 * 22%
203	29037	4052	5	2480		3266		4837	9	4229	8	4533	7 7%	3900	
204	29038	3559	10	3717		3638		4036		3879		3958		3798	
205	29039	2046		3799		2923		4461		3744		4103		3513	
206	29040	1280		3375		2328		4223		3800		4012		3170	
207	29041	3370		4874	7	4122	3 11%	4574		2626		3600		3861	
208	NC_ Shabhagidhan	3429		2455		2942		4474		3995	9	4235		3588	
209	29042	2234		1715		1975		3145		3114		3130		2552	
210	29043	1805		5628	3 *	3717	10	4561		3288		3925		3821	
211	29044	4286	2 *	1196		2741		3045		4240	7	3643		3192	
212	29045	2909		3483		3196		4098		3159		3629		3412	
213	29046	3000		3540		3270		4662		3646		4154		3712	
214	29047	2286		5028	6	3657		3634		3721		3678		3667	
215	29048	2085		3602		2844		4925	4.5	3362		4144		3494	
216	29049	3597	9	4500		4049	5 9%	4975	2	4993	4	4984	3 18%	4516	3 * 14%
217	29050	3870	7	2056		2963		3885		3233		3559		3261	
218	29051	2215		3716		2966		4850	8	3520		4185		3575	
219	29052	2708		5391	4	4050	4 9%	3634		2962		3298		3674	
220	29053	2591		1887		2239		3309		2995		3152		2696	
221	29054	3942	6	3782		3862	7	4888	7	3571		4230		4046	8
222	29055	3384		2596		2990		4825	10			4825	5 14%	3602	
223	29056	3234		3581		3408		4599		5530	2 *	5065	2 * 20%	4236	4 7%
224	Anjali	3306		4561	10	3934	6 6%	4775		3770		4273	10	4103	7
225	29057	2650		3899		3275		4913	6	5053	3	4983	4 18%	4129	6
226	29058	4169	3 *	1578		2874		4624		2995		3810		3342	
227	29059	3630	8	3660		3645		4236		2758		3497		3571	
228	NC_Vandana	1513		4177		2845		5013	1	2986		4000		3422	
229	29060	2942		4662	8	3802	8	4812		3675		4244		4023	9
230	29061	2591		3220		2906		4424		3031		3728		3317	
231	ZC_Govind	2247		1747		1997		4449		3720		4085		3041	
232	29062	4338	1 *	3217		3778	9	4699		4470	5	4585	6 8%	4181	5 6%
233	HC_US314	4130	4 *	6436	1 *	5283	1 * 42%	4612		4294	6	4453	8 5%	4868	1 * 23%
234	29063	1903		5140	5	3522		4963	3	3892		4428	9	3975	10
235	29064	3072		3716		3394		3935		3945	10	3940		3667	
236	SC_GNV_A	3293		2783		3038		3446		3108		3277		3158	
237	29065	2948		3209		3079		4674		3584		4129		3604	
238	29066	1825		1767		1796		4048		2818		3433		2615	
239	29067	1468		4651	9	3060		4674		3532		4103		3581	
240	Local check	2929		4499		3714		4800		3580		4190		3952	
	<b>Exp. Mean</b>	<b>2907.46</b>		<b>3632.35</b>		<b>3269</b>		<b>4398.7</b>		<b>3691.18</b>		<b>4059.14</b>		<b>3656.88</b>	
	CD	623.02		923.15		506.4		837.9		1150.86		749.51		416.03	
	CV%	<b>10.59</b>		<b>12.56</b>		<b>7.66</b>		<b>9.42</b>		<b>15.4</b>		<b>9.13</b>		<b>5.62</b>	
	D/S	18.08.2020		20.07.2020				17.07.2020		13.07.2020					
	Local check	Annada		Mandakini				Puspa		Sabhagidhan					

**Table No. 10.8 contd.: Grain yield of entries in IVT-E DS Normal, Kharif 2020**

Entry No.	IET No.	Zone V (1)		Zone VI (1)		Zone VII			Zone VII (3)		Overall mean (8)		
		CG (1)		GU (1)		TN (1)	KA (1)		Mean				
		JDP		VYR		TRR	MGD						
201	29035	3047		2959		3280		2882		3081		3335	
202	29036	3731		2157		3110		3698		3404	9	4000	2 10%
203	29037	2943		1720		1660		2683		2171.5		3076	
204	29038	3015		2614		2635		3041		2838		3312	
205	29039	3164		3064		3570	6	3076		3323		3366	
206	29040	3418		2123		2855		2568		2711.5		2955	
207	29041	3145		4191	3 5%	1425		2876		2150.5		3385	
208	NC_Shabha gidhan	4056	6	3984	4	3520	10	3247		3383.5		3645	
209	29042	2702		2778		2090		2506		2298		2536	
210	29043	3790		2385		2185		2614		2399.5		3282	
211	29044	4219	4	4364	2 10%	3480		2813		3146.5		3455	
212	29045	4193	5	3359		4110	2	3666		3888	10	3622	
213	29046	3978	10	2447		2625		2654		2639.5		3319	
214	29047	4844	2	2515		3500		4075	4	3787.5		3700	
215	29048	3594		3803	8	3650	5	3755	8	3702.5	3 8%	3597	
216	29049	3913		3900	6.5	3400		4666	1	4033	2 9%	4243	1 16%
217	29050	2910		3509		2705		3054		2879.5		3153	
218	29051	4050	7	3970	5	3310		2900		3105	7	3566	
219	29052	3040		2040		3920	3	4027	6	3973.5	1 10%	3465	
220	29053	3881		2733		3560	7	2261		2910.5		2902	
221	29054	4011	8	3737		3280		4036	5	3658	8	3906	3 7%
222	29055	3359		464				3135		3135		2220	
223	29056	4258	3	3317		3225		2987		3106		3841	
224	Anjali	3770		879		2755		2031		2393		3231	
225	29057	3972		3900	6.5	3535	9	3284		3409.5		3901	
226	29058	3353		1500		1382		3047		2214.5		2831	
227	29059	4883	1	3562		3375		3110		3242.5	5	3652	
228	NC_ Vandana	3848		480		3545	8	3727	9	3636		3161	
229	29060	3373		3694		2945		3714	10	3329.5	4	3727	5 2%
230	29061	3385		2893		1490		2585		2037.5		2952	
231	ZC_ Govind	3360		3539		4210	1	4392	3	4301		3458	
232	29062	3952		5009	1 26%	2248		3241		2744.5		3897	4 7%
233	HC_ US314	2663		3489		3870	4	3053		3461.5	6	4068	
234	29063	3431		3765	10	2530		4521	2	3525.5		3768	
235	29064	3470		3634		2870		2654		2762		3412	
236	SC_ GNV_A	3314		2137		1710		2880		2295		2834	
237	29065	3588		2633		2745		3472		3108.5		3357	
238	29066	3626		3800	9	1325		2542		1933.5		2719	
239	29067	3542		1146		1730		2370		2050		2889	
240	Local_ check	4004	9	2161		2935		3927	7	3431		3604	
	<b>Exp. Mean</b>	<b>3619.6</b>		<b>2908.64</b>		<b>2879.32</b>		<b>3193.99</b>		<b>3040</b>		<b>3404</b>	
	CD	2747.06		1507.36		542.93		612.8		969		389.15	
	CV%	<b>37.52</b>		<b>25.62</b>		<b>9.31</b>		<b>9.49</b>		<b>9.20</b>		<b>5.81</b>	
		13.07.20		13.07.2020		24.08.2020		22.07.2020					
		Dantesh wari		PURNA		TKM (R) 12		MGD 101					

**Table No. 10.9: Days to 50% flowering of entries in IVT-E DS Normal, Kharif 2020**

Entry No.	IET No.	Zone III						Zone III (4) Mean
		OD(2)			WB(2)			
		CTK	JYP	Mean	BNK	HTW	Mean	
201	29035	74	86	80	66	75	71	75
202	29036	75	98	87	72	72	72	79
203	29037	75	82	79	73	64	69	74
204	29038	72	82	77	65	63	64	71
205	29039	80	95	88	75	70	73	80
206	29040	75	99	87	68	90	79	83
207	29041	76	86	81	70	80	75	78
208	NC_Shabthagidhan	76	85	81	72	73	73	77
209	29042	71	81	76	77	58	68	72
210	29043	76	87	82	71	79	75	78
211	29044	75	95	85	83	89	86	86
212	29045	79	92	86	74	86	80	83
213	29046	74	82	78	66	68	67	73
214	29047	75	92	84	69	85	77	80
215	29048	79	100	90	67	82	75	82
216	29049	77	90	84	81	73	77	80
217	29050	76	88	82	82	69	76	79
218	29051	77	89	83	79	69	74	79
219	29052	80	97	89	77	95	86	87
220	29053	75	85	80	74	68	71	76
221	29054	81	98	90	71	82	77	83
222	29055	78	94	86	72		72	81
223	29056	77	89	83	75	73	74	79
224	Anjali	72	78	75	67	58	63	69
225	29057	74	87	81	76	75	76	78
226	29058	73	79	76	85	64	75	75
227	29059	74	91	83	87	76	82	82
228	NC_Vandana	80	103	92	75	88	82	87
229	29060	82	93	88	71	81	76	82
230	29061	74	82	78	73	69	71	75
231	ZC_Govind	75	83	79	68	70	69	74
232	29062	76	89	83	72	97	85	84
233	HC_US314	76	83	80	76	76	76	78
234	29063	80	101	91	83	84	84	87
235	29064	76	88	82	84	71	78	80
236	SC_GNV_A	72	80	76	78	64	71	74
237	29065	75	86	81	67	64	66	73
238	29066	75	83	79	72	68	70	75
239	29067	75	84	80	77	96	87	83
240	Local_check	75	86	81	74	73	74	77
	<b>Exp. Mean</b>	<b>75.63</b>	<b>88.43</b>	<b>82.03</b>	<b>74.1</b>	<b>75.14</b>	<b>74.58</b>	<b>78.36</b>
	CD	2.53	4.4	2.58	0	2.73	1.35	1.43
	CV%	1.65	2.46	1.56	0	1.79	0.89	0.9



**Table No. 10.9 contd.: Days to 50% flowering of entries in IVT-E DS Normal, Kharif 2020**

Entry No.	IET No.	Zone V	Zone VI	Zone VII		ZoneVII (3) Mean	Overall mean (8)
		CG (1)	GU (1)	TN (1)	KA (1)		
		JDP	VYR	TRR	MGD		
201	29035	86	81	86	92	89	81
202	29036	87	79	76	103	90	83
203	29037	76	60	73	83	78	73
204	29038	82	78	71	95	83	76
205	29039	78	88	99	103	101	86
206	29040	99	91	100	106	103	91
207	29041	87	80	72	89	81	80
208	NC_Shabhagidhan	84	74	73	95	84	79
209	29042	82	66	71	82	77	74
210	29043	88	87	81	97	89	83
211	29044	89	80	89	101	95	88
212	29045	91	85	81	98	90	86
213	29046	79	70	71	83	77	74
214	29047	65	86	93	103	98	84
215	29048	82	87	87	103	95	86
216	29049	82	72	71	90	81	80
217	29050	78	66	71	83	77	77
218	29051	82	70	76	93	85	79
219	29052	99	100	97	103	100	94
220	29053	82	71	71	90	81	77
221	29054	96	87	95	102	99	89
222	29055	82	92		103	52	65
223	29056	81	70	73	89	81	78
224	Anjali	66	57	70	81	76	69
225	29057	87	80	73	96	85	81
226	29058	77	80	76	103	90	80
227	29059	89	81	87	93	90	85
228	NC_Vandana	113	107	91	105	98	95
229	29060	95	88	99	102	101	89
230	29061	78	68	71	82	77	75
231	ZC_Govind	87	76	79	100	90	80
232	29062	87	72	79	91	85	83
233	HC_US314	82	78	81	91	86	80
234	29063	98	87	86	101	94	90
235	29064	91	75	81	93	87	82
236	SC_GNV_A	69	64	71	83	77	73
237	29065	80	70	71	89	80	75
238	29066	72	68	78	82	80	75
239	29067	76	78	75	91	83	82
240	Local_check	75	65	99	84	92	79
	<b>Exp. Mean</b>	<b>83.98</b>	<b>77.65</b>	<b>80.42</b>	<b>93.64</b>	<b>87</b>	<b>81</b>
	CD	0	3.46	2.4	2.85	2.53	1.09
	CV%	0	2.2	1.47	1.51	1.42	0.66

**Table No. 10.10: Plant height (cm) of entries in IVT-E DS Normal, Kharif 2020**

Entry No.	IET No.	Zone III						Zone III (4)
		OD (2)			WB (2)			
		CTK	JYP	Mean	BNK	HTW	Mean	Mean
201	29035	96	94	95	85	86	86	90
202	29036	98	103	100	97	101	99	100
203	29037	117	107	112	100	106	103	107
204	29038	104	107	105	101	127	114	110
205	29039	88	94	91	98	97	97	94
206	29040	47	97	72	103	88	95	84
207	29041	110	105	108	86	91	88	98
208	Shabhagidhan (NC)	96	99	97	80	99	90	94
209	29042	92	77	84	76	86	81	83
210	29043	98	106	102	103	89	96	99
211	29044	72	72	72	100	81	91	81
212	29045	87	89	88	98	89	94	91
213	29046	101	97	99	100	99	100	99
214	29047	98	94	96	103	98	100	98
215	29048	82	97	90	97	98	97	93
216	29049	87	97	92	75	88	81	87
217	29050	80	86	83	95	96	95	89
218	29051	94	89	92	82	88	85	88
219	29052	88	104	96	115	82	99	97
220	29053	82	63	72	106	84	95	84
221	29054	88	97	92	98	106	102	97
222	29055	108	85	97	103	.	103	99
223	29056	97	85	91	108	82	95	93
224	Anjali (all zones)	112	111	111	105	93	99	105
225	29057	82	103	93	106	105	105	99
226	29058	118	104	111	86	100	93	102
227	29059	78	101	89	97	106	101	95
228	Vandana (NC)	111	109	110	79	78	78	94
229	29060	90	100	95	87	87	87	91
230	29061	87	89	88	90	82	86	87
231	Narendra 97 (Eastern-III and IV),—ZC	83	77	80	98	82	90	85
232	29062	40	94	67	78	87	82	75
233	US 314 (hybrid check)	88	101	94	106	92	99	97
234	29063	90	97	93	110	100	105	99
235	29064	97	89	93	102	92	97	95
236	GNV Ageti – Sensitive Check	95	80	88	98	91	95	91
237	29065	77	96	86	97	86	92	89
238	29066	87	96	91	68	104	86	89
239	29067	79	97	88	98	91	94	91
240	Local check	85	102	94	105	86	96	95
	Exp. Mean	<b>90</b>	<b>95</b>	<b>92</b>	<b>95</b>	<b>93</b>	<b>94</b>	<b>93</b>

**Table No. 10.10 contd.: Plant height (cm) of entries in IVT-E DS Normal, Kharif 2020**

Entry No.	IET No.	Zone V	Zone VI	Zone VII		Zone VII (2)	Overall mean (8)
		CG (1)	GU (1)	TN (1)	KA (1)	Mean	
		JDP	VYR	TRR	MGD		
201	29035	66	107	81	86	83	88
202	29036	80	123	113	97	105	102
203	29037	80	130	87	96	92	103
204	29038	70	114	77	88	83	99
205	29039	69	117	88	82	85	92
206	29040	72	119	94	82	88	88
207	29041	74	118	83	89	86	95
208	Shabhagidhan (NC)	60	120	92	82	87	91
209	29042	72	73	65	80	72	78
210	29043	66	106	81	77	79	91
211	29044	61	101	55	67	61	76
212	29045	66	116	92	88	90	91
213	29046	82	116	93	90	92	97
214	29047	75	111	90	93	92	95
215	29048	71	135	76	99	87	94
216	29049	68	99	75	89	82	85
217	29050	66	110	67	91	79	86
218	29051	60	97	69	80	75	83
219	29052	72	119	94	100	97	97
220	29053	63	97	70	79	75	81
221	29054	64	117	87	87	87	93
222	29055	73	114	.	88	88	95
223	29056	81	132	78	92	85	94
224	Anjali (all zones)	74	90	70	107	89	95
225	29057	66	111	91	94	92	95
226	29058	91	116	88	102	95	101
227	29059	68	121	84	85	84	92
228	Vandana (NC)	69	127	101	104	103	97
229	29060	72	120	86	90	88	91
230	29061	68	95	76	82	79	84
231	Varalu (western-VI) and Tulasi (Southern-VII)	70	106	91	95	93	88
232	29062	62	105	92	89	91	81
233	US 314 (hybrid check)	62	104	80	70	75	88
234	29063	65	119	106	95	101	98
235	29064	70	111	83	79	81	90
236	GNV Ageti – Sensitive Check	60	88	76	89	83	85
237	29065	70	94	80	88	84	86
238	29066	72	123	57	100	78	88
239	29067	64	91	63	79	71	83
240	Local check	74	120	108	92	100	97
	<b>Exp. Mean</b>	<b>70</b>	<b>111</b>	<b>83</b>	<b>89</b>	<b>86</b>	<b>91</b>

**Table No. 10.11: Panicles/m<sup>2</sup> of entries in IVT-E DS Normal, Kharif 2020**

Entry No.	IET No.	Zone III						Zone III(4) Mean
		OD(2)			WB(2)			
		CTK	JYP	Mean	BNK	HTW	Mean	
201	29035	239	216	228	136	140	138	183
202	29036	215	283	249	142	163	153	201
203	29037	248	226	237	143	159	151	194
204	29038	188	233	211	156	144	150	180
205	29039	311	313	312	160	133	147	229
206	29040	223	346	285	141	148	145	215
207	29041	210	253	232	116	135	126	179
208	NC_Shabhagidhan	290	213	252	172	149	161	206
209	29042	211	250	231	152	129	141	186
210	29043	161	250	206	152	155	154	180
211	29044	262	213	238	173	149	161	199
212	29045	269	350	310	161	132	147	228
213	29046	233	246	240	172	152	162	201
214	29047	195	276	236	160	147	154	195
215	29048	280	313	297	161	147	154	225
216	29049	223	263	243	170	149	160	201
217	29050	211	214	213	169	132	151	182
218	29051	295	266	281	164	137	151	216
219	29052	259	328	294	198	120	159	226
220	29053	277	186	232	143	133	138	185
221	29054	248	333	291	155	149	152	221
222	29055	312	204	258	159		159	225
223	29056	222	246	234	142	153	148	191
224	Anjali	242	263	253	157	155	156	204
225	29057	208	227	218	165	145	155	186
226	29058	232	240	236	157	145	151	194
227	29059	310	250	280	149	155	152	216
228	NC_Vandana	257	246	252	161	142	152	202
229	29060	216	280	248	165	121	143	196
230	29061	260	206	233	146	150	148	191
231	ZC_Govind	286	321	304	137	143	140	222
232	29062	255	230	243	161	154	158	200
233	HC_US314	267	306	287	191	148	170	228
234	29063	259	253	256	176	148	162	209
235	29064	259	266	263	185	134	160	211
236	SC_GNV_A	230	276	253	173	132	153	203
237	29065	263	320	292	168	155	162	227
238	29066	251	224	238	163	162	163	200
239	29067	242	293	268	172	146	159	213
240	Local_check	289	290	290	177	134	156	223
	<b>Exp. Mean</b>	<b>247.51</b>	<b>262.84</b>	<b>255.18</b>	<b>159.75</b>	<b>143.99</b>	<b>152.05</b>	<b>204.03</b>
	CD	31.85	46.35	27.42	7.5	27.11	12.81	15.15
	CV%	6.36	8.72	5.31	2.32	9.3	4.17	3.67

**Table No. 10.11: Panicles/m<sup>2</sup> of entries in IVT-E DS Normal, Kharif 2020**

Entry No.	IET No.	Zone VI(1)		Zone VII(2)		Overall mean (8)
		GU(1)	TN (1)	KA(1)	Mean	
		VYR	TRR	MGD		
201	29035	159	316	213	259	194
202	29036	187	288	208	271	206
203	29037	179	216	170	236	184
204	29038	128	270	189	280	182
205	29039	188	315	241	285	228
206	29040	128	336	189	271	201
207	29041	208	243	213	235	192
208	NC_Shabhadhan	197	245	238	257	208
209	29042	177	253	257	297	195
210	29043	105	298	202	294	181
211	29044	254	276	247	270	223
212	29045	233	284	249	276	236
213	29046	144	308	176	252	203
214	29047	152	262	263	306	206
215	29048	203	270	272	306	218
216	29049	214	261	267	286	211
217	29050	230	239	207	251	194
218	29051	193	185	210	232	201
219	29052	157	337	253	338	229
220	29053	240	231	207	259	199
221	29054	181	208	154	244	207
222	29055	120		103	103	132
223	29056	202	197	215	231	195
224	Anjali	208	173	232	255	199
225	29057	173	324	222	299	199
226	29058	108	224	126	248	169
227	29059	279	231	265	269	225
228	NC_Vandana	163	244	186	254	195
229	29060	169	331	246	293	217
230	29061	267	283	216	258	204
231	ZC_Govind	197	257	244	278	221
232	29062	219	231	174	245	204
233	HC_US314	142	308	203	268	214
234	29063	184	337	232	307	225
235	29064	242	318	223	304	221
236	SC_GNV_A	243	204	273	238	210
237	29065	190	217	222	237	207
238	29066	139	153	204	221	177
239	29067	189	292	241	278	218
240	Local_check	197	262	275	332	224
	<b>Exp. Mean</b>	<b>187</b>	<b>261.99</b>	<b>217.88</b>	<b>265.34</b>	<b>205</b>
	CD	52.15	31.47	62.26	28.28	14.84
	CV%	13.79	5.93	14.13	5.27	3.26

## ADVANCE VARIETY TRIAL 1 -RAINFED SHALLOW LOWLAND (AVT1 -RSL)

**Locations: 6** **Test Entries: 20**

**Checks: Swarna-Sub1 (National); Pooja (Eastern), Bahadur (North Eastern), Savitri (Southern) – (Zonal); PA 6444 (Hybrid) and Local Check** **Table:11.1**

Advanced Variety Trial-Rainfed Shallow Lowland (AVT-1-RSL) was constituted with 20 test entries (eight inbreds, one hybrid and 11 NIL entries), five recipient parents of corresponding NILs, and four checks viz., National check (Swarna-Sub1), Zonal check (Pooja for Eastern zone, Bahadur for North eastern zone and Savitri for Southern zone), hybrid check (PA 6444) and a local check. Out of the 20 test entries, two were in the third year of testing *i.e.* IET 27537 and 27547, seven entries (5 inbreds, 1 hybrid (IET 26692) and 1 NIL (IET 26744)) were in second year of testing and 11 entries (NILs) were in first year of testing. The trial was sent to 18 locations, while data was received from 06 locations. Experimental mean yield ranged from 2648.9 Kg/ha (Sirsi) to 4498.4 Kg/ha (Cuttack). CV % ranged from 7.53 (Maruteru) to 15.25 (Ponnampet). The data pertaining to yield, days to 50% flowering, plant height, no. of panicles/m<sup>2</sup> and quality are presented in Tables 11.2, 11.3, 11.4, 11.5 and 11.6 respectively.

On the basis of overall mean, the entry IET 28276 (CR 3967-8-3-2-2-1-1) derived from cross IR 73895-33-1-3-2/Pratikshya out yielded (5279 kg/ha). It showed 126 days to 50% flowering with medium slender grain. It outperformed the best check (Zonal Check) by 12 % yield superiority. It has good grain quality with desirable amylose content. However, **it is repeated in 2nd year of testing (AVT-1-RSL) due to single location performance.**

### Zone wise performance of entries during Kharif 2020

#### Eastern zone (Zone III)

In Zone III, the trial was conducted, at 03 locations namely Cuttack and Jeypore (Odisha) and Bikramganj (Bihar). The data from two locations were considered for analysis and their CV were ranged between 11.94% (Cuttack) and 12.3% (Bikramganj). Data from Jeypore was not considered for analysis due to low mean yield of 1259 kg/ha. The mean yield of the entries ranged from 2661 kg/ha (IET 29028) to 5304 kg/ha (IET 28281), days to 50% flowering ranged from 93 days (IET 29025) to 129 days (IET 29030, IET 29034); plant height ranged from 72 cm (IET 29034) to 120.5 cm (IET 29031) and mean panicles/m<sup>2</sup> varied from 214 (IET 29025) to 348 (IET 29030). Among all the entries, four entries IET 28281 (5304 kg/ha), IET 28276 (5279 kg/ha), IET 29030 (5249 kg/ha) and IET 27547 (5227 kg/ha) registered >5% grain yield than the best check Pooja (ZC) in Zone III.

IET 28281 (CR 3987-3-1-1-1-1) derived from cross Pooja/CR 38201-5-2-1-1 ranked 1<sup>st</sup> based on grain yield (5304 kg/ha). It possessed medium slender grains with 107 days flowering duration. It recorded 8% yield superiority over the best check (Pooja-ZC). Head rice recovery (59%) and amylose content (20.25%) were desirable. Therefore, this entry is promoted to the 3rd year of testing (AVT-2-RSL)

IET 28276 (CR 3967-8-3-2-2-1-1) derived from cross IR 73895-33-1-3-2/ Pratikshya stood 2<sup>nd</sup> (5279 kg/ha). It showed 126 days to 50% flowering and medium slender grains in Zone III. It outperformed the best check (Pooja-ZC) by 7 % yield superiority. It has good grain quality with desirable amylose content (24.69%). However, the data is based on single location, hence repeated in 2nd year of testing (AVT-1-RSL).

The test entries IET 27547, IET 27537 and IET 26744 (NIL) were in the final year of testing. Among them, the entry IET 27547 (OR 2757), showed a yield advantage over the BVC (6%) in Zone III. The quality of IET 27547 is: HRR 58%, AC 20.47% and GC 32. The other details of the promoted entries are given in below table.

#### Performance of superior entries of AVT1- RSL in Zone III during Kharif 2020

S. No.	IET No./ Designation/ Cross combination	GY (Kg/ha)/ FD/ GT/PH	% yield gain over NC/ZC/LC
1	IET 28281	5304	17.16
	CR 3987-3-1-1-1-1	107	7.96
	Pooja/CR 38201-5-2-1-1	MS	8.56
		94	
2	IET 28276	5279	16.61
	CR 3967-8-3-2-2-1-1	126	7.45
	IR 73895-33-1-3-2/Pratikshya	MS	8.04
		104	
3	IET 27547	5227	15.46
	OR 2757	117	6.39
	Upahar/CN 1231-11-7	LS	6.98
		112	
	Pooja (ZC) Best Check	4913	
		100	
		89	
	SwarnaSub 1 (NC)	4527	
		117	
		76	
	Local Check	4886	
		107	
		89	

**Bold & Italics:** Best check & over the best check; NC-National Check; ZC-Zonal Check; LC-Local Check; GY: Grain Yield; FD:Days to 50% flowering; GT: Grain Type; PH: Plant Height

#### Southern zone (Zone VII)

In Zone VII, the trial was conducted at three locations (Maruteru, Sirsi and Ponnampet). Mean yield of the entries in Zone VII ranged from 1925 kg/ha (IET 29025) to 4615 kg/ha (IET 27538); days to 50% flowering ranged from 102 days (IET 29025, PA644(HC)) to 131 days (IET 28264); plant height ranged from 68 cm (Gayatri, the recipient parent) to 114 cm (IET 29032) and mean panicles/m<sup>2</sup> varied from 280 (IET 29032) to 405 (Gayatri, the recipient parent). Among varietal checks, Savitri(ZC) recorded the highest grain yield of 4355 kg/ha followed by National check Swarna-sub1 (4345 Kg/ha) and local check (3952 Kg/ha). Only one *test entry IET 27538 was recorded >5% yield gain over the best check (ZC) in Zone VII.*

**Performance of superior entries of AVT1- RSL in Zone VII during Kharif 2020**

S. No.	IET No./ Designation/ Cross combination	GY (Kg/ha)/ FD/ GT/PH	% yield gain over NC/ZC/LC
1	<b>IET 27538</b>	4615	6.0
	BRR 2110	116	6.21
	AD 12173-Sel	MS	16.77
	MS	88	
	Savitri (ZC) Best Check	4355	
		126	
		84	
	SwarnaSub 1 (NC)	4345	
		119	
		78	
	Local Check	3952	
		120	
		94	

**Bold & Italics:** Best check & over the best check; NC-National Check; ZC-Zonal Check; LC-Local Check; GY: Grain Yield; FD:Days to 50% flowering; GT: Grain Type; PH: Plant Height

IET 27538 (BRR 2110), a selection from AD 12173 possessing medium slender grain type and recorded grain yield of 4615 kg/ha. It displayed 116 days to 50% flowering. The entry ranked first (4615 kg/ha) with 6% yield superiority over the best check (Savitri-ZC). Quality wise the entry recorded desirable HRR and amylose content. Therefore, it is promoted to 3<sup>rd</sup> year of testing (AVT-2-RSL).

**Three years performance of IET 27547 in RSL trial**

IET 27547 (OR 2757) derived from cross Upahar/CN 1231-11-7 showed consistent yield superiority over the best check in Zone III for all three years. IET 27547 has completed the three years of performance in rainfed shallow low land trials and its performance is given below

**Three years performance of IET 27547 in RSL trials during 2018-20**

IET No./ Designation/ Cross combination	Year	Zone			State			Remarks
		Zone	Kg/ha DF	%BC	State	Kg/ha DF	%BC	
IET 27547 (OR 2757) Upahar/CN 1231-11-7 LS	2018	III	4902	8.12	BI	5563	5	Promising in Zone III
			121			120		
		VII	4960	15.58	AP	4365	18	
		122			123			
					KA	5257	14	
						122		
	2019	VII	5430	20	KA	5430	20	
			117			117		
	2020	III	5227	6.39				
		117						



IET 27547 and IET 27537 had completed three years of testing by 2020. The entry IET 27537 (TRC 2018-10) derived from cross TRC F-41/TRC 2008-1 promoted in first two years of the trial based on the yield superiority over the best check in Zone VII. However, in third year, it could not perform over the best check and having low HRR 51%, & AC 18.52%.

The test entry IET 27547 (OR 2757) derived from cross Upahar/CN 1231-11-7 showed consistent yield superiority over the best check in first and third years in Zone III and first two years in zone VII.

### Performance of NIL entries during Kharif 2020

Eleven NILs (IET 26744, IET 29025, IET 29026, IET 29027, IET 29028, IET 29029, IET 29030, IET 29031, IET 29032, IET 29033 and IET 29034) were tested across six locations namely Cuttack and Jeypore (Odisha) and Bikramganj (Bihar), Maruteru (AP), Sirsi and Ponnampet (Karnataka). Data from Jeypore (Exp. Mean :1259 kg/ha) was not considered in analysis due to low experimental mean (< 1500 kg/ha). Among the 11 NILs, the entries IET 26744, IET 29027, IET 29033, IET 29030, IET 29026, IET 29029, IET 29031 and IET 29032 showed the yield superiority over the corresponding recurrent parent in the states of Odisha, Bihar and Karnataka. The details of superiority over recurrent parents and overall mean as mentioned in the table below.

### Performance of NIL entries possessing *sub 1* QTL in AVT-1-RSLKharif, 2020- Normal Conditions

IET No/ Designation/ Cross Combination	Yield (kg/ha) /DFP/PH		Yield (kg/ha) /DFP/ PH		Yield (kg/ha) /DFP/ PH		Yield (kg/ha) /DFP/ PH		Yield (kg/ha) /DFP/ PH		Yield (kg/ha) /DFP/ PH		Yield (kg/ha) /DFP/ PH	
	Odisha	% RP	Bihar	% RP	Zone III	% RP	AP	% RP	Karn ataka	% RP	Zone VII	% RP	Overall mean	% RP
26744	4484 113 102	20.73	4167 90 96	-31.81	4326 102 99	-11.95	3436 107 131	-36.50	2793 117 74	-2.75	3159 114 93	-27.46	3937 109 95	-16.71
Pooja	3714 110 82		6111 90 .		4913 100 82.00		5411 112 .		2872 133 69		4355 126 69		4727 115 73	
29025	3714 93 113	-17.30	- - -	-	3714 93 113	-17.96	- - -	-	1925 102 84	-26.94	1925 102 84	-55.70	2820 99 94	-36.86
29027	4938 126 109	9.95	2535 87 90	-44.44	3737 107 99	-17.45	- - -	-	2066 111 70	-21.59	2066 111 70	-52.45	3180 109 85	-28.80
Swarna-sub1	4491 128 78		4563 105 75		4527 117 76.33		5524 109 103		2635 125 65		4345 119 78		4466 118 77	
29030	5249 129 96	-0.27	- - -	-	5249 129 96	19.70	- - -	-	2420 112 86	14.91	2420 112 86	14.96	3835 118 89	5.79
29033	5308 127 78	0.86	3229 103 97	-7.93	4269 115 87	-2.65	4075 110 123	-	2822 119 68	34.00	3525 116 87	67.46	4021 116 87	10.92
Gayatri	5263 119 78		3507 99 77		4385 109 77.50		- - -		2106 121 68		2105 121 68		3625 115 73	
29028	2926 126 79	-12.76	2396 103 109	-	2661 115 93	-20.66	- - -	-	2886 111 85	-16.30	2886 111 85	-16.30	2736 113 90	-19.55
Sarala	3354 128 81				3354 128 81.00				3448 115 82		3448 115 82		3401 119 82	
29026	5463 121 129	-3.80	4271 101 124	33.68	4867 111 126	9.69	- - -	-	3099 111 105	-8.93	3098 111 105	-8.96	4277 111 116	4.52
29029	4913 119	-13.49	3629 105	13.58	4271 112	-3.74	- -	-	3258 112	-4.26	3257 112	-4.29	3933 112	-3.89

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IET No/ Designation/ Cross Combination	Yield (kg/ha) /DFF/PH		Yield (kg/ha) /DFF/ PH		Yield (kg/ha) /DFF/ PH		Yield (kg/ha) /DFF/ PH		Yield (kg/ha) /DFF/ PH		Yield (kg/ha) /DFF/ PH		Yield (kg/ha) /DFF/ PH	
	Odisha	% RP	Bihar	% RP	Zone III	% RP	AP	% RP	Karn ataka	% RP	Zone VII	% RP	Overall mean	% RP
	132		126		128				106		106		117	
29031	5974 120 145	5.19	3549 105 133	11.08	4762 113 139	7.32			3338 114 110	-1.91	3337 114 110	-1.94	4287 113 125	4.77
29032	5426 119 130	-4.46	3542 106 136	10.86	4484 113 133	1.06	2805 105 127		3544 112 107	4.14	3116 110 114	-8.43	4028 111 122	-1.56
Varshadhan	5679 119 133		3195 104 125		4437 112 129.17				3403 117 105		3403 117 105		4092 114 117	
29034	3141 129 72	-19.99	-	-	3141 129 72	-18.35	3798 114 102	-28.51	1330 120 65	-49.43	2696 118 78	-35.84	2919 121 76	-26.38
Ranjit	3926 129 94		3767 105 92		3847 117 93.17		5313 116 136		2630 125 81		4202 122 99		3965 120 97	

\* Data from AVT-1-RSL, 2019; DFF: Days to 50% flowering; PH: Plant height; RP: Recurrent parent

The NILs were compared with recurrent parent with respect to morphological traits for similarities and the information is tabulated as below.

**Confirmation of NILs with respect to similarity with Recurrent parent under normal condition in AVT-1RSL, Kharif 2020**

IET NO.	State	%RP	Similarity with RP
<b>29025</b> CR4050-121-28-13-1 Swarna Sub 1*3/IRBB60	<b>Odisha</b>	Odisha: -17.30 KA: -26.94 Mean: -36.86	Inferior to RP for yield in Odisha (lesser than mean+CD in Zone III), early flowering and taller than RP
<b>29026</b> CR 2538-42-17-32-3-3 Varshadhan*3/IR49830-7	<b>Odisha</b>	Odisha: -3.80 Bihar: 33.68 KA: -8.93 Mean: 5	Statistically, on par with RP in yield at Odisha with similar in flowering and height.
<b>29027</b> CR4050-121-28-13-2 Swarna Sub 1*3/IRBB61	<b>Odisha</b>	Odisha: 9.95 Bihar: -44.44 KA: -21.59 Mean: -28.80	Superior to RP for yield in Odisha, early flowering and taller than RP
<b>29028</b> CR 2532-9-21-35-1 Sarala*3/IR49830-7	<b>Odisha</b>	Odisha: -12.76 KA: -16.30 Mean: -19.55	Statistically, on par with RP in yield at Odisha with early flowering and taller than RP
<b>29029</b> CR 2538-42-17-32-3-1 Varshadhan*3/IR49830-7	<b>Odisha</b>	Odisha: -13.49 Bihar: 13.58 KA: -4.26 Mean: -3.89	Statistically, on par with RP in yield at Odisha with similar in flowering and height.
<b>29030</b> CR 2531-72-6-19-5 Gayatri*3/IR49830-7	<b>Odisha</b>	Odisha: -0.27 KA: 14.91 Mean: 5.79	Statistically, on par with RP in yield at Odisha with similar in flowering and height.
<b>29031</b> CR 2538-42-17-32-3-2 Varshadhan*3/IR49830-7	<b>Odisha</b>	Odisha: 5.19 Bihar: 11.08 KA: -1.91 Mean: 4.77	On par to RP for yield in Odisha and overall mean yield, similar in flowering with little taller than RP
<b>29032</b> CR 2538-20-14-24-2 Varshadhan*3/IR49830-7	<b>Odisha</b>	Odisha: -4.46 Bihar: 10.86 KA: 4.14 Mean: -1.56	Statistically, on par with RP in yield at Odisha with similar in flowering and height.

IET NO.	State	%RP	Similarity with RP
<b>29033</b> CR 2531-72-6-19-6 Gayatri*3/IR49830-7	<b>Odisha</b>	Odisha: 0.86 Bihar: -7.93 KA: 34.00 Mean: 10.92	Superior to RP for yield in Odisha and overall mean yield, similar in flowering with little taller than RP
<b>29034</b> TTB 238 Ranjit Sub 1/ Improved Samba Mahsuri// Ranjit Sub 1///Ranjit Sub 1	<b>Assam</b>	Odisha: -19.99 AP: -28.51 KA: -49.43 Mean:-26.38	Inferior to RP in overall mean yield, Similar in flowering with shorter than RP

For trait verification entries were tested at three locations, viz. Cuttack, Karaikal and Maruteru. Data from Karaikal was not considered in the analysis due to very low coefficient of variation (<5%). In the two locations (Cuttack and Maruteru), there were extremely high variations for yield and survival percentage of recurrent parents which are not comparable. Based on mean yield over two locations (Cuttack and Maruteru) under submergence stress condition, all the NILs performed better than their respective recurrent parents except those derived from Swarna Sub1 and Ranjit Sub1. With respect to mean survival percentage under submergence stress, all tested NILs derived from Swarna Sub1 and Ranjit Sub 1 and one NIL (IET 29029) derived from Varshadhan were found to be inferior with respect to their respective recurrent parents. Remaining tested NILs performed better with respect to mean value of survival (%) under stress.

#### Performance of NIL entries in AVT-1-NIL (SUB), Kharif, 2020

Recurrent Parent	NIL-IET no.	NIL-Yield	RP-Yield	% over RP	Remarks
		Mean	Mean		
<b>Pooja</b>	26744	3511.0	1907.5	84.06	Superiority over RP in yield performance under submergence
<b>Swarna Sub1</b>	29025	2575.0	3247.5	-20.71	Dropped as it failed in NIL confirmation test
	29027	1979.0	3247.5	-39.06	Dropped as it failed in NIL confirmation test
<b>Varshadhan</b>	29029	2816.0	1725.0	63.25	Superiority over RP in yield performance under submergence
	29026	3843.0	1725.0	122.78	Superiority over RP in yield performance under submergence
	29031	3303.5	1725.0	91.51	Superiority over RP in yield performance under submergence
	29032	4215.5	1725.0	144.38	Superiority over RP in yield performance under submergence
<b>Sarala</b>	29028	3738.0	1599.0	133.77	Superiority over RP in yield performance under submergence
<b>Gayatri</b>	29030	4403.0	1371.5	221.04	Superiority over RP in yield performance under submergence
	29033	3494.5	1371.5	154.79	Superiority over RP in yield performance under submergence
<b>Ranjit Sub1</b>	29034	1847.5	2548.5	-27.51	Dropped as it failed in NIL confirmation test

Among the 11 NILs, IET 29026, IET 29028, IET 29029, IET 29030, IET 29031, IET 29032 and IET 29033 confirmed the NIL test under both normal and submergence condition. But IET 29028, IET 29029, IET 29030 and IET 29033 have low HRR and amylose content. Therefore, IET 29026, IET 29031 and IET 29032 were promoted to the 2<sup>nd</sup> year of testing.

**Three years' performance of IET 26744 during 2018-20 under normal and submergence stress conditions**

IET NO	Year	Normal condition (in AVT-1- RSL)			Submergence condition (in AVT-1- NIL (SUB))			Remarks
		Yield of RP (kg/ha)	Yield of NIL entry (Kg/ha)	% RP	Yield of RP (kg/ha)	Yield of NIL entry (Kg/ha)	% RP	
26744 CR 3932-7 Pooja*3/ Swarna- Sub1	2018	OD:5528 MP:2390 WB:5604 Mean:4687	OD:6184 MP:3944 WB:5498 Mean:5209	11.9 34.6 -1.9 11.1	3380	3508	3.8	Promising for state of Odisha
	2019	OD: 4601 BI: 3838 JH: 3016 WB: 4491 UP: 2444 Mean:3932	OD: 3902 BI: 5230 JH: 2619 WB: 4388 UP: 2000 Mean:3674	-1.5 36 -13 -2.2 -18 -4.1	3161	3593	13	
	2020	OD:3714 BI:6111 AP:5411 KA:2872 Mean:4727	OD:4484 BI:4167 AP:3436 KA:2793 Mean:3937	20.73 - 31.81 - 36.50 -2.75 - 16.71	1907.5	3511	84.1	

IET 26744 (CR 3932-7) derived from the cross Pooja\*3 / Swarna- *Sub1* completed three years of testing (2018 - 2020). It possesses *Sub 1* QTL introgressed from Swarna-*Sub1*. In the 1st year (2018), it exhibited yield gain (11.9%) over recurrent parent (Pooja) under normal condition in Odisha state. It also recorded yield gain over recurrent parent (3.8%) under submergence condition. In the 2nd year (2019), it could not out yield the recurrent parent under normal condition in Odisha, but under stress it exhibited yield superiority over recurrent parent by 13%. However, in repeated trial of 2020, it exhibited yield gain of 20.7% and 84.1% over recurrent parent (Pooja) under normal and submergence condition respectively in Odisha state. It has desirable grain quality and found promising for the state Odisha.

**Entries promoted to AVT-2-RSL**

**Zone III: IET 28281**

**Zone VII: IET 27538**

**NILs: IET 29026, IET 29031 and IET 29032**

**Repeat: IET 28276 (promising on overall basis and Zone III, but single location data).**

## INITIAL VARIETY TRIAL-RAINFED SHALLOW LOWLAND (IVT -RSL)

**Locations: 18** **Test Entries: 41**

**Checks: Swarna-Sub1 (National); Pooja (Eastern), Bahadur (North Eastern), Savitri (Southern) - (Zonal) and Local Check** **Table: 11.7**

The trial was constituted with 41 test entries and three checks viz., National check (Swarna-Sub1), Zonal check (Pooja for the Eastern zone, Bahadur for North eastern zone, Savitri for the Southern zone) and a local check.

The trial was sent to 18 locations, while data was received from 10 locations except **Bhubaneswar, Chinsurah, Ghaghraghat, Sabour, Ranc0hi, Gerua-ICAR, Titabar and Lembuchera**. Direct seeded method of planting was followed at the Mugad center instead of the usual transplanting method.

Data from 10 locations was analyzed for evaluating the performance of test entries. The data pertaining to yield, days to 50% flowering, plant height and no. of panicles/m<sup>2</sup> are presented in tables 11.8 to 11.11. The findings of the experiment are discussed below on the overall and zonal basis.

On overall basis, grain mean yield of the entries varied from 2919 kg/ha (IET 29075) to 4414 kg/ha (**Zonal Check**), days to 50% flowering ranged from 103 days (IET 29104) to 125 days (IET 29105), plant height ranged from 84.00 cm (**National Check**) to 110.00 cm (IET 29100) and mean panicles/m<sup>2</sup> varied from 232 (IET 29103) to 301 (**Zonal Check**). Among checks, the zonal check recorded highest grain yield of 4414 kg/ha with 113 days to 50% flowering. **As none of the test entries recorded more than 5% yield advantage over the best check, hence not promoted for further evaluation in AVT-1.**

In Zone III, grain mean yield of the entries varied from 2632 kg/ha (IET 29079) to 4464 kg/ha (IET 29074), days to 50% flowering ranged from 102 days (IET 29104) to 124 days (IET 29105), plant height ranged from 81.00 cm (IET 29095) to 106.00 cm (IET 29074) and mean panicles/m<sup>2</sup> varied from 211 (IET 29092) to 304 (IET 29106). Among checks, the zonal check recorded highest grain yield of 4283 kg/ha with 113 days to 50% flowering. **As none of the test entries recorded more than 5% yield advantage over the best check for the zonal mean yield, hence not promoted for further evaluation in AVT-1 under Zone III.**

In Zone VII, grain mean yield of the entries varied from 2591 kg/ha (IET 29070) to 4821 kg/ha (IET 29100). Days to 50% flowering ranged from 103 days (IET 29090, IET 29094 and IET 29104) to 127 days (IET 29105), plant height ranged from 82.00 cm (IET 29070) to 129.00 cm (IET 29100) and mean panicles/m<sup>2</sup> varied from 246 (IET 29103) to 363 (**Zonal Check**). Among checks, the zonal check recorded highest grain yield of 4610kg/ha with 112 days to 50% flowering.

Only one entry **IET 29100** (CR 3549-3-5-2-1-1-1) with MB grain type, recorded a yield of 4821 kg/ha which is 5% over yield of the best check (Zonal Check) in Zone VII. The mean plant height of the entry was 117 cm in Zone VII. The days to 50% flowering of this

entry was 108 days in Zone VII. The entry IET 29100, recorded 253 panicles/m<sup>2</sup> in Zone VII. Hence, this is promoted for 2<sup>nd</sup> year of testing in zone VII.

**Table No. 11.1: Composition of entries in Advance Variety Trial 1–Rainfed Shallow Lowland (AVT 1-RSL), Kharif2020**

Entry No.	IET No.	Designation	Cross combination	Grain Type
<b>3<sup>rd</sup> Year of testing:</b>				
301	27537	TRC 2018-10	TRC F-41 / TRC 2008-1	SB
302	27547	OR 2757	Upahar / CN 1231-11-7	LS
<b>2<sup>nd</sup> year of testing</b>				
303	28264	MTU 1323 (MTU 2164-60-1-1-1)	MTU 1010 / SRAC 34997	MS
304	28276	CR 3967-8-3-2-2-1-1	IR 73895-33-1-3-2 / Pratikshya	MS
305	28281	CR 3987-3-1-1-1-1	Pooja / CR 3820-1-5-2-1-1	MS
306	28283	TTB 944-31-10-1-2-1	CN 1234-12-1 / OR 1898-18	MS
307	28286	TTB 1031-44-900-1-2	Choilahi / Ranjit	MS
308	26692 (R)	MEPH-144		LS
<b>2<sup>nd</sup> Year of testing:</b>				
309	<b>Pooja (RP)</b>			
310	26744 (R)	CR 3932-7	Pooja*3 / Swarna-Sub1	SB
311	<b>Pooja (Eastern), Bahadur (North Eastern), Savitri (Southern)-- ZC</b>			
<b>1<sup>st</sup> Year of testing:</b>				
312	<b>Swarna Sub 1 (NC)</b>			
313	29025	CR4050-121-28-13-1	Swarna Sub 1*3/IRBB60	MS
314	29026	CR 2538-42-17-32-3-3	Varshadhan*3/IR49830-7	LB
315	29027	CR4050-121-28-13-2	Swarna Sub 1*3/IRBB61	MS
316	<b>Gayatri (RP)</b>			
317	29028	CR 2532-9-21-35-1	Sarala*3/IR49830-7	MS
318	29029	CR 2538-42-17-32-3-1	Varshadhan*3/IR49830-7	LB
319	<b>Sarala (RP)</b>			
320	29030	CR 2531-72-6-19-5	Gayatri*3/IR49830-7	SB
321	<b>Varshadhan (RP)</b>			
322	29031	CR 2538-42-17-32-3-2	Varshadhan*3/IR49830-7	LB
323	<b>PA 6444 (HC)</b>			
324	29032	CR 2538-20-14-24-2	Varshadhan*3/IR49830-7	LB
325	29033	CR 2531-72-6-19-6	Gayatri*3/IR49830-7	SB
326	29034	TTB 238	Ranjit Sub 1/ Improved Samba Mahsuri// Ranjit Sub1//Ranjit Sub1	MS
327	<b>Ranjit Sub1 (RP)</b>			
327				MS
<b>2<sup>nd</sup> year of testing</b>				
328	27538 (R)	BRR 2110	AD 12173-Sel	MS
329	<b>Local Check</b>			

Table No. 11.2: Grain Yield (Kg/ha) of entries in AVT1-RSL Kharif 2020 Zone III

Entry No.	IET NO.	III Eastern											
		OD		OD		OD (1)		BI		BI (1)		ZONEIII(2)	
		CTK	@JYP	Mean	BKG	Mean	Mean	Mean					
301	27537	4528		1010		4528		3809	10	3809	10	4169	
302	27547	4632		683		4632		5822	2	5822	2	5227	4 6%
303	28264	3861		1163		3861		3559		3559		3710	
304	28276	5279	7	638		5279	7					5279	2 7%
305	28281	5834	2	749		5834	2 15%	4774	4	4774	4	5304	1 8%
306	28283	5272	8	647		5272	8	3333		3333		4303	
307	28286	3357		719		3357		3285		3285		3321	
308	26692	3803		862		3803		3333		3333		3568	
309	Pooja	3436		582		3436						3436	
310	26744	4484		982		4484		4167	9	4167	9	4326	
311	Zonal Check	3714		1416	10	3714		6111	1	6111	1	4913	5
312	Swarn (NC)	4491		1438	9	4491		4563	7	4563	7	4527	10
313	29025	3714		856		3714						3714	
314	29026	5463	4	2173	4	5463	4 8%	4271	8	4271	8	4867	7
315	29027	4938		966		4938		2535		2535		3737	
316	Gayatri	5263	9	2359	3 *	5263	9	3507		3507		4385	
317	29028	2926		2804	2 *	2926		2396		2396		2661	
318	29029	4913		1547	8	4913		3629		3629		4271	
319	Sarala	3354		3748	1 *	3354						3354	
320	29030	5249	10	1104		5249	10					5249	3 7%
321	Varshadhan	5679	3	1116		5679	312%	3195		3195		4437	
322	29031	5974	1 *	527		5974	1* 18%	3549		3549		4762	8
323	PA644 (HC)	3956		1662	7	3956		5301	3	5301	3	4629	9
324	29032	5426	5	1761	6	5426	5 7%	3542		3542		4484	
325	29033	5308	6	593		5308	6	3229		3229		4269	
326	29034	3141		587		3141						3141	
327	Ranjit_Sub1	3926		930		3926		3767		3767		3847	
328	27538	3474		850		3474		4676	6	4676	6	4075	
329	Local Check	5062		2052	5	5062		4710	5	4710	5	4886	6
	Exp. Mean	4498.39		1259.47		4498.39		4051.17		4051.17		4268.54	
	CD	878.48		202.58		878.48		819.74		819.74		533.94	
	CV%	11.94		9.83		11.94		12.3		12.3		7.65	
	Sowing date	23.07.20		18.08.20				10.08.20					
	Planting Date	27.08.20		09.09.20				31.08.20					
	Local check	Sumit		Hasanta				BRR 2028					

Table No. 11.2 contd.: Grain Yield (Kg/ha) of entries in AVT1-RSL Kharif 2020

Entry No.	IET NO.	VII Southern										Overall ( 5)			
		A.P.		AP(1)		KA		KA		KA(2)				ZONE VII(3)	
		MTU		Mean		SRS		PNP		Mean		Mean		Mean	
301	27537					2855	9.5	2635		2745		2745		3694	
302	27547					3715	3	3153		3434	3 20%	3434		4629	4
303	28264	4988	6	4988	6	3935	2	986		2461		3952	6.5	3791	
304	28276													5279	1 12% *
305	28281	5357	4	5357	4	1500		3046		2273		4063	5	4890	2
306	28283	3448		3448		2370		3324		2847		3179		3928	
307	28286	3648		3648		2760		2505		2633		3190		3277	
308	26692	3652		3652		2730		1273		2002		2930		3355	
309	Pooja					2885	8	3894	6	3390	5 18%	3390		3413	
310	26744	3436		3436		2780		2806		2793		3159		3937	
311	Zonal Check	5411	3	5411	3	4460	1	1283		2872		4355	2	4727	3
312	Swarna (NC)	5524	1	5524	1	2385		2885		2635		4345	3	4466	6
313	29025					1390		2459		1925		1925		2820	
314	29026					2215		3982	4	3099	10 8%	3098		4277	8
315	29027					1595		2537		2066		2066		3180	
316	Gayatri					2525		1686		2106		2105		3625	
317	29028					2410		3361	10	2886		2886		2736	
318	29029					2945	7	3570	8	3258	9 13%	3257		3933	
319	Sarala					2960	6	3935	5	3448	2 20%	3448	10	3401	
320	29030					2005		2834		2420		2420		3835	
321	Varshadhan					2315		4491	1*	3403	4 18%	3403		4092	
322	29031					2855	9.5	3820	7	3338	8 16%	3337		4287	7
323	PA644 (HC)	3754	10	3754	10	2720		4019	3 *	3370	7 17%	3571	8	4276	9
324	29032	2805		2805		2680		4408	2 *	3544	1 * 23%	3116		4028	
325	29033	4075	8	4075	8	3240	5	2403		2822		3525	9	4021	
326	29034	3798	9	3798	9	1460		1199		1330		2696		2919	
327	Ranjit_Sub1	5313	5	5313	5	2550		2709		2630		4202	4	3965	
328	27538	5468	2	5468	2	3330	4	3426	9	3378	6 18%	4615	1 6%	4255	10
329	Local Check	4822	7	4822	7	2600		2963		2782		3952	6.5	4575	5
	Exp. Mean	4366.73		4366.73		2648.93		2913.73		2781.33		3374.27		4014.64	
	CD	550.27		550.27		758.06		911.65		430.01		2158.17		516.26	
	CV%	7.53		7.53		13.95		15.25		7.54		39.07		7.86	
	Sowing date	27.7.20				29.7.20		02.8.20							
	Planting Date	03.9.20				20.8.20		02.9.20							
	Local check	MTU 1064				Asha		Tunga							



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**Table No. 11.3: Days to 50% Flowering of entries in AVT 1- RSL, Kharif 2020**

Entry No.	IET No.	III Eastern						VII Southern						Overall mean(6)
		CTK	JYP	OD(2)	BKG	BI(1)	ZONEIII(3)	MTU	AP(1)	SRS	PNP	KA(2)	ZONEVII(3)	
301	27537	129	125	129	106	106	118			122	119	121	121	119
302	27547	129	116	129	104	104	117			122	114	118	118	117
303	28264	129	123	129	109	109	119	120	120	138	134	136	131	126
304	28276	126	106	126			126							126
305	28281	111	108	111	103	103	107	99	99	118	108	113	108	108
306	28283	127	111	127	105	105	116	113	113	129	115	122	119	118
307	28286	130	126	130	111	111	121	116	116	129	123	126	123	122
308	26692	128	127	128	104	104	116	107	107	125	118	122	117	116
309	Pooja	105	102	105			105			117	108	113	113	110
310	26744	113	126	113	90	90	102	107	107	119	115	117	114	109
311	Zonal Check	110	118	110	90	90	100	112	112	134	131	133	126	115
312	Swarna (NC)	128	107	128	105	105	117	109	109	125	124	125	119	118
313	29025	93	106	93			93			103	101	102	102	99
314	29026	121	113	121	101	101	111			117	105	111	111	111
315	29027	126	108	126	87	87	107			112	109	111	111	109
316	Gayatri	119	106	119	99	99	109			123	119	121	121	115
317	29028	126	109	126	103	103	115			118	104	111	111	113
318	29029	119	115	119	105	105	112			118	106	112	112	112
319	Sarala	128	108	128			128			120	109	115	115	119
320	29030	129	108	129			129			119	105	112	112	118
321	Varshadhan	119	117	119	104	104	112			123	110	117	117	114
322	29031	120	108	120	105	105	113			117	110	114	114	113
323	PA644 (HC)	112	107	112	82	82	97	95	95	108	102	105	102	100
324	29032	119	101	119	106	106	113	105	105	117	107	112	110	111
325	29033	127	125	127	103	103	115	110	110	121	117	119	116	116
326	29034	129	126	129			129	114	114	122	118	120	118	121
327	Ranjit_Sub1	129	122	129	105	105	117	116	116	128	121	125	122	120
328	27538	130	121	130	103	103	117	109	109	122	118	120	116	116
329	Local Check	127	118	127	87	87	107	117	117	118	125	122	120	115
	Exp. Mean	121.99	114.25	121.99	100.72	100.72	113.18	110.02	110.02	120.75	113.91	117.33	114.31	113.98

**Table No. 11.4: Plant Height of entries in AVT 1- RSL, Kharif 2020**

Entry No.	IET NO	III Eastern						VII Southern						Overall (5)
		CTK	JYP	OD (1)	BKG	BI (1)	Zone III (2)	MTU	AP (1)	SRS	PNP	KA (2)	Zone VII (3)	
301	27537	92	58	92	94	94	93			83	67	75	75	84
302	27547	112	59	112	112	112	112			93	83	88	88	100
303	28264	85	58	85	96	96	91	114	114	82	69	75	88	89
304	28276	104	64	104			104							104
305	28281	97	57	97	90	90	94	116	116	75	72	74	88	90
306	28283	111	69	111	110	110	111	157	157	94	77	85	109	110
307	28286	78	67	78	103	103	90	150	150	94	81	88	109	101
308	26692	93	61	93	93	93	93	118	118	75	63	69	85	88
309	Pooja	82	74	82			82			75	63	69	69	73
310	26744	102	65	102	96	96	99	131	131	81	66	74	93	95
311	Zonal Check	79	64	79	99	99	89	118	118	72	63	67	84	86
312	Swarna (NC)	78	54	78	75	75	76	103	103	72	59	65	78	77
313	29025	113	60	113			113			92	76	84	84	94
314	29026	129	71	129	124	124	126			111	99	105	105	116
315	29027	109	58	109	90	90	100			74	66	70	70	85
316	Gayatri	78	62	78	77	77	78			73	62	68	68	73
317	29028	79	64	79	109	109	94			91	80	85	85	90
318	29029	132	87	132	126	126	129			113	100	106	106	117
319	Sarala	81	57	81			81			88	77	82	82	82
320	29030	96	65	96			96			94	79	86	86	89
321	Varshadhan	133	88	133	125	125	129			111	100	105	105	117
322	29031	145	96	145	133	133	139			117	103	110	110	125
323	PA644 (HC)	91	65	91	103	103	97	113	113	84	69	76	88	92
324	29032	130	96	130	136	136	133	127	127	114	101	107	114	122
325	29033	78	71	78	97	97	88	123	123	75	61	68	87	87
326	29034	72	59	72			72	102	102	80	50	65	78	76
327	Ranjit_Sub1	94	58	94	92	92	93	136	136	87	74	81	99	97
328	27538	82	59	82	86	86	84	112	112	84	68	76	88	86
329	Local Check	93	60	93	84	84	89	109	109	92	80	86	94	92
	Exp. Mean	98	66	98	102	102	99	122	122	88	75	82	90	94

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**Table No. 11.5: Panicle/m<sup>2</sup> of entries in AVT 1- RSL Kharif 2020**

Entry No.	IET NO	III Eastern						VII Southern						Overall (5)
		CTK	JYP	OD (1)	BKG	BI (1)	Zone III (2)	MTU	AP (1)	SRS	PNP	KA (2)	Zone VII (3)	
301	27537	285	335	285	274	274	280			357	248	303	303	291
302	27547	277	355	277	292	292	285			373	369	371	371	328
303	28264	231	349	231	254	254	243	290	290	400	314	357	335	298
304	28276	311	310	311			311							311
305	28281	348	337	348	296	296	322	291	291	366	297	332	318	320
306	28283	353	353	353	305	305	329	328	328	370	248	309	315	321
307	28286	219	375	219	280	280	250	284	284	367	303	335	318	291
308	26692	262	380	262	304	304	283	287	287	390	391	391	356	327
309	Pooja	317	306	317			317			370	369	370	370	352
310	26744	316	320	316	283	283	300	285	285	311	347	329	314	308
311	Zonal Check	301	328	301	306	306	304	298	298	396	462	429	385	353
312	Swarna (NC)	268	384	268	272	272	270	282	282	393	440	417	372	331
313	29025	214	324	214			214			340	303	322	322	286
314	29026	296	253	296	264	264	280			360	215	288	288	284
315	29027	300	313	300	268	268	284			373	358	366	366	325
316	Gayatri	339	442	339	276	276	308			419	391	405	405	356
317	29028	225	371	225	298	298	262			373	374	374	374	318
318	29029	299	357	299	261	261	280			340	275	308	308	294
319	Sarala	247	366	247			247			393	347	370	370	329
320	29030	348	390	348			348			363	292	328	328	334
321	Varshadhan	340	391	340	281	281	311			357	242	300	300	305
322	29031	382	373	382	274	274	328			344	303	324	324	326
323	PA644 (HC)	257	326	257	322	322	290	275	275	363	341	352	326	312
324	29032	355	435	355	275	275	315	241	241	334	264	299	280	294
325	29033	336	440	336	268	268	302	286	286	416	402	409	368	342
326	29034	287	394	287			287	290	290	410	418	414	373	351
327	Ranjit_Sub1	277	363	277	256	256	267	275	275	386	347	367	336	308
328	27538	222	367	222	258	258	240	282	282	403	341	372	342	301
329	Local Check	309	329	309	269	269	289	293	293	380	319	350	331	314
	Exp. Mean	293.9	357.4	293.9	279.8	279.8	287.63	285.78	285.78	372.8	332.55	352.68	327.36	307.49

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**Table No. 11.6: Quality analysis of Entries in AVT 1-RSL Kharif-2020**

S.No	IET No	Hull (%)	Mill (%)	HRR (%)	Chalkiness	KL (mm)	KB (mm)	L/B	ASV	WU (ml/100g)	VER	KLAC (mm)	ER	AC (%)	GC
301	27537	76.2	66.7	52.9	A	6.555	1.805	3.715	4.5	160	3.75	10	1.52	21.065	40
302	27547	74.8	64.65	58.9	A	6.145	1.95	3.15	5.5	105	3.75	10	1.65	23.49	38.5
303	27264	78.7	67.65	63.05	A	5.09	1.865	2.725	4	145	3.75	8.6	1.69	23.385	47
304	28276	77.2	66.55	54.5	VOC	5.77	2.635	2.19	3.5	125	3.75	10	1.86	25.28	26
305	28281	78.3	66.05	56.35	A	5.565	2.255	2.47	4	110	4	9	1.76	24.16	43
306	28283	76.6	66	58.6	A	5.445	2.13	2.55	4.5	200	4	10	1.9	23.35	37
307	28286	77.35	66.8	58.85	A	4.79	1.875	2.57	4	110	3.75	8	1.68	13.155	65.5
308	26692 (R)	76.6	62.45	42.95	VOC	5.235	2.095	2.515	4.5	130	3.75	10	1.89	22.295	49
309	Pooja (RP)	77.05	66	54.65	A	5.02	2.07	2.435	4	135	4	10	1.97	20.84	43
310	26744 (R)	73.9	60.6	50.05	A	5.405	2.305	2.355	6	190	3.75	10	1.93	23.775	33
311	Zonal Check	76	62.9	56.3		4.96	2.22	2.23	5					22.44	50
312	Swarna Sub1 (NC)	77.2	66.95	62.2	A	5.205	2.055	2.54	4	120	3.75	8	1.52	22.425	41.5
313	29025	79.95	71.8	62.05	VOC	5.105	2.3	2.22	3.5	95	3.75	8	1.54	22.4	37.5
314	29026	77.7	67.85	63.1	VOC	6.13	2.06	2.975	4	175	4	10	1.7	23.42	43.5
315	29027	75.45	57.75	46.9	VOC	5.35	2.315	2.305	4	155	4	10	1.78	23.265	52.5
316	Gayatri (RP)	77.35	65.15	57.05	A	4.755	2.295	2.075	5	155	3.75	8	1.65	22.1	47.5
317	29028	69.05	61.85	54.05	A	5.83	1.8	3.27	4.5	130	3.75	10	1.86	22.145	39
318	29029	78.3	68.3	61.5	VOC	6.195	2.09	2.96	4.5	135	3.75	10	1.63	21.83	45.5
319	Sarala (RP)	74.2	63.15	60.7	A	5.185	1.755	2.955	6	85	3.75	8	1.53	21.015	43.5
320	29030	72.95	58.9	47.4	A	5.385	1.735	3.13	5	95	3.75	9	1.63	23.83	18
321	Varshadhan (RP)	77.15	65.8	61.5	VOC	6.02	4.19	2.74	4.5	110	4	11	1.89	21.375	27
322	29031	77.55	65.65	61.15	VOC	6.21	2.065	3.02	4	140	3.75	10	1.61	23.83	37.5
323	PA 6444 (HC)	70.75	47.5	54.2	VOC	6.195	1.84	3.555	4	160	3.75	10	1.57	20.79	50
324	29032	77.25	66.3	60.2	A	6.295	2.005	3.195	5	65	3.75	11	1.76	23.275	28.5
325	29033	75.9	59	44.7	VOC	4.69	2.405	1.945	4	105	3.75	9	1.96	24.01	33.5
326	29034	75.9	60.9	58.45	A	5.225	1.825	2.86	4.5	55	3.75	9	1.72	21.375	28
327	Ranjit sub1 (RP)	76.8	64.7	59.05	A	4.935	1.86	2.645	4	100	3.75	9	1.94	22.875	27.5
328	27538 (R)	76.75	63.45	56.55	VOC	5.055	2.09	2.415	4	100	3.75	9	1.88	23.155	33.5
329	Local check	72.05	58.9	46.45	A	6.175	2.34	2.635	3.5	55	3.75	10	1.63	21.83	50

**Abbreviations:** Hull%: Hulling; Mill% : Milling; HRR :Head Rice Recovery; KL : Kernel length; KB : Kernel Breadth; L/B : Length Breadth ratio; ASV : Alkali spreading value; WU: Water uptake; VER : Volume expansion ratio; KLAC : Kernel length after cooking; ER : Elongation ratio; AC : Apparent amylose content; GC: Gel consistency.

**Table No. 11.7: The composition of entries in the Initial Varietal Trial- Rainfed Shallow Lowland (IVT-RSL), Kharif-2020**

Entry No.	IET No.	Designation	Cross combination	Grain Type
<b>1<sup>st</sup> year of testing</b>				
401	29070	CR 3938-6-2-1-1-1-4	IR 73907-753-2-3/Pratikhya	LS
402	29071	OROI-1-IR 85086 / SUB 33-3-2-1	PSBRc 68 / IR 02A 464	MS
403	29072	CR 3957-1-4-2-2-1	Pooja/CR 3813-4-4-4-2-2-5	SB
404	29073	OROI-2-IR 87092-26-3-1-3	IR 49830-7-1-2-3 2* IR 07F101	MS
405	29074	CR 3494-1-2-1-2-1-1-3	Lalat/IR 36	MB
406	29075	TTB 1041-204-1	Ranjit/IR BB59	MS
407	29076	CR 4117-1-9-1-2-3	Satyabhama/CO-50	LB
408	29077	TTB 407-12	Ranjit/Improved Samba Mahsuri	MS
409	29078	CR 3985-1-1-1-2-2	Reeta/Swarna Sub-1	SB
410	29079	TTB 938-4-8-1-2	Sudhir/ Swarna	MS
411	29080	OROI-13-IR 88760-SUB-93-3-3-3	IRRI 154 / BR 11-Sub-1	MS
412	29081	TTB 1044-300-4	Ranjit/ RIL 29	MS
413	29082	CR 3760-1-1-1-2-1	SambhaMahsuri/ Surendra	MS
414	29083	TTB 1040-218-5	Ranjit/ Tetep	MS
415	29084	CR 3987-1-5-3-2-2	AC 38562/ NIRAJ// Pooja	MS
416	<b>Swarna Sub 1 (NC)</b>			
417	29085	TTB 1031-44-900-1-2-2	Choilahi/ Ranjit	MS
418	29086	CR 3504-25-1-1-1-1-1	IR 36/BIRUPA	MS
419	29087	TTB 1048-60-1	IRGC 25239/ Ranjit	MS
420	<b>Pooja (Eastern), Bahadur (North Eastern), Savitri (Southern)-- ZC</b>			
421	29088	RCPR77-IR96321-315-294-B-1-1-1	IR 91659:54-35//IR 81896-B-B-195/2*IR05F102	
422	29089	CR 4319-5-2-1	AC 38566/IR 82489-7-2-2-2 CR 3724-1	LS
423	29090	TRC 2020-7	Hakuchuk 2* Tripura Nirog	LS
424	29091	CR 4121-149-1-2	CR 3856-44-22-2-1-11//Swarna Sub-1/IRBB 60	SB
425	29092	PSR 1001/PS 38-12-9-1-15-2-3	Pratikshya / IR 64	LS
426	29093	CR 4329-25-2-1-1	Tapaswini/Ranjit	MS
427	29094	CR 3987-2-1-1-2-2	Pooja/ CR 3820 2-2-1-1-1	MS
428	29095	CR 4327-15-2-1-1	Tapaswini/Kedargouri	SB
429	29096	CR 4327-22-1-2-2-1	Tapaswini/Kedargouri	SB
430	29097	OROI-4-IR 87118-39-1-1-6	IR75417-R-R-246-4/IR07F101//IR 06F148	MS
431	29098	CR 3993-33-58-3-1	CR 1009/O. Brachyntha//CR 1009	SB
432	29099	CR 4318-16103-15-2-3-4-7	Parjata/CR MAS 2620-1	MB
433	29100	CR 3549-3-5-2-1-1-1	ADT 43/AnnapurnaZ	MB
434	29101	TTB 1039-214-3	Ranjit/ IR BB 52	
435	29102	CR 3505-1-7-1-1-1-1	IR 36/Vijetha	MB
436	29103	CR 3856-44-22-2-1-11-4-4-5	IR 73963-86-1-5-2-2/ CR 2324-1	LB
437	29104	CR 4334-2-1-1	CR 3856-44-22-2-1-7*3/Swarna MAS	LS
438	29105	MTU 1337	RGL11414/ WGL 3962	MS
439	29106	CR 3856-44-22-2-1-11-4-1-4	IR 73963-86-1-5-2-2/ CR 2324-1	SB
440	29107	TTB 378	Ranjit/Swarna Sub -1	MS
441	29108	CR 3987-3-1-2-2-1	Pooja/CR 3820-1-5-2-1-1	MS
442	29109	ORR-1801-1	CR Dhan 1009/ Ranidhan	MB
443	29110	TRC 2020-11	Pyzum/ BPT 5204	LS
444	<b>Local Check</b>			

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Table No. 11.8: Grain Yield (kg/ha) of entries in IVT-RSL, Kharif 2020

Entry No.	IET No.	Zone III											
		OD			OD(2)		BI			BI (2)			
		CTK		JYP		mean		BKG		PSA		mean	
401	29070	4748	3 *	2902		3825	3 * 16%	4948		3014		3981	
402	29071	5346	2 *	2781		4064	2 * 23%	4443		2473		3458	
403	29072	3013		3295	7	3154		5261	10	3265		4263	
404	29073	5842	1 *	2599		4221	1 * 28%	3813		5636	1	4725	
405	29074	4150	4	2694		3422	6	6875	2 *	4969		5922	1 7%
406	29075	2813		1843		2328		3125		2818		2972	
407	29076	3525	9	2922		3224	10	3750		4718		4234	
408	29077	2788		3064	10	2926		7125	1 *	4082		5604	2
409	29078	2759		3152	9	2956		2813		3988		3401	
410	29079	2709		2824		2767		875		2936		1906	
411	29080	2629		3155	8	2892		4750		5597	2	5174	8
412	29081	2767		2682		2725		3444		4341		3893	
413	29082	2877		2756		2817		6438	3	3870		5154	9
414	29083	2642		3488	3	3065		3019		5495	4.5	4257	
415	29084	2679		2732		2706		4063		4019		4041	
416	Swarna Sub1 (NC)	2684		3453	4	3069		5688	7	5408	7	5548	3
417	29085	2846		2466		2656		4438		3933		4186	
418	29086	2734		2404		2569				4890		4890	
419	29087	2713		2367		2540		2125		5495	4.5	3810	
420	Zonal Check (ZC)	3646	8	2478		3062		5844	5	5086	10	5465	5
421	29088			2825		2825				4207		4207	
422	29089	3682	7	2932		3307	8	5625	8	5448	6	5537	4
423	29090	3025		2690		2858		5063		2724		3894	
424	29091	3417	10	3358	6	3388	7	4813		2858		3836	
425	29092	3032		2485		2759		5563	9	3894		4729	
426	29093	3138		2561		2850		5813	6	3776		4795	
427	29094	3350		2877		3114		4688		3925		4307	
428	29095	2984		2180		2582		1844		3956		2900	
429	29096	3038		1492		2265		1688		3674		2681	
430	29097	2925		2859		2892		2569		4592		3581	
431	29098	2729		1706		2218		3438		3956		3697	
432	29099	3704	6	2509		3107		5000		3972		4486	
433	29100	2783		2751		2767		3563		2473		3018	
434	29101	2654		2464		2559		3313		3312		3313	
435	29102	3738	5	2787		3263	9	3000		5299	8	4150	
436	29103	3158		4194	1 *	3676	4 11%	4938		3438		4188	
437	29104	2229		3407	5	2818		5875	4	4639		5257	6
438	29105	2609		2722		2666		3000		3603		3302	
439	29106			3660	2	3660	5 11%			3744		3744	
440	29107	2805		1593		2199		4138		4930		4534	
441	29108	2863		2024		2444		4938		5502	3	5220	7
442	29109	2756		2367		2562		4663		4883		4773	
443	29110	2784		2690		2737		3607		4427		4017	
444	Local Check (LC)	3286		2268		2777		4657		5283	9	4970	10
Exp. Mean		3156.89		2714.70		2937.73		4259.06		4193.99		4227.25	
CD		729.34		556.15		516.07		892.48		574.88		565.46	
CV%		11.44		10.16		8.71		10.37		6.80		6.63	
D/S		29.07.2020		21.07.2020				25.07.2020		21.07.2020			
D/P		03.09.2020		21.08.2020				24.08.2020		05.08.2020			
Local check Name		Sumit		Hasanta				Sabour Shree		Rajshree			

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**Table No. 11.8 contd.: Grain Yield (Kg/ha) of entries in IVT RSL, Kharif 2020**

Entry No	IET No	Zone III									
		WB		WB (1)		UP		UP (1)		ZONE III (6)	
		BNK		mean		MSD		mean		Mean	
401	29070	4545		4545						4031	
402	29071	7003	3	7003	3 15%	2925	7	2925	7	4162	
403	29072	5883		5883		2800	9.5	2800	9.5	3920	
404	29073	5322		5322		2200		2200		4235	8
405	29074	6268		6268		1825		1825		4464	1
406	29075	4552		4552		2700		2700		2975	
407	29076	3887		3887						3760	
408	29077	6198		6198		2250		2250		4251	7
409	29078	6093		6093		2700		2700		3584	
410	29079	3817		3817						2632	
411	29080	6373	10.5	6373	10.5	2625		2625		4188	10
412	29081	3943		3943		2750		2750		3321	
413	29082	3677		3677						3924	
414	29083	3985		3985		2800	9.5	2800	9.5	3572	
415	29084	6723	5	6723	5 10%	3050	4	3050	4 5%	3878	
416	<b>Swarna Sub 1 (NC)</b>	4468		4468		2275		2275		3996	
417	29085	4160		4160		3175	2	3175	2 9%	3503	
418	29086	4622		4622						3663	
419	29087	4727		4727		3000	5.5	3000	5.5	3405	
420	<b>Zonal Check (ZC)</b>	6093		6093		2550		2550		4283	5
421	29088									3516	
422	29089	3074		3074		2900	8	2900	8	3944	
423	29090	6443	9	6443	9 6%	3200	1	3200	1 10%	3858	
424	29091	7843	1 *	7843	1* 29%					4458	2
425	29092	5883		5883						4171	
426	29093	6373	10.5	6373	10.5					4332	4
427	29094	6513	7.5	6513	7.5 7%					4271	6
428	29095	5882		5882						3369	
429	29096	4902		4902		2300		2300		2849	
430	29097	5252		5252		1475		1475		3279	
431	29098	7143	2	7143	2 17%	1000		1000		3329	
432	29099	5672		5672						4171	
433	29100	4832		4832						3280	
434	29101	3957		3957		2775		2775		3079	
435	29102	6968	4	6968	4 14%					4358	3
436	29103	4027		4027		2000		2000		3626	
437	29104	6548	6	6548	6 7%	1940		1940		4106	
438	29105	3957		3957		2500		2500		3065	
439	29106									3702	
440	29107	4657		4657		3000	5.5	3000	5.5	3521	
441	29108	4622		4622		2550		2550		3750	
442	29109	4503		4503		2525		2525		3616	
443	29110	6163		6163		2575		2575		3708	
444	<b>Local Check (LC)</b>	6513	7.5	6513	7.5 7%	3150	3	3150	3 9%	4193	9
	<b>Exp. Mean</b>	<b>5334.68</b>		<b>5334.68</b>		<b>2535.00</b>		<b>2535.00</b>		<b>3756.50</b>	
	<b>CD</b>	1656.71		1656.71		367.56		367.56		361.92	
	<b>CV%</b>	<b>15.38</b>		<b>15.38</b>		<b>7.08</b>		<b>7.08</b>		<b>4.78</b>	
	<b>D/S</b>	16.07.2020				29.07.2020					
	<b>D/P</b>	08.09.2020				03.09.2020					
	<b>Local check Name</b>	Dhiren				SambhaMahsuri-Sub 1					

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**Table No. 11.8 contd.: Grain Yield (Kg/ha) of entries in IVT- RSL, Kharif 2020**

Entry No	IET No	Zone VII							
		AP	AP (1)			KA			
		MTU		mean		SRS		PNP	
401	29070							2691	
402	29071	4716		4716	5%	4138	9	3749	
403	29072	3043		3043		3371		3877	
404	29073	5406	2 *	5406	2 * 21%	2892		3424	
405	29074	2495		2495		2159		4157	7
406	29075	3611		3611		2921		1239	
407	29076							4297	3
408	29077	5080	5	5080	5 13%	1963		3873	
409	29078	4615		4615		3050		4210	4
410	29079	3161		3161		3925		2140	
411	29080	4512		4512		2446		4037	9
412	29081	3668		3668		2250		1836	
413	29082							3638	
414	29083	2901		2901		3725		2161	
415	29084	2399		2399		2479		2502	
416	<b>Swarna Sub 1 (NC)</b>	4274		4274				3276	
417	29085	3000		3000		4004	10	2959	
418	29086	2692		2692		2442		3206	
419	29087	2935		2935		4679	3	2515	
420	<b>Zonal Check (ZC)</b>	3448		3448		4783	2	4173	5
421	29088	2810		2810				4317	2
422	29089	4477		4477		4634	4	3934	
423	29090	2751		2751		3971		3597	
424	29091	3536		3536		4817	1	2461	
425	29092	4843		4843	8%	4167	7	2852	
426	29093	2661		2661		3788		3062	
427	29094	3098		3098		4233	6	4116	8
428	29095	4268		4268		4542	5	3095	
429	29096	3497		3497		4150	8	3206	
430	29097	5043	7	5043	7 13%	3150		3737	
431	29098	4952	9	4952	9 11%	3725		4169	6
432	29099	5251	3 *	5251	3 * 17%	3400		3844	
433	29100	5786	1 *	5786	1 * 29%			4383	1
434	29101	3468		3468		3208		1939	
435	29102	2230		2230		3529		3362	
436	29103	3473		3473				3988	10
437	29104	4391		4391		1659		3791	
438	29105	5000	8	5000	8 12%	2925		1210	
439	29106	3505		3505				3342	
440	29107	5075	6	5075	6 13%	3138		2803	
441	29108	3157		3157		2655		2708	
442	29109	4912	10	4912	10 10%	3692		3659	
443	29110	2564		2564		2796		2679	
444	<b>Local Check (LC)</b>	5214	4	5214	4 16%	3438		3856	
<b>Exp. Mean</b>		<b>3851.45</b>		<b>3851.45</b>		<b>3412.13</b>		<b>3274.02</b>	
<b>CD</b>		771.10		771.10		1274.64		925.12	
<b>CV%</b>		<b>9.91</b>		<b>9.91</b>		<b>18.40</b>		<b>14.01</b>	
<b>D/S</b>		20.07.2020				17-07-2020		02-08-2020	
<b>D/P</b>		19.08.2020				06-08-2020		31-08-2020	
<b>Local check Name</b>		MTU 1064				Asha		Tunga	

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**Table No. 11.8 contd.: Grain Yield (Kg/ha) of entries in IVT RSL, Kharif 2020**

Entry No	IET No	Zone VII				ZONE VII (4)		Overall mean (10)	
		KA		KA (3)					
		MGD		mean					
401	29070	2491		2591		2591		3620	
402	29071	4777	7	4221	5	4345	4	4235	2
403	29072	4438		3895		3682		3825	
404	29073	3438		3251		3790		4057	7
405	29074	3331		3216		3036		3892	
406	29075	3563		2574		2834		2919	
407	29076	3786		4042	9	4042	8	3841	
408	29077	4652	9	3496		3892		4108	4
409	29078	4206		3822		4020	9	3759	
410	29079	4366		3477		3398		2973	
411	29080	3634		3372		3657		3976	
412	29081	4518		2868		3068		3220	
413	29082	3420		3529		3529		3811	
414	29083	3295		3060		3021		3351	
415	29084	4286		3089		2917		3493	
416	<b>Swarna Sub 1 (NC)</b>	3491		3384		3680		3891	
417	29085	5598	2	4187	6	3890		3658	
418	29086	3393		3014		2933		3298	
419	29087	4581	10	3925		3678		3514	
420	<b>Zonal Check (ZC)</b>	6036	1	4997	1	4610	2	4414	1
421	29088	2304		3311		3144		3293	
422	29089	3697		4088	7	4186	6	4040	8
423	29090	2848		3472		3292		3631	
424	29091	2920		3399		3434		4003	
425	29092	4188		3736		4013	10	4101	5
426	29093	5018	6	3956		3632		4021	9
427	29094	3804		4051	8	3813		4067	6
428	29095	5349	3	4329	3	4314	5	3789	
429	29096	4705	8	4020	10	3890		3265	
430	29097	4393		3760		4081	7	3600	
431	29098	5036	5	4310	4	4471	3	3785	
432	29099	2705		3316		3800		4006	10
433	29100	4295		4339	2	4821	1 5%	3858	
434	29101	4259		3135		3219		3135	
435	29102	3857		3583		3245		3863	
436	29103	3982		3985		3814		3689	
437	29104	5045	4	3498		3722		3952	
438	29105	2831		2322		2992		3036	
439	29106	3911		3627		3586		3632	
440	29107	3295		3079		3578		3543	
441	29108	4554		3306		3269		3557	
442	29109	3706		3686		3992		3767	
443	29110	2759		2745		2700		3304	
444	<b>Local Check (LC)</b>	3491		3595		4000		4116	3
<b>Exp. Mean</b>		<b>3959.99</b>		<b>3560.13</b>		<b>3627.32</b>		<b>3702.16</b>	
<b>CD</b>		1417.29		681.93		595.31		325.15	
<b>CV%</b>		<b>17.75</b>		<b>9.50</b>		<b>8.14</b>		<b>4.36</b>	
<b>D/S</b>		22.07.2020							
<b>D/P</b>									
<b>Local check Name</b>		MGD 03							



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**Table No. 11.9: Days to 50% flowering of entries in IVT RSL, Kharif 2020**

Entry No	IET No	ZONE III										
		OD		OD(2)	BI		BI (2)	WB	WB (1)	UP	UP (1)	ZONE III(6)
		CTK	JYP	Mean	BKG	PSA	Mean	BNK	Mean	MSD	Mean	Mean
401	29070	120	111	116	102	103	103	118	118			111
402	29071	121	126	124	118	105	112	127	127	108	108	118
403	29072	107	112	110	74	106	90	119	119	122	122	107
404	29073	115	124	120	111	106	109	126	126	110	110	115
405	29074	121	116	119	95	88	92	124	124	113	113	110
406	29075	120	130	125	122	109	116	126	126	106	106	119
407	29076	120	114	117	97	101	99	117	117			110
408	29077	122	124	123	109	103	106	129	129	112	112	117
409	29078	120	130	125	118	109	114	127	127	115	115	120
410	29079	116	120	118	117	111	114	129	129			119
411	29080	96	123	110	104	112	108	127	127	102	102	111
412	29081	122	133	128	127	110	119	127	127	106	106	121
413	29082	120	120	120	100	113	107	121	121			115
414	29083	120	119	120	111	114	113	127	127	118	118	118
415	29084	98	119	109	104	113	109	126	126	113	113	112
416	<b>Swarna Sub 1 (NC)</b>	119	123	121	118	105	112	129	129	102	102	116
417	29085	118	129	124	119	110	115	126	126	114	114	119
418	29086	106	121	114		93	93	117	117			109
419	29087	119	112	116	120	116	118	129	129	109	109	118
420	<b>Zonal Check (ZC)</b>	118	114	116	104	119	112	116	116	105	105	113
421	29088		123	123		115	115					119
422	29089	113	115	114	101	94	98	119	119	105	105	108
423	29090	107	111	109	91	81	86	121	121	115	115	104
424	29091	122	127	125	116	94	105	111	111			114
425	29092	117	115	116	115	94	105	122	122			113
426	29093	107	124	116	122	91	107	123	123			113
427	29094	107	116	112	122	90	106	123	123			112
428	29095	117	113	115	130	103	117	125	125			118
429	29096	114	133	124	130	100	115	131	131	108	108	119
430	29097	124	127	126	129	102	116	129	129	116	116	121
431	29098	120	131	126	126	99	113	121	121	128	128	121
432	29099	123	115	119	101	94	98	123	123			111
433	29100	106	123	115	104	91	98	115	115			108
434	29101	119	126	123	128	98	113	128	128	112	112	119
435	29102	115	113	114	101	94	98	125	125			110
436	29103	106	117	112	100	94	97	147	147	111	111	113
437	29104	83	115	99	88	97	93	122	122	108	108	102
438	29105	120	123	122	133	102	118	148	148	115	115	124
439	29106		122	122		106	106					114
440	29107	117	122	120	126	98	112	124	124	112	112	117
441	29108	121	126	124	131	90	111	121	121	110	110	117
442	29109	122	126	124	116	91	104	123	123	108	108	114
443	29110	110	127	119	90	87	89	118	118	111	111	107
444	<b>Local Check (LC)</b>	121	123	122	102	105	104	121	121	110	110	114
<b>Exp. Mean</b>		<b>114.74</b>	<b>120.95</b>	<b>118.02</b>	<b>111.23</b>	<b>101.07</b>	<b>105.92</b>	<b>124.45</b>	<b>124.45</b>	<b>110.83</b>	<b>110.83</b>	<b>113.97</b>

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**Table No. 11.9 contd.: Days to 50% Flowering of entries in IVT RSL, Kharif 2020**

Entry No	IET No	ZONE VII							Overall (10)
		AP	AP (1)	KA (3)				ZONE VII (4)	
		MTU	Mean	SRS	PNP	MGD	Mean	Mean	
401	29070				110	111	111	111	111
402	29071	115	115	108	115	106	110	111	115
403	29072	100	100	106	112	104	107	106	106
404	29073	108	108	111	124	111	115	114	115
405	29074	102	102	102	114	104	107	106	108
406	29075	121	121	123	129	121	124	124	121
407	29076				109	110	110	110	110
408	29077	108	108	103	112	106	107	107	113
409	29078	110	110	111	119	119	116	115	118
410	29079	121	121	120	129	118	122	122	120
411	29080	117	117	116	116	107	113	114	112
412	29081	121	121	116	128	118	121	121	121
413	29082				111	113	112	112	114
414	29083	120	120	123	128	117	123	122	120
415	29084	104	104	119	122	108	116	113	113
416	<b>Swarna Sub 1 (NC)</b>	110	110		118	110	114	113	115
417	29085	121	121	117	125	117	120	120	120
418	29086	100	100	107	104	104	105	104	107
419	29087	122	122	123	127	119	123	123	120
420	<b>Zonal Check (ZC)</b>	106	106	120	117	106	114	112	113
421	29088	110	110		109	115	112	111	114
422	29089	101	101	108	114	109	110	108	108
423	29090	101	101	103	104	104	104	103	104
424	29091	107	107	108	130	115	118	115	114
425	29092	103	103	110	111	103	108	107	110
426	29093	99	99	105	119	112	112	109	111
427	29094	99	99	105	106	103	105	103	108
428	29095	115	115	109	124	119	117	117	117
429	29096	114	114	121	122	117	120	119	119
430	29097	116	116	119	123	118	120	119	120
431	29098	108	108	114	115	107	112	111	117
432	29099	103	103	105	108	104	106	105	108
433	29100	101	101		111	112	112	108	108
434	29101	117	117	111	128	119	119	119	119
435	29102	107	107	111	106	104	107	107	108
436	29103	103	103		116	116	116	112	112
437	29104	100	100	99	106	107	104	103	103
438	29105	126	126	113	154	116	128	127	125
439	29106	108	108		119	108	114	112	113
440	29107	108	108	114	107	104	108	108	113
441	29108	104	104	108	110	112	110	109	113
442	29109	111	111	112	121	113	115	114	114
443	29110	102	102	106	105	106	106	105	106
444	<b>Local Check (LC)</b>	119	119	101	123	104	109	112	113
<b>Exp. Mean</b>		<b>109.24</b>	<b>109.24</b>	<b>111.1</b>	<b>117</b>	<b>110.58</b>	<b>112.95</b>	<b>111.98</b>	<b>113.11</b>

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**Table No. 11.10: Plant Height (cm) of entries in IVT RSL, Kharif 2020**

Entry No	IET No	ZONE III										
		OD		OD(2)	BI		BI (2)	WB	WB (1)	UP	UP (1)	ZONE III (6)
		CTK	JYP	Mean	BKG	PSA	Mean	BNK	Mean	MSD	Mean	Mean
401	29070	93	88	91	99	108	104	85	85			95
402	29071	80	94	87	101	113	107	93	93	132	132	102
403	29072	83	103	93	100	99	100	95	95	125	125	101
404	29073	95	87	91	81	104	93	85	85	136	136	98
405	29074	86	88	87	111	101	106	103	103	149	149	106
406	29075	78	72	75	95	103	99	100	100	121	121	95
407	29076	84	88	86	97	100	99	100	100			94
408	29077	75	85	80	90	101	96	85	85	109	109	91
409	29078	74	76	75	76	90	83	85	85	123	123	87
410	29079	74	89	82	92	98	95	100	100			91
411	29080	110	106	108	104	101	103	93	93	105	105	103
412	29081	74	81	78	92	120	106	85	85	111	111	94
413	29082	88	84	86	121	115	118	95	95			101
414	29083	56	92	74	96	113	105	95	95	125	125	96
415	29084	94	83	89	86	107	97	70	70	118	118	93
416	<b>Swarna Sub 1 (NC)</b>	60	87	74	72	94	83	65	65	126	126	84
417	29085	89	95	92	105	98	102	90	90	119	119	99
418	29086	96	100	98		116	116	105	105			104
419	29087	76	109	93	87	90	89	95	95	125	125	97
420	<b>Zonal Check (ZC)</b>	73	77	75	94	119	107	65	65	109	109	90
421	29088		76	76		100	100					88
422	29089	96	100	98	114	97	106	83	83	112	112	100
423	29090	80	89	85	119	93	106	95	95	119	119	99
424	29091	90	93	92	100	94	97	100	100			95
425	29092	65	92	79	89	93	91	85	85			85
426	29093	85	83	84	112	120	116	100	100			100
427	29094	95	81	88	86	110	98	102	102			95
428	29095	70	84	77	86	97	92	70	70			81
429	29096	79	83	81	82	89	86	85	85	129	129	91
430	29097	76	81	79	83	91	87	85	85	140	140	93
431	29098	62	64	63	83	90	87	80	80	126	126	84
432	29099	94	78	86	97	97	97	90	90			91
433	29100	97	98	98	115	102	109	102	102			103
434	29101	74	90	82	97	105	101	95	95	145	145	101
435	29102	84	94	89	103	102	103	100	100			97
436	29103	81	87	84	99	92	96	80	80	129	129	95
437	29104	91	79	85	98	102	100	85	85	132	132	98
438	29105	98	81	90	73	107	90	80	80	120	120	93
439	29106		90	90		105	105					98
440	29107	62	80	71	82	90	86	80	80	114	114	85
441	29108	73	80	77	87	91	89	85	85	129	129	91
442	29109	64	88	76	88	90	89	90	90	132	132	92
443	29110	87	91	89	97	85	91	90	90	132	132	97
444	<b>Local Check (LC)</b>	95	100	98	89	104	97	90	90	129	129	101
<b>Exp. Mean</b>		<b>81.81</b>	<b>87.34</b>	<b>85.96</b>	<b>94.33</b>	<b>100.82</b>	<b>96.12</b>	<b>89.07</b>	<b>89.07</b>	<b>124.85</b>	<b>124.85</b>	<b>92.65</b>

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**Table No. 11.10 contd.: Plant Height (cm) of entries in IVT RSL, Kharif 2020**

Entry No	IET No	ZONE VII							Overall (10)
		AP	AP (1)	KA(3)				ZONE VII (4)	
		MTU	Mean	SRS	PNP	MGD	Mean	Mean	
401	29070				66	82	74		89
402	29071	122	122	105	79	102	95	102	102
403	29072	119	119	94	74	88	85	94	98
404	29073	113	113	86	63	78	76	85	93
405	29074	131	131	94	65	89	83	95	102
406	29075	132	132	92	64	92	83	95	95
407	29076				70	83	77	77	89
408	29077	109	109	83	69	90	81	88	90
409	29078	106	106	80	64	92	79	86	87
410	29079	121	121	91	73	102	89	97	93
411	29080	139	139	108	81	99	96	107	105
412	29081	126	126	109	69	100	93	101	97
413	29082				77	99	88	88	97
414	29083	125	125	102	73	95	90	99	97
415	29084	94	94	90	57	71	73	78	87
416	<b>SwarnaSub 1 (NC)</b>	97	97		61	68	65	75	81
417	29085	138	138	95	88	112	98	108	103
418	29086	143	143	102	85	103	97	108	106
419	29087	120	120	107	72	94	91	98	98
420	<b>Zonal Check (ZC)</b>	123	123	92	68	78	79	90	90
421	29088	125	125		65	75	70	88	88
422	29089	123	123	94	79	97	90	98	100
423	29090	108	108	98	72	101	90	95	97
424	29091	129	129	96	76	91	88	98	97
425	29092	107	107	92	68	80	80	87	86
426	29093	116	116	82	59	83	75	85	93
427	29094	126	126	88	76	88	84	95	95
428	29095	117	117	81	57	82	73	84	83
429	29096	115	115	77	60	81	73	83	88
430	29097	105	105	84	73	86	81	87	90
431	29098	102	102	90	64	82	79	85	84
432	29099	107	107	89	64	78	77	85	88
433	29100	136	136		95	121	108	117	108
434	29101	120	120	94	72	100	89	97	99
435	29102	138	138	101	71	92	88	101	98
436	29103	124	124		85	99	92	103	97
437	29104	125	125	92	75	89	85	95	97
438	29105	126	126	88	63	100	84	94	94
439	29106	124	124		81	93	87	99	99
440	29107	103	103	83	57	77	72	80	83
441	29108	121	121	84	61	79	75	86	89
442	29109	109	109	84	65	91	80	87	90
443	29110	105	105	78	59	96	78	85	92
444	<b>Local Check (LC)</b>	110	110	91	80	92	88	93	98
<b>Exp. Mean</b>		<b>118.95</b>	<b>118.95</b>	<b>91.55</b>	<b>70.34</b>	<b>90.19</b>	<b>83.49</b>	<b>92.05</b>	<b>93.85</b>

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**Table No. 11.11: Panicle/m<sup>2</sup> of entries in IVT RSL, Kharif 2020**

Entry No	IET No	ZONE III										
		OD		OD(2)	BI		BI (2)	WB	WB (1)	UP	UP (1)	ZONE III (6)
		CTK	JYP	Mean	BKG	PSA	Mean	BNK	Mean	MSD	Mean	Mean
401	29070	208	327	268	284	228	256	280	280			265
402	29071	189	356	273	226	243	235	202	202	257	257	246
403	29072	184	273	229	252	213	233	190	190	251	251	227
404	29073	225	270	248	252	241	247	269	269	251	251	251
405	29074	221	330	276	251	272	262	269	269	204	204	258
406	29075	225	257	241	297	278	288	202	202	242	242	250
407	29076	223	270	247	205	218	212	291	291			241
408	29077	148	290	219	283	200	242	202	202	231	231	226
409	29078	194	236	215	219	283	251	246	246	233	233	235
410	29079	198	373	286	307	218	263	269	269			273
411	29080	215	277	246	223	243	233	280	280	258	258	249
412	29081	200	276	238	246	252	249	280	280	240	240	249
413	29082	162	277	220	220	341	281	347	347			269
414	29083	177	263	220	251	218	235	280	280	249	249	240
415	29084	208	240	224	294	245	270	202	202	283	283	245
416	<b>Swarna Sub 1 (NC)</b>	198	320	259	232	200	216	203	203	237	237	232
417	29085	189	300	245	246	289	268	403	403	253	253	280
418	29086	148	335	242		219	219	204	204			227
419	29087	209	287	248	262	278	270	351	351	247	247	272
420	<b>Zonal Check (ZC)</b>	167	305	236	282	253	268	319	319	234	234	260
421	29088		273	273		224	224					249
422	29089	167	312	240	183	268	226	287	287	231	231	241
423	29090	189	293	241	221	285	253	262	262	251	251	250
424	29091	153	290	222	246	244	245	134	134			213
425	29092	136	284	210	232	167	200	235	235			211
426	29093	202	263	233	274	273	274	291	291			261
427	29094	190	250	220	245	266	256	358	358			262
428	29095	195	267	231	264	239	252	370	370			267
429	29096	200	318	259	313	198	256	247	247	235	235	252
430	29097	187	218	203	223	179	201	347	347	198	198	225
431	29098	168	369	269	215	179	197	285	285	193	193	235
432	29099	185	250	218	248	251	250	280	280			243
433	29100	167	333	250	189	222	206	224	224			227
434	29101	195	300	248	293	276	285	301	301	282	282	275
435	29102	188	277	233	216	248	232	280	280			242
436	29103	171	226	199	212	181	197	314	314	249	249	226
437	29104	230	249	240	215	179	197	325	325	232	232	238
438	29105	175	306	241	225	179	202	280	280	233	233	233
439	29106		350	350		257	257					304
440	29107	185	334	260	204	279	242	210	210	282	282	249
441	29108	177	338	258	267	170	219	325	325	261	261	256
442	29109	194	319	257	297	171	234	225	225	243	243	242
443	29110	160	327	244	146	268	207	263	263	233	233	233
444	<b>Local Check (LC)</b>	181	293	237	246	223	235	242	242	237	237	237
<b>Exp. Mean</b>		<b>187.4</b>	<b>292.99</b>	<b>243.01</b>	<b>243.74</b>	<b>235.16</b>	<b>239.09</b>	<b>270.56</b>	<b>270.56</b>	<b>242.1</b>	<b>242.1</b>	<b>246.66</b>

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**Table No. 11.11 contd.: Panicle/m<sup>2</sup> of entries in IVT RSL, Kharif 2020**

Entry No	IET No	ZONE VII							Overall ( 10)
		AP	AP (1)	KA	KA(3)			ZONE VII (4)	
		MTU	Mean	SRS	PNP	MGD	Mean	Mean	
401	29070				330	240	285	285	271
402	29071	307	307	330	341	179	283	289	263
403	29072	241	241	334	396	236	322	302	257
404	29073	311	311	419	385	210	338	331	283
405	29074	271	271	343	330	238	304	296	273
406	29075	304	304	380	358	252	330	324	280
407	29076				308	217	263	263	247
408	29077	253	253	304	358	255	306	293	252
409	29078	307	307	340	374	233	316	314	267
410	29079	307	307	366	380	222	323	319	293
411	29080	317	317	347	369	218	311	313	275
412	29081	289	289	383	336	234	318	311	274
413	29082				369	206	288	288	275
414	29083	284	284	380	330	305	338	325	274
415	29084	284	284	360	325	244	310	303	269
416	<b>Swarna Sub 1 (NC)</b>	289	289		352	319	336	320	261
417	29085	278	278	393	336	248	326	314	294
418	29086	281	281	317	319	265	300	296	261
419	29087	294	294	324	325	214	288	289	279
420	<b>Zonal Check (ZC)</b>	320	320	410	473	249	377	363	301
421	29088	259	259		352	247	300	286	271
422	29089	286	286	343	297	161	267	272	254
423	29090	297	297	330	363	277	323	317	277
424	29091	274	274	350	242	187	260	263	236
425	29092	284	284	321	391	335	349	333	265
426	29093	307	307	353	341	199	298	300	278
427	29094	319	319	370	369	244	328	326	290
428	29095	282	282	347	358	250	318	309	286
429	29096	307	307	373	347	264	328	323	280
430	29097	295	295	356	297	238	297	297	254
431	29098	301	301	426	369	302	366	350	281
432	29099	286	286	366	358	224	316	309	272
433	29100	279	279		292	188	240	253	237
434	29101	289	289	360	363	303	342	329	296
435	29102	281	281	357	336	199	297	293	265
436	29103	287	287		292	160	226	246	232
437	29104	300	300	360	297	218	292	294	261
438	29105	307	307	327	314	226	289	294	257
439	29106	283	283		270	193	232	249	271
440	29107	320	320	304	352	254	303	308	272
441	29108	317	317	383	446	234	354	345	292
442	29109	302	302	363	484	249	365	350	285
443	29110	271	271	390	391	224	335	319	267
444	<b>Local Check (LC)</b>	297	297	294	352	185	277	282	255
<b>Exp. Mean</b>		<b>291.66</b>	<b>291.66</b>	<b>355.4</b>	<b>349</b>	<b>234.86</b>	<b>307.95</b>	<b>303.77</b>	<b>269.73</b>

## ADVANCE VARIETY TRIAL 1 - SEMI DEEP WATER (AVT-1-SDW)

**Locations: 08**

**Test Entries: 15**

**Checks: CR Dhan 506 (National), Purnendu (Eastern and North Eastern), MTU 1172 (Southern) - (Zonal) and Local Checks** **Table: 11.12**

The trial was constituted with 18 entries including 15 test entries and three checks viz., CR Dhan 506 (national check), Purnendu/ MTU 1172 (zonal check) and local checks (Table 1). The trial was sent to 11 locations and data were received from all locations except Gerua (ICAR), Ghaghraghat and Varanasi. All the trial locations maintained the adequate water levels of 10-75 cm during crop growth period (Table 3). The data on the adaptability parameters was received from Chinsura, Maruteru and Mashoda (Table 4). Adaptability traits were comparable among most of the genotypes across the locations. However, for the entry IET 28315, adaptability parameters were not reported from any test center from where the data was received. Experimental mean for all locations were >2.00 ton/ha. However, the coefficient of variation at Pusa and Maruteru were <5.00%. Hence data from those two locations were not considered. As Maruteru is the only testing centre for Zone-VII, this zone is excluded in calculation of mean yield across zones. From Zone-IV, data was only obtained from Titabar. Hence, no entries cannot be promoted for Zone-IV. However, the data from the centre is considered for overall mean calculations. For the entries IETs 28306, 28315 and 28317 the data is missing from Zone-IV. Hence, overall mean is equal to mean value of Zone-III. Hence the genotypes are not considered based on advantage over check for overall mean. Due to delayed planting, overaged seedling planting and other factors at some locations, the data for plant height and days to 50% flowering were highly variable and not comparable across locations across all the genotypes. Even there were huge variations at nearby locations (Cuttack and Bhubaneswar) for plant height. To avoid both the Type-1 and Type-2 statistical errors, the data from current year is not appropriate to drop any genotype based on those parameters. If the mean plant height is above national or zonal check, the genotypes were considered for promotion. However, if mean value were found lesser, rather than dropping the genotypes, those were considered for repeat testing for one more year. **Hence, the data have been interpreted primarily based on grain yield, grain quality and adaptability parameters for the present report. Plant height and days to 50% flowering were considered as supporting data.**

Experimental mean for grain yield varied from 3261.07 Kg/ha (Maruteru) to 6707.72 (Bankura). The data pertaining to grain yield and quality are presented in tables 11.13 and 11.17 respectively. Data for days to 50% flowering, plant height, and no. of panicles/m<sup>2</sup> have been presented in tables 11.14, 11.15 and 11.16. Results of the experiment are discussed below.

### Identification of superior genotypes:

**IET 28296:** The average yield of the genotype in Zone-III was 5174.00 kg/ha whereas the overall yield was 4961.00. Yield was stable across all locations of Zone-III and highest yield was recorded at Bankura (6937.00 kg/ha). At Titabar location (Zone-IV), the genotype yielded 3895.00 kg/ha. Quality parameters were within acceptable limit. However, adaptability parameters were highly unstable among the two centers (CHN and MTU) from

where the data for the genotype was obtained. At Chinsura, performance was excellent and there was no data from Masoda in case of Zone-III. The average plant height (102 cm) of the genotype at Zone-III is lower than Zonal and national checks and especially at Bankura centre, the reported plant height was too low (60 cm) significantly influencing the mean value. Considering the hyper variability of supporting data, the **genotype is to be repeated for testing**.

**IET 28299:** The average yield of the genotype in Zone-III was 5370.00 kg/ha whereas the overall yield was 4910.00 kg/ha. At Zone-III the highest yield was recorded at Bankura (6998.00 kg/ha). Adaptability parameters, quality traits (amylose content 22.80% and HRR 60%), and flowering duration (119 days) were at acceptable values. The plant height (115 cm), although lesser than 120 cm, is same as mean of national check. Hence the genotype is recommended for **promotion to AVT-II-SDW in Zone-III**.

**IET 28311:** The average yield of the genotype in Zone-III was 5341.00 kg/ha and the overall yield was 4909.00 kg/ha. At Zone-III the highest yield was recorded at Bankura. At Titabar (Zone-IV), the yield of the genotype was low (2752.00). Adaptability parameters, Quality traits (amylose content 20.40% and HRR 67%), plant height (126 cm) and flowering duration were at acceptable values. Hence the genotype may be **recommended for promotion to AVT-II-SDW in Zone-III**.

**IET 28313:** The genotype showed stable yield across locations. The average yield of the genotype in Zone-III was 5364.00 kg/ha and the overall yield was 5074.00 kg/ha. At Zone-III the highest yield was recorded at Chinsura (6296.00 kg/ha). At Titabar location (Zone-IV), the yield of the genotype was also comparatively higher (3628.00 kg/ha). Adaptability and quality parameters were within acceptable limit across the reported locations. Average plant height of the genotype was 100.61 cm which ranged from 65 cm at Bankura to 135 cm at Bhubaneswar. The average days to 50% flowering of the genotype across locations was 117 days which is higher than zonal and at par with national checks. The plant height (103 cm) was lower than the acceptable limit (120 cm) for the ecology and lower than both checks. However, due to hypervariability of data for plant height across all locations, the entry needs to **be tested for one more season**.

**IET 28315:** The average yield of the genotype in Zone-III was 5198.00 kg/ha and data were not received from other zones. Quality traits were within acceptable limits. As adaptability parameters were not received from any location for the genotype, it needs to be **repeated for one more season for testing**.

**IET 28291:** The genotype showed stable yield across locations. The average yield of the genotype in Zone-III was 5187.00 kg/ha and the overall yield was 4825.00 kg/ha. Adaptability parameters, quality traits (amylose content 22.35% and HRR 57%), plant height (139 cm) and flowering duration (115 days) were at acceptable values. Hence the genotype may be recommended for **promotion to AVT-II-SDW in Zone-III**.

Based on overall mean yield from Zone-III and Zone-IV (Titabar location), two entries showed superior performance (>5%) over the best check, namely IET 28313 (8%) and IET 28296 (6%). Both the genotypes also showed >5% yield superiority in Zone-III. In case of IET 28296, the adaptability parameters were highly divergent at different locations. For IET 28313, all the adaptability parameters like seedling survival, submergence tolerance, elongation ability, kneeling ability, grain shattering and phenotypic acceptability were within



acceptable limit across the reported locations. The grain quality was also within acceptable limit. However, the plant height was lower than all checks. Hence, they are not promoted. However, looking at hypervariability of data for the trait, rather than rejecting the genotypes, those two genotypes were considered for repeat testing for one more year.

In case of Zone-III only, based on mean yield data across all the reporting centers except Pusa, Bihar, the genotypes IET 28299 and IET 28311 showed 9% yield superiority. IET 28315 and IET 28291 showed 6% and 5% yield superiority, respectively. The adaptability parameters of IET 28299, IET 28311 and IET 28291 were also acceptable across all the reported locations. All other parameters are also acceptable for the three genotypes. For IET 28315, adaptability parameters were not obtained from any locations.

**Overall, the three genotypes IET 28311, IET 28291 and IET 28299 and were found promising for grain yield, grain quality, adaptability traits and other supporting parameters and hence may be considered for promotion in AVT-2-SDW for Zone-III.**

**Summary table of superior genotypes identified in AVT-1-SDW during *Kharif* 2020 in Zone-III based on data from five locations.**

Zone-III (5)				
Sl. No.	IET No./ Designation; Cross Combination	GY (Kg/ha)/ DFF (cm)/ PH (cm)	% over best check	Remarks
1	IET28296/CN 1758-2-TTB 7; CN 1216 / CN 1131-4-1-4	5174.00 113 102	5%	Repeated as adaptability data is hypervariable. Sufficient data not available to reject or accept. Not promoted due to plant height.
2	IET28299/ CR 4039-2-1-2-1-1; Varshadhan / Warda1	5370.00 119 115	9%	Promoted
3	IET28311/ CR 3145-4-1-3-2-1-2; IR 49830-7 / Gayatri / FL 496	5341.00 116 126	9%	Promoted
4	IET28313/ MTU 1325 (MTU 2243-9-1-1-1-1); MTU 1061 / MTU 1121	5364.00 117 103	9%	Repeated. Not promoted due to plant height.
5	IET28315/ CR 3933-39-2-1-2-1-1; Pratikshya / Swarna Sub1	5198.00 106 103	6%	Repeated as adaptability data not received from anywhere.
6	IET28291/ CR 4021-5-34-1-3; IR 42 / IC 258990	5187.00 115 139	5%	Promoted
7	National Check (CR Dhan 506)	4921.00 118 115		
8	Zonal Check (Purnendu)	4612.00 108 128		
9	Local Checks	4703.00 111 112		

**Details of water regime at different centers in AVT-1-SDW, Kharif 2020**

Location	Week	June	July	August	September	October	November	December
<b>Bankura</b>	1 <sup>st</sup>	0	0	19	38	50	26	5
	2 <sup>nd</sup>	0	0	22	40	45	26	5
	3 <sup>rd</sup>	0	12	25	50	45	26	0
	4 <sup>th</sup>	0	12	28	50	60	26	0
<b>Maruteru</b>	1 <sup>st</sup>	0	0	0	42	45	42	42
	2 <sup>nd</sup>	0	0	0	44	42	43	40
	3 <sup>rd</sup>	0	0	39	41	45	41	42
	4 <sup>th</sup>	0	0	42	46	41	40	39
<b>Chinsurah</b>	1 <sup>st</sup>	15	15	50	60	30	15	0
	2 <sup>nd</sup>	15	20	50	70	30	15	0
	3 <sup>rd</sup>	15	25	60	70	30	10	0
	4 <sup>th</sup>	15	30	60	50	30	0	0
<b>Bhubaneswar</b>	1 <sup>st</sup>	0	0	5-10	41-50	15-20	0	0
	2 <sup>nd</sup>	0	0	5-10	50	15-20	0	0
	3 <sup>rd</sup>	0	0	20-37	20-30	15-20	0	0
	4 <sup>th</sup>	0	0	38-41	20-25	15-20	0	0
<b>Cuttack</b>	1 <sup>st</sup>	0	0	0	15	55	40	10
	2 <sup>nd</sup>	0	0	0	25	53	30	5
	3 <sup>rd</sup>	0	0	0	40	50	25	0
	4 <sup>th</sup>	0	0	0	55	45	20	0
<b>Masodha</b>	1 <sup>st</sup>	0	0	0	72.6	40	15.2	0
	2 <sup>nd</sup>	0	0	0	70.8	32.6	10.0	0
	3 <sup>rd</sup>	0	0	20.6	65.6	28.2	5.0	0
	4 <sup>th</sup>	0	0	70.8	60.2	20.6	0	0
<b>Pusa</b>	1 <sup>st</sup>	0	0	8	30	45	0	0
	2 <sup>nd</sup>	0	0	15	35	45	0	0
	3 <sup>rd</sup>	0	0	20	45	30	0	0
	4 <sup>th</sup>	0	0	25	45	10	0	0
<b>Titabar</b>	12-45 cm							

**Adaptability parameters of entries in AVT-1-SDW, Kharif 2020**

Entry No.	IETNO.	Seedling Survival score			Survival under Submergence (%)			Elongation Ability		
		CHN	MTU	MSD	CHN	MTU	MSD	CHN	MTU	MSD
501	28293	5	5	5	80	80.2	-	3	3	5
502	28311	5	3	-	80	97.1	-	3	3	-
503	28302	NG	-	-	NG	-	-	NG	-	-
504	28317	3	3	5	85	96.2	-	1	3	3
505	Purnendu (ZC, E and NE)	5	-	-	80	-	-	1	-	-
	MTU1172 (ZC, S)	NA	3	-		95.7	-		5	-
506	28294	5	7	-	75	60.1	-	3	7	-
507	28296	3	7	-	85	57.6	-	3	7	-
508	28299	5	5	-	85	93.4	-	3	5	-
509	28313	3	3	5	88	96.6	-	3	5	3
510	28304	5	5	-	---	78.7	-	3	1	
511	28305	NG	-	5	NG	-	-	NG	-	1
512	CR Dhan 506 (NC)	3	5	-	85	85.6	-	3	3	-
513	28306	5	3	-	80	95.1	-	3	3	-
514	27578	5	9	-	82	45.3	-	1	7	-
515	28291	5	-	3	85	-	-	1	-	1
516	26671	3	7	-	90	71.6	-	1	7	-
517	28315	NG	-	5	NG	-	-	NG	-	3
518	Local Check	3	3	-	80	95.9	-	3	5	-

**(Contd.) Adaptability parameters of entries in AVT-1-SDW, Kharif 2020**

Entry No.	IETNO.	Kneeing ability			Grain Shattering			Phenotypic acceptability		
		CHN	MTU	MSD	CHN	MTU	MSD	CHN	MTU	MSD
501	28293	3	5	-	3	3	1	3	7	5
502	28311	3	3	-	3	3		3	5	-
503	28302	NG	-	-	NG	-		NG	-	-
504	28317	1	3	-	3	3	3	1	5	3
505	Purnendu (ZC, E and NE)	5	-	-	3	-		3	-	-
	MTU1172 (ZC, S)	-	3	-	-	3		-	3	-
506	28294	3	5	-	3	7		3	7	-
507	28296	3	5	-	1	7		3	7	-
508	28299	3	3	-	3	5		1	5	-
509	28313	3	3	-	1	3	3	1	3	3
510	28304	3	5	-	3	7		3	7	
511	28305	NG	-	-	NG	-	1	NG	-	3
512	CR Dhan 506 (NC)	5	5	-	3	5		3	5	-
513	28306	3	3	-	3	3		3	5	-
514	27578	1	5	-	1	7		1	7	-
515	28291	1	-	-	1	-	1	1	-	-
516	26671	1	5	-	1	5		1	5	1
517	28315	NG	-	-	NG	-	1	NG	-	3
518	Local Check	3	3	-	1	3		1	3	-

## INITIAL VARIETY TRIAL – SEMIDEEPWATER (IVT-SDW)

Locations: 11

Test Entries: 27

**Checks:** CR Dhan 506 (National), Purnendu (Eastern and North Eastern), MTU 1172 (Southern) - (Zonal) and Local Checks **Table: 11.18**

The IVT-SDW trial comprised of thirty entries including three checks, CR Dhan506 (National check), Purnendu (Eastern and North Eastern-ZC), MTU 1172 (Southern-ZC) and Local check. The trial was sent to 11 locations viz., Bankura, Bhubaneswar, Cuttack, Chinsurah, Ghaghraghat, Maruteru, Masodha, Pusa, Titabar, Varanasi and Gerua. Data received from 08 locations except Ghaghraghat, Varanasi and Gerua-ICAR. All locations maintained required average water level (41-50cm), however, due to low CV of grain yield at Pusa (3.94) and Chinsurah (3.61), data of these locations were not considered for analysis. The data on seedling survival, submergence tolerance, kneeing ability, grain shattering, and phenotypic acceptability were received from two locations, Maruteru and Chinsurah. The data on yield, days to 50% flowering, plant height and no. of panicles/m<sup>2</sup> are presented in Tables 11.19, 11.20, 11.21 and 11.22. Results of the experiment are discussed below.

### Details of water regime (cm) at different centres in IVT-SDW Kharif 2020

Location	Week	June	July	August	September	October	November	December
Bankura	1 <sup>st</sup>	0	0	19	38	50	26	5
	2 <sup>nd</sup>	0	0	22	40	45	26	5
	3 <sup>rd</sup>	0	12	25	50	45	26	0
	4 <sup>th</sup>	0	12	28	50	60	26	0
Maruteru	1 <sup>st</sup>	0	0	0	38	45	42	42
	2 <sup>nd</sup>	0	0	0	42	44	45	40
	3 <sup>rd</sup>	0	0	39	41	43	41	39
	4 <sup>th</sup>	0	0	40	45	41	40	41
Chinsurah	1 <sup>st</sup>	15	15	50	60	30	15	0
	2 <sup>nd</sup>	15	20	50	70	30	15	0
	3 <sup>rd</sup>	15	25	60	70	30	10	0
	4 <sup>th</sup>	15	30	60	50	30	0	0
Bhubaneswar	1 <sup>st</sup>	0	0	5-10	41-50	0	0	0
	2 <sup>nd</sup>	0	0	5-10	50	0	0	0
	3 <sup>rd</sup>	0	0	20-37	20-30	0	0	0
	4 <sup>th</sup>	0	0	38-41	20-25	0	0	0
Cuttack	1 <sup>st</sup>	0	0	5	20	65	30	10
	2 <sup>nd</sup>	0	0	10	30	50	25	5
	3 <sup>rd</sup>	0	5	20	45	35	20	0
	4 <sup>th</sup>	0	5	20	55	35	15	0
Masodha	1 <sup>st</sup>	0	0	0	72.6	40	15.2	0
	2 <sup>nd</sup>	0	0	0	70.8	32.6	10.0	0
	3 <sup>rd</sup>	0	0	20.6	65.6	28.2	5.0	0
	4 <sup>th</sup>	0	0	70.8	60.2	20.6	0	0
Pusa	1 <sup>st</sup>	0	0	8	30	45	0	0
	2 <sup>nd</sup>	0	0	15	35	45	0	0
	3 <sup>rd</sup>	0	0	20	45	30	0	0
	4 <sup>th</sup>	0	0	25	45	10	0	0
Titabar	12-45 cm							

In overall basis, the experimental mean grain yield ranged from 3077 kg/ha (IET 29126) to 4999 kg/ha (IET 29116), while days to 50% flowering ranged from 92 days (IET 29130) to 119 days (IET 29125 and IET 28302), plant height from 103.0 cm (IET 29111) to 155.0 cm (IET 29115). Among the checks, Local check recorded highest grain yield of 4004.0 kg/ha with 113 days to 50% flowering and 120cm plant height. Among the test entries, six entries, namely, IETs 29116, 29115, 29132, 29134, 29128 and 29111 recorded more than 5% yield superiority over the best check whereas IET 29115 and 29132 recorded plant height more than 120cm and moderate kneeing and elongation ability.

In Zone III, data from Cuttack, Bhubaneswar, Bankura and Masodha were considered for analysis. Mean grain yield ranged from 3176 kg/ha (IET 29123) to 5194 kg/ha (IET 29119), while days to 50% flowering ranged from 94 days (IET 29130) to 123 days (IET 29125) and plant height from 94.0 cm (IET 29127) to 133.0cm (IET 29132). Among the checks, Local check was recorded highest grain yield of 4019 kg/ha with 117 days to 50% flowering and 123.0 cm plant height. Among the test entries, thirteen entries IETs 29119, 29115, 29116, 29137, 29118, 29132, 29114, 29129, 29111, 29121, 29134, 29135 and 29122 were recorded more than 5% yield superiority over best check. Among them 5 entries, IET 29114, 29121, 29122, 29132 and 29135 were recorded desirable plant height (>120cm) and moderate kneeing and elongation ability.

In Zone IV, data from Titabar were received and considered for analysis. Mean grain yield ranged from 989 kg/ha (IET 29119) to 3060 kg/ha (CR Dhan 506), while days to 50% flowering ranged from 82 days (IET 29130, 29126, 29112) to 113 days (IET 29119) and plant height from 87.0 cm (IET 29119) to 131.0 cm (Zonal Check). Among the checks, National Check was recorded highest grain yield of 3060 kg/ha with 101 days to 50% flowering and 107.0 cm plant height. Among the test entries, no one could record minimum yield superiority over best check.

In Zone VII, data from Maruteru were considered for analysis. Mean grain yield ranged from 2190 kg/ha (IET 29131 and IET 29129) to 5844 kg/ha (IET 29117), while days to 50% flowering ranged from 96 days (IET 29126, 29130 and 29133) to 118 days (Zonal Check) and plant height from 110.0cm (IET 29124) to 168.0cm (IET 29120). Among the checks, Zonal check was recorded highest grain yield of 5730.0 kg/ha with 118 days to 50% flowering and 114.0 cm plant height. Among the test entries, no one could record minimum yield superiority over the best check.

OR 2754 (IET 29116) is inbred derivative of SBIR 6745-N-2-1-1-1/IR 80409-B-37-4 recorded 1<sup>st</sup> rank (4999 kg/ha) with 25% yield advantage over BC with medium bold grain, 117 days to 50% flowering, 118cm plant height, moderate kneeing (3-5) and elongation ability (5). State-wise performance revealed that this entry recorded 1<sup>st</sup> rank in West Bengal (8006 kg/ha) with 10% yield superiority and 4<sup>th</sup> rank in Odisha (4763 kg/ha) with 31% yield advantage over BC. But its mean plant height in overall and zonal basis were lower than desirable limit (<120 cm).

CR 3936-11-1-1-1-1-1 (IET 29115) is inbred derivative of IR-72967-12-2-3/ MTU 1001 ranked 2<sup>nd</sup> (4902 kg/ha) with 22% yield advantage over BC with long bold grains and 155 cm plant height. Based on its superior performance over BC, the entry qualifies to be promoted to AVT-1-SDW on overall basis.

CR 2538-42-17-32-13(IET 29132) is derivative of Varshadhan\*3/IR 49830-7 was recorded 3<sup>rd</sup> rank (4390kg/ha) with 10% yield advantage over BC with long slender grains, 113 days to 50% flowering, 135 cm plant height, moderate kneeing (1-5) and elongation ability (3). State-wise performance revealed that this entry recorded 4<sup>th</sup> rank in Uttar Pradesh (2500 kg/ha) with 8% yield superiority. Based on its superior performance over BC, the entry qualifies to be promoted to next year of testing (AVT-1-SDW) in Zone III and overall basis.

### Adaptability parameters of entries in IVT-SDW Kharif2020

Entry No.	IETNO.	Seedling Survival		Phenotypic		Kneeing	
		MTU	CHN	MTU	CHN	MTU	CHN
601	29111	60.1	-	7	-	5	-
602	29112	42.1	-	9	-	5	-
603	29113	55.7	-	9	-	5	-
604	29114	57.9	-	7	-	5	-
605	CR Dhan 506(NC)	80.1	75	5	3	5	3
606	29115	-	-	-	-	-	-
607	29116	86.4	75	5	5	5	3
608	29117	95.3	85	3	1	3	1
609	29118	60.2	90	7	1	5	1
610	29119	-	-	-	-	-	-
611	29120	59.5	85	7	5	5	3
612	29121	55.9	75	7	1	5	1
613	29122	81.6	75	5	3	5	3
614	29123	84.7	75	5	1	5	1
615	Zonal Check (ZC)	90.2	70	3	5	5	3
616	29124	-	75	-	3	-	3
617	29125	-	75	-	3	-	3
618	29126	51.9	75	7	3	5	3
619	29127	-	85	-	1	-	1
620	29128	86.2	80	5	3	5	3
621	29129	51.6	78	7	3	5	3
622	29130	50.8	78	7	3	5	3
623	29131	50.4	75	7	3	5	3
624	29132	85.1	90	5	3	5	1
625	29133	73.9	85	7	1	5	1
626	29134	63.6	85	7	3	5	3
627	29135	60.1	75	7	3	5	3
628	29136	70.3	85	7	1	5	1
629	29137	74.6	75	7	3	5	3
630	Local Check (LC)	97.5	80	3	1	3	1

**(Contd.) Adaptability parameters of entries in IVT-SDW Kharif2020**

Entry No.	IETNO.	Elongation		Submergence		Grain Shattering	
		MTU	CHN	MTU	CHN	MTU	CHN
601	29111	7	-	7	-	5	-
602	29112	3	-	9	-	7	-
603	29113	5	-	7	-	7	-
604	29114	3	-	7	-	5	-
605	CR Dhan 506	3	3	5	5	5	3
606	29115	-	-	-	-	-	-
607	29116	5	5	5	5	5	3
608	29117	3	3	3	5	3	1
609	29118	3	3	7	3	5	3
610	29119	-	-	-	-	-	-
611	29120	1	1	7	5	7	3
612	29121	3	3	7	3	7	3
613	29122	3	3	5	3	5	3
614	29123	5	5	5	3	5	1
615	Zonal Check (ZC)	7	3	5	5	3	3
616	29124	-	3	-	5	-	3
617	29125	-	3	-	5	-	3
618	29126	3	3	7	5	7	3
619	29127	-	5	-	3	-	1
620	29128	5	3	5	5	5	3
621	29129	3	3	7	5	7	3
622	29130	5	3	7	5	7	3
623	29131	3	3	7	5	7	3
624	29132	3	3	5	3	5	1
625	29133	5	3	7	3	7	1
626	29134	5	3	7	3	7	3
627	29135	1	3	7	5	7	3
628	29136	5	1	7	3	7	1
629	29137	5	3	7	5	7	3
630	Local Check (LC)	7	3	3	3	3	1

**Performance of promising entries in IVT-SDW Kharif2020**

Sl. No.	IET No./ Designation/ Cross combination	GT	Zone III (4)		Zone IV (1)		Zone VII (1)		Overall (6)	
			GY(Kg/ha)/ FD/PH (cm)	% BC	GY(Kg/ha)/ FD/PH (cm)	% BC	GY(Kg/ha)/ FD/PH (cm)	% BC	GY(Kg/ha)/ FD/PH (cm)	% BC
1	<b>IET 29111</b>	MB	4492 112 103	12	-	-	-	-	4225 109 103	6
2	<b>IET 29114</b>	LB	4711 120 122	17	-	-	-	-	-	-
3	<b>IET 29115</b>	LB	4902 - -	22	-	-	-	-	4902 - 155	22
4	<b>IET 29116</b>	MB	4895 117 114	22	-	-	-	-	4999 117 118	25
5	<b>IET 29118</b>	MB	4732 118 113	18	-	-	-	-	-	-
6	<b>IET 29119</b>	LS	5194 113 114	29	-	-	-	-	-	-
7	<b>IET 29121</b>	MS	4415 101 120	10	-	-	-	-	-	-
8	<b>IET 29122</b>	MB	4226 120 123	5	-	-	-	-	-	-
9	<b>IET 29128</b>	MS	-	-	-	-	-	-	4304 116 119	7
10	<b>IET 29129</b>	SB	4688 114 112	17	-	-	-	-	-	-
11	<b>IET 29132</b>	LB	4712 115 133	17	-	-	-	-	4390 113 135	10
12	<b>IET 29134</b>	MS	4344 112 111	8	-	-	-	-	4373 113 117	9
13	<b>IET 29135</b>	SB	4284 115 131	7	-	-	-	-	-	-
14	<b>IET 29137</b>	SB	4868 121 108	21	-	-	-	-	-	-
	<b>CR Dhan 506 (NC)</b>		3502 118 110						3633 115 117	
	<b>Zonal Check</b>		3674 107 130						3776 105 128	
	<b>Local check</b>		4019 117 123						4004 113 120	



*In IVT-SDW, out of 27 test entries evaluated, 6 test entries namely IET 29114, 29115, 29121, 29122, 29132, and 29135 have achieved required yield advantage over the best check and desirable plant type, hence they are promoted to second year of testing.*

- Based on overall basis of the trial, 2 entries namely, IET29115 and 29132 are promoted to second year of testing.
- Based on zonal mean of the trial, 5 entries IET 29114, 29121, 29122, 29132 and 29135 are promoted to the 2<sup>nd</sup> year of testing in zone III. No entry could record minimum yield superiority over best check in Zone –IV and VII.
- *Test entries namely, IET 29111, 29116, 29118, 29119, 29128, 29129, 29134 and 29137 have yield advantage over the best check but have undesirable plant height (<120 cm). Due to late planting owing to COVID 19 pandemic in many locations huge variability in plant height was observed. Therefore, these entries with yield superiority but undesirable plant type can be repeated in IVT.*

**Table No.11.12: Composition of entries in Advance Variety Trial 1-Semi Deep Water (AVT 1-SDW), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	Grain Type
<b>2<sup>nd</sup> Year of testing:</b>				
501	28293	CR 2682-7-1-2-1-2	CRLC 899 / AC.38606	SB
502	28311	CR 3145-4-1-3-2-1-2	IR 49830-7 / Gayatri / FL 496	MB
503	28302	CR 4039-2-1-1-2-1	Varshadhan / Ac.38687	MS
504	28317	CR 3145-4-1-2-3-3-2	IR 49830-7 / Gayatri / FL 496	MB
505	<b>Zonal Check</b> [Purnendu (Eastern and North Eastern), MTU 1172 (Southern)]			
506	28294	OR 2518-7	Bhubana / IR 64	LS
507	28296	CN 1758-2-TTB 7	CN 1216 / CN 1131-4-1-4	LB
508	28299	CR 4039-2-1-2-1-1	Varshadhan / Warda1	SB
509	28313	MTU 1325 (MTU 2243-9-1-1-1-1)	MTU 1061 / MTU 1121	MS
510	28304	CR 4039-1-2-3-1-2-1	Varshadhan / Warda1	SB
511	28305	CR 2582-3-35-2-1-1-2	Varshadhan / IR 82809-237 (Swarna-Sub1)	MB
512	<b>CR Dhan 506 (NC)</b>			
513	28306	OR 2412-5	Indravati / IR 65629-22-1	MB
514	27578	CR 3909-192-5-1-3-1	CN1233-33-9/IR85260-148//IR 72176-307-4-2-2-3	SB
515	28291	CR 4021-5-34-1-3	IR 42 / IC 258990	MS
516	26671	CR 3903-161-2-1-2	Santepheap/IR82810-407//IR 71700-247-1-1-2	MS
517	28315	CR 3933-39-2-1-2-1	Pratikshya / Swarna Sub1	SB
518	<b>Local Check</b> [Upahar (BBN), CR Dhan 508 (CTK), Rajshree (PSA), Rajdeep (CHN), Sampriti (BNK), JalPriya (MSD), Dhansiri (TTB) and MTU 1140 (MTU)]			

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**Table No. 11.13: Grain yield (Kg/ha) of entries in AVT 1-SDW Kharif 2020**

Entry No	IET NO	BBN		CTK		OD (2)		PSA@	CHN	BNK		WB (2)		MSD	UP (1)		ZONE- III (5)			
501	28293	4025	8	4863		4444	10	3153	4630		6495		5563	7	4317	7	4866			
502	28311	5216	1	5569	2	5393	1 *	3886	5185		7301	3	6243	9	3433		5341	<b>3 (9%)</b>		
503	28302	2608		4191		3400		4642			6744	10	6744	2 (8%)	3700		3700	4311		
504	28317	3798	9.5	5709	1	4754	7 (9%)	3391	5648	8	6021		5835		4320	6	4320	6	5099	7
505	ZC-Purnendu	2919		5130	10	4025		3933	4056		6871	8	5464		4083	9	4083	9	4612	
506	28294	3571		5352	5	4462	9	3002	3926		5949		4938		4433	5	4433	5	4646	
507	28296	4252	7	5398	4	4825	5 (11%)	4601	5833	3	6937	7	6385	7	3450		3450		5174	<b>6 (5%)</b>
508	28299	5045	2.5	5277	6	5161	2 (18%)	2920	5778	4	6998	6	6388	6	3750	10	3750	10	5370	<b>1 (9%)</b>
509	28313	4762	4	5495	3	5129	3 (18%)	3804	6296	1	5982		6139		4283	8	4283	8	5364	<b>2 (9%)</b>
510	28304	5045	2.5	4469		4757	6 (9%)	3729	5515	10	5833		5674		4500	2	4500	2	5072	8
511	28305			4235		4235		4369			7141	5	7141	1 * (15%)	3033		3033		4803	
512	NC_CR Dhan 506	4450	5	4265		4358		3863	5759	5	6700		6230	10	3433		3433		4921	10
513	28306	4422	6	5246	8	4834	4 (11%)	4602	4489		7334	2	5912		3383		3383		4975	9
514	27578	2523		5251	7	3887		3578	5741	6	7362	1	6552	4 (5%)	3133		3133		4802	
515	28291	3798	9.5	4642		4220		3101	5737	7	7158	4	6448	5	4600	1	4600	1	5187	<b>5 (5%)</b>
516	26671	2863		5180	9	4022		5154	6204	2	6451		6328	8	3567		3567		4853	
517	28315			4498		4498	8	4700			6645		6645	3 (7%)	4450	4	4450	4	5198	<b>4 (6%)</b>
518	LC	3119		3569		3344		4177	5519	9	6816	9	6168		4490	3	4490	3	4703	
Local check name		Upahar		CR Dhan 508				Rajshree	Rajdeep		Sampriti				Jal Priya					
	Exp. Mean	<b>3901</b>		<b>4907.7</b>		<b>4430.19</b>		<b>3922.46</b>	<b>5354.38</b>		<b>6707.72</b>		<b>6155.14</b>		<b>3908.89</b>		<b>3908.89</b>		<b>4960.9</b>	
	CD	1328.2		1116.06		910.35		286.72	599.55		1404.98		813.62		347.3		347.3		471.56	
	CV%	<b>20.42</b>		<b>13.7</b>		<b>12.38</b>		<b>4.41</b>	<b>6.69</b>		<b>12.62</b>		<b>7.97</b>		<b>5.35</b>		<b>5.35</b>		<b>5.73</b>	
	D/S	07.07.2020		23.07.2020				15.07.20	13.07.2020		16.07.2020				22.07.2020					
	D/P	31.07.2020		04.09.2020				09.08.20	25.08.2020		16.09.2020				27.08.2020					
@ Trials for which data were rejected; *Significantly different at 5% level of confidence																				

**Table No. 11.13 contd.: Grain yield (Kg/ha) of entries in AVT 1-SDW Kharif 2020**

Entry No	IET NO	TTB		AS (1)		ZONE-IV (1)		MTU @ (Zone-VII)	Overall mean (6)	
501	28293							2472	4866	8
502	28311	2752	10	2752	10	2752	10	4060	4909	7
503	28302								4311	
504	28317 <sup>#</sup>							3668	5099	2(9%)
505	ZC- Purnendu	4170	1	4170	1	4170	1	3857	4538	
506	28294							2967	4646	
507	28296	3895	3	3895	3	3895	3	2949	4961	5(6%)
508	28299	2613		2613		2613		4003	4910	6
509	28313	3628	6	3628	6	3628	6	4013	5074	3(8%)
510	28304	3132	8	3132	8	3132	8	2991	4749	
511	28305								4803	10
512	NC_CR Dhan 506	3548	7	3548	7	3548	7	2742	4693	
513	28306 <sup>#</sup>							3732	4975	4 (6%)
514	27578	3685	5	3685	5	3685	5	2382	4616	
515	28291	3015	9	3015	9	3015	9		4825	9
516	26671	3935	2	3935	2	3935	2	2454	4700	
517	28315 <sup>#</sup>								5198	1 *(11%)
518	LocalCheck	3747	4	3747	4	3747	4	3365	4543	
		Dhansiri						MTU 1140		
	Exp. Mean	3465.45		3465.45		3465.45		3261.07	4800.92	
	CD	542.79		542.79		542.79		210.25	415.66	
	CV%	9.2		9.2		9.2		3.84	5.22	
	D/S	07.08.2020						20.07.2020		
	D/P	01.09.2020						19.08.2020		
@ Trials for which data were rejected, *Significantly different at 5% level of confidence, # Data missing from Zone-IV. Hence, overall mean is equal to mean value of Zone-III. Hence not considered based on advantage over check for overall mean.										

**Table No. 11.14: Days to 50% flowering for entries in AVT 1-SDW Kharif 2020**

Entry No.	IET NO	BBN	CTK	PSA@	CHN	BNK	MSD	Zone-III	TTB	MTU	Overall
501	28293	131	127	121	121	95	111	117		113	115
502	28311	131	125	111	121	85	120	116	113	114	114
503	28302	142	127	109		94	110	118			118
504	28317	132	128	106	129	87	100	115		119	117
505	ZC- Purnendu	112	124	107	106	95	103	108	91	121	107
506	28294	120	131	108	111	101	109	114		117	116
507	28296	109	130	101	115	103	107	113	110	105	109
508	28299	131	126	118	127	97	113	119	115	114	116
509	28313	111	130	108	124	105	115	117	107	113	112
510	28304	130	128	121	97	98	120	115	115	115	115
511	28305		129	112		86	109	108			108
512	NC- CR Dhan 506	130	127	120	121	100	110	118	102	113	111
513	28306	121	130	121	131	97	106	117		120	119
514	27578	92	130	92	103	90	107	104	99	102	102
515	28291	129	127	122	131	89	97	115	119		117
516	26671	103	130	97	99	93	101	105	104	99	103
517	28315		127	121		91	101	106			106
518	Local Checks	119	130	101	103	96	109	111	109	114	111
	Exp. Mean	121.46	128.24	110.93	116.04	94.56	108.26		107.64	112.74	
	CD	0.24	1.8	1.71	4.2	0	2.34		8.97	1.85	
	CV%	0.12	0.85	0.93	2.16	0	1.3		4.89	0.98	

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**Table No. 11.15: Plant height (cm) of entries in AVT 1-SDW Kharif 2020**

Entry No.	IET NO	BBN	CTK	PSA@	CHN	BNK	MSD	Zone-III	TTB	MTU	Overall
501	28293	155	112	123	111	105	123	121		174	148
502	28311	160	110	101	126	105	129	126	113	152	130
503	28302	160	97	110		95	132	121			121
504	28317	150	116	124	142	102	125	127		157	142
505	ZC-Purnendu	170	107	123	138	100	126	128	127	113	123
506	28294	135	106	100	116	80	111	110		131	120
507	28296	117	100	105	108	60	125	102	103	137	114
508	28299	140	105	125	125	95	109	115	105	138	119
509	28313	135	102	98	106	65	105	103	86	114	101
510	28304	180	110	89	127	105	115	127	123	186	145
511	28305		103	97		120	120	114			114
512	NC- CR Dhan 506	140	97	128	134	85	121	115	114	155	128
513	28306	135	105	125	104	85	120	110		146	128
514	27578	128	110	98	133	85	122	116	103	124	114
515	28291	170	109	115	156	125	135	139	111		125
516	26671	134	104	98	128	85	145	119	103	128	117
517	28315		101	123		80	129	103			103
518	Local Check	128	113	89	103	80	135	112	97	115	108
	<b>Exp. Mean</b>	<b>146.06</b>	<b>105.94</b>	<b>109.5</b>	<b>123.84</b>	<b>92.06</b>	<b>123.72</b>		<b>107.83</b>	<b>140.73</b>	

**Table No. 11.16: Panicle/m<sup>2</sup> of entries in AVT-1-SDW, Kharif 2020**

Entry No.	IET NO	BBN	CTK	PSA@	CHN	BNK	MSD	Zone-III	TTB	MTU	Overall
501	28293	244	258	183	308	332	256	280		276	278
502	28311	362	296	151	209	383	199	290	297	327	305
503	28302	288	217	175		339	236	270			270
504	28317	254	305	154	275	303	245	276		292	284
505	ZC-Purnendu	288	302	168	275	271	245	276	275	295	282
506	28294	306	303	183	319	387	281	319		278	299
507	28296	386	306	165	187	265	242	277	234	317	276
508	28299	203	298	151	297	335	253	277	202	310	263
509	28313	206	308	171	242	293	258	261	265	295	274
510	28304	244	258	138	242	276	266	257	183	285	242
511	28305		248	177		390	234	291			291
512	NC- CR Dhan 506	299	251	197	286	221	233	258	244	288	263
513	28306	248	309	170	209	334	246	269		293	281
514	27578	266	305	184	198	392	239	280	240	304	275
515	28291	297	264	117	297	358	276	298	208		253
516	26671	320	304	191	275	379	243	304	267	318	296
517	28315		254	196		376	254	295			295
518	Local Check	251	237	155	231	341	268	266	275	317	286
	<b>Exp. Mean</b>	<b>278.81</b>	<b>279</b>	<b>168.09</b>	<b>256.67</b>	<b>332</b>	<b>248.61</b>		<b>244.44</b>	<b>299.51</b>	
	CD	15.74	15.89	9.02	79.86	37.97	15.82		35.64	13.33	
	CV%	3.39	3.43	3.24	18.6	6.89	3.83		8.56	2.65	

**Table No. 11.17: Grain Quality Characteristics of entries in AVT 1-SDW, Kharif-2020**

Entry No.	IET No.	Hull (%)	Mill (%)	HRR (%)	Moisture (%)	Chalkiness	KL (mm)	KB (mm)	L/B	ASV	WU (ml/100g)	VER	KLAC (mm)	ER	AC (%)	GC
501	28293	75	64	60	12.4	A	4.56	2.19	2.08	4	210	3.75	9.0	1.97	22.05	35
502	28311	79	68	67	12.1	A	5.71	1.84	3.10	7	195	3.75	11.0	1.92	20.40	42
503	28302	48	38	36	12.6	A	4.84	1.65	2.93	4	280	3.75	9.0	1.85	22.12	35
504	28317	77	66	64	12.1	A	5.26	1.91	2.75	7	210	3.75	10.0	1.90	23.55	45
505	ZC (s)	80	64	63	12.4	VOC	5.18	2.22	2.33	5	205	3.75	9.0	1.73	21.75	32
506	28294	59	48	35	12.2	A	6.47	1.79	3.61	6	280	3.75	10.6	1.63	21.60	39
507	28296	75	63	61	12.5	A	5.47	1.72	3.18	6	255	3.75	10.0	1.82	21.67	38
508	28299	77	67	60	12.6	A	5.66	2.31	2.45	5	210	3.75	9.0	1.59	22.80	36
509	28313	78	66	63	12.4	A	5.14	1.80	2.85	5	265	3.75	10.0	1.94	21.82	34
510	28304	75	61	59	12.2	A	4.36	2.51	1.73	4	220	3.75	8.0	1.83	19.67	30
511	28305	74	60	58	12.6	A	4.77	1.78	2.67	4	105	3.75	9.0	1.88	24.60	32
512	NC	79	64	58	12.7	VOC	5.18	1.80	2.87	5	270	3.75	10.0	1.93	22.35	37
513	28306	80	70	57	12.3	A	5.53	1.86	2.97	4	75	3.75	9.0	1.62	22.50	37
514	27578	76	63	56	12.7	VOC	5.17	2.22	2.32	4	85	3.75	9.0	1.74	21.07	32
515	28291	77	64	57	12.7	A	5.72	1.90	3.01	4	65	4.0	10.0	1.74	22.35	35
516	26671	76	61	56	12.4	VOC	5.18	2.15	2.40	4	45	3.75	9.0	1.73	21.60	33
517	28315	75	65	63	12.3	VOC	4.64	2.14	2.16	4	95	3.75	8.0	1.72	22.72	37

**Abbreviations:** Hull%: Hulling, Mill%: Milling; HRR: Head Rice Recovery; KL: Kernel length; KB: Kernel Breadth; L/B: Length Breadth ratio; ASV: Alkali spreading value; WU: Water uptake; VER: Volume expansion ratio; KLAC: Kernel length after cooking; ER: Elongation ratio; AC: Apparent amylose content; GC: Gel consistency.

**Trial No. 11.18: Composition of entries in Initial Variety Trial–Semi Deep Water (IVT-SDW) Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	Grain Type
<b>1<sup>st</sup> year of testing</b>				
601	29111	OR 2748-1	IR 74355-CN 3/Swarna	MB
602	29112	NDGR 1545	PS 46 / CR 780-1937-3-GHT-03	MB
603	29113	CR 3903-161-1-3-2	Santepheap/IR 82810-407//IR-71700-247-1-1-2	MS
604	29114	CR 2538-42-17-32-15	Varshadhan*3/IR 49830-7	LB
605	<b>CR Dhan 506 (NC)</b>			
606	29115	CR 3936-11-1-1-1-1-1	IR-72967-12-2-3/ MTU 1001	LB
607	29116	OR 2754	SBIR 6745-N-2-1-1-1/IR 80409-B-37-4	MB
608	29117	CR 3900-135-8-5-4	Savitri/R. Mahusuri-1// IR 71700-247-1-1-2	MS
609	29118	OR 2751	Santepheap3/IR 85260// RajendraMahsuri	MB
610	29119	CR 3967-40-3-1-1-1-2	IR 73895-33-1-3-2/Pratikhya	LS
611	29120	CR 2538-42-17-32-3-4	Varshadhan*3/IR 49830-7	LB
612	29121	CR 3838 -2-2-1-1-2	Savitri/AC 38562//Varshadhan	MS
613	29122	OR 2752	Salivahan/Basamanik	MB
614	29123	CR 2531-72-6-19-5-1	Gayatri*3/IR 49830-7	SB
615	<b>Purnendu (Eastern &amp; North Eastern) and MTU 1172 (Southern) (ZC)</b>			
616	29124	CR 3913-230-5-5-1	PCR 89350-B-R-4-2-2-3-B-21-1/PSB Rc 68//IR 71700-247-1-1-2	MS
617	29125	CR 2538-42-17-32-14	Varshadhan*3/IR 49830-7	LB
618	29126	RAU 1407-7-1-3-2	Sathi/Turanta	MS
619	29127	CR 3856-44-22-2-1-7-1-4-2	IR 73963-86-1-5-2-2/CR 2324-1-1	LB
620	29128	CR 3900-193-9-11-1	Savitri/R. Mahusuri-1// IR 71700-247-1-1-2	MS
621	29129	CR 3838-2-2-1-2-2	Savitri/AC 38562//Varshadhan	SB
622	29130	RAU 1407-7-1-3-1	Sathi/Turanta	MS
623	29131	NDGR 1543	IR 497307 / Gayatri-07-GHT-03	MB
624	29132	CR 2538-42-17-32-13	Varshadhan*3/IR 49830-7	LB
625	29133	TCA 80-4-1	Selection from Rajashree	MS
626	29134	CR 3903-161-1-2-2	Santepheap/IR 82810-407//IR-71700-247-1-1-2	MS
627	29135	CR 3838-1-2-1-1-2	Savitri/AC 38562//Varshadhan	SB
628	29136	CR 2860-S-B-189-3-1	Varshadhan/ SR 26B	LB
629	29137	CR 4039-1-1-2-1-3	Varshadhan/Warda 1	SB
630	<b>Local Check</b>			

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**Table No. 11.19: Grain Yield (kg/ha) of entries in IVT-SDW Kharif 2020**

S.No.	IET No.	Zone-III									
		BBN	CTK	Odisha (2)		@ PSA	@ Bihar	@ CHN	BNK	WB (1)	
1	29111	5669	2810	4240	10, 16%	2530	2530	3952	7982	7982	2, 9%
2	29112	3628	2445	3037		2860	2860	3815	7337	7337	7
3	29113	2664	3492	3078		4510	4510	4611	6316	6316	
4	29114	3742	5995	4869	3*, 34%	4697	4697	4370	6626	6626	
5	29115	-	-	-		3201	3201	-	4902	4902	
6	29116	4422	5103	4763	4*, 31%	5022	5022	3778	8006	8006	1, 10%
7	29117	4252	2657	3455	1*, 46%	2706	2706	6259	6176	6176	
8	29118	5272	5363	5318	7*, 26%	4973	4973	5889	6291	6291	
9	29119	4308	4892	4600	9, 17%	3295	3295	-	6381	6381	
10	29120	3061	5494	4278	11%	2305	2305	4037	5431	5431	
11	29121	2665	5436	4051	8, 23%	2618	2618	6100	7884	7884	3, 8%
12	29122	2948	6022	4485	4*, 31%	2283	2283	4833	6659	6659	
13	29123	2835	2488	2662		4241	4241	5315	5874	5874	
14	29124	2041	4920	3481		2767	2767	3963	6520	6520	
15	29125	4365	3875	4120	13%	2470	2470	4537	6446	6446	
16	29126	2381	3901	3141		2965	2965	4833	5703	5703	
17	29127	3062	2886	2974		2926	2926	5241	5752	5752	
18	29128	4195	3475	3835	5%	3069	3069	4444	5874	5874	
19	29129	4422	5746	5084	2*, 39%	2717	2717	4407	6765	6765	
20	29130	2495	5936	4216	(16%)	2569	2569	5093	6315	6315	
21	29131	2608	3732	3170		4769	4769	4963	6528	6528	
22	29132	3628	5629	4629	6*, 27%	4483	4483	5426	7091	7091	9
23	29133	2551	3221	2886		4329	4329	5648	7361	7361	6
24	29134	2495	5761	4128	13%	2453	2453	5093	7721	7721	4, 6%
25	29135	3572	4615	4094	12%	2525	2525	4611	6797	6797	
26	29136	2551	4750	3651		3416	3416	5944	6928	6928	10
27	29137	5386	3879	4633	5*, 27%	4455	4455	4378	7557	7557	5
28	NC-CR Dhan 506	2551	3193	2872		2734	2734	4722	6887	6887	
29	ZC-Purnendu/MTU 1172	2551	3164	2858		4499	4499	3889	7304	7304	8
30	Local Check	3288	4001	3645		4125	4125	5611	6463	6463	
	<b>Exp. Mean</b>	<b>3435</b>	<b>4306</b>	<b>3972</b>		<b>3417</b>	<b>3417</b>	<b>4849</b>	<b>6662</b>	<b>6662</b>	
	CD (0.05)	653	1278	873.6		275	275	286	1065	1065	
	<b>CV%</b>	<b>9.28</b>	<b>18.2</b>	<b>13.45</b>		<b>3.94</b>	<b>3.94</b>	<b>3.61</b>	<b>9.78</b>	<b>9.78</b>	
	D/S	07/07/2020	29/07/2020			14/07/2020		13/07/2020	16/07/2020		
	D/P	31/07/2020	03/09/2020			09/08/2020		25/08/2020	22/09/2020		
	Local Check	Upahar	CR Dhan 508			Rajshree		Rajdeep	Sampriti		

Note: Data of PSA (Pusa) and CHN (Chinsurah) not included in the analysis due to low CV

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**Table No. 11.19 contd: Grain Yield (kg/ha) of entries in IVT-SDW Kharif 2020**

S.No.	IET No.	(Conti) Zone-III				ZONE_IV				Zone-VII				Overall mean (6)		
		MSD	UP (1)	Eastern Mean (4)		TTB	Assam	North-eastern Mean (1)		MTU	AP	Southern mean (1)				
1	29111	1505	1505		4492	9, 12%	2676	2676	2	2676	2	4708	4708	4708	4225	6, 6%
2	29112	1580	1580		3748		2128	2128	10	2128	10	2269	2269	2269	3231	
3	29113	1825	1825		3574		2082	2082		2082		2400	2400	2400	3130	
4	29114	2480	2480	5, 7%	4711	7*, 17%	1713	1713		1713		2436	2436	2436	3832	
5	29115	-	-		4902	2*, 22%	-	-		-		-	-	-	4902	2 *
6	29116	2050	2050	9	4895	3*, 22%	-	-		-		5413	5413	3	5413	3 *
7	29117	2025	2025	10	3778		1164	1164		1164		5844	5844	1	5844	1
8	29118	2000	2000		4732	5*, 18%	1542	1542		1542		2678	2678		2678	3858
9	29119				5194	1*, 29%	989	989		989		-	-	-	4143	7
10	29120	1375	1375		3840		1857	1857		1857		2516	2516		2516	3289
11	29121	1675	1675		4415	10, 10%	2167	2167	9	2167	9	2625	2625		2625	3742
12	29122	1275	1275		4226	13, 5%	1678	1678		1678		5196	5196		5196	3963
13	29123	1505	1505		3176		-	-		-		5267	5267	7	5267	7
14	29124	1400	1400		3720		-	-		-		-	-		-	3720
15	29125	1850	1850		4134		2529	2529	4	2529	4	-	-		-	3813
16	29126	2275	2275	7	3565		2002	2002		2002		2197	2197		2197	3077
17	29127	-	-		3900		-	-		-		-	-		-	3900
18	29128	2700	2700	1, 16%	4061		-	-		-		5274	5274	6	5274	6
19	29129	1820	1820		4688	8*, 17%	1862	1862		1862		2190	2190		2190	3801
20	29130	1505	1505		4063		2053	2053		2053		2222	2222		2222	3421
21	29131	2630	2630	3, 13%	3875		1750	1750		1750		2190	2190		2190	3240
22	29132	2500	2500	4, 8%	4712	6*, 17%	2180	2180	8	2180	8	5313	5313	5	5313	5
23	29133	1350	1350		3621		2413	2413	5	2413	5	2204	2204		2204	3183
24	29134	1400	1400		4344	11, 8%	-	-		-		4487	4487		4487	4373
25	29135	2150	2150	8	4284	12, 7%	1744	1744		1744		2644	2644		2644	3587
26	29136	1425	1425		3914		2229	2229	7	2229	7	5132	5132	9	5132	9
27	29137	2650	2650	2, 14%	4868	4*, 21%	1973	1973		1973		2398	2398		2398	3974
28	NC_CR Dhan 506	1375	1375		3502		3060	3060	1	3060	1	4729	4729	10	4729	3633
29	ZC_Purnendu /MTU 1172	1675	1675		3674		2231	2231	6	2231	6	5730	5730	2	5730	2
30	Local_Check	2325	2325	6	4019		2597	2597	3	2597	3	5349	5349	4	5349	4
	<b>Exp. Mean</b>	<b>1864</b>	<b>1864</b>		<b>4579</b>		<b>2027</b>	<b>2027</b>		<b>2027</b>		<b>3736</b>	<b>3736</b>		<b>3736</b>	<b>4000</b>
	CD	254	457		667		396.4	396.4		396.4		509	509		509	452
	CV%	<b>6.63</b>	<b>15</b>		<b>8.91</b>		<b>11.88</b>	<b>11.88</b>		<b>11.88</b>		<b>8.31</b>	<b>8.31</b>		<b>8.31</b>	<b>6.91</b>
	D/S	06/08/2020					12/08/2020					20/07/2020				
	D/P	02/09/2020					06/09/2020					19/08/2020				
	Local Check	Jalpriya					Dhansiri					MTU 1140				

Note: Data of PSA (Pusa) and CHN (Chinsurah) not included in the analysis due to low CV

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**Table No. 11.20: Days to 50% flowering of entries in IVT-SDW Kharif 2020**

S. No	IET No.	Zone-III											Zone-IV			Zone-VII			Over all Mean (6)
		BBN	CTK	OD (2)	@ PSA	@BI mean	@ CHN	BNK	WB (1)	MSD	UP (1)	Eastern mean (4)	TTB	Assam (1)	North-eastern mean (1)	MTU	AP (1)	Southern mean (1)	
1	29111	120	120	120	116	116	110	117	117	89	89	112	101	101	101	107	107	107	109
2	29112	97	95	96	96	96	104	121	121	93	93	102	82	82	82	98	98	98	98
3	29113	110	114	112	110	110	128	132	132	102	102	115	110	110	110	102	102	102	112
4	29114	128	111	120	116	116	130	134	134	105	105	120	102	102	102	112	112	112	115
5	29115	-	-	-	129	129	-	-	-	-	-	-	-	-	-	-	-	-	-
6	29116	120	129	125	124	124	99	121	121	99	99	117	-	-	-	114	114	114	117
7	29117	110	126	118	111	111	124	127	127	93	93	114	108	108	108	108	108	108	112
8	29118	112	128	120	111	111	130	132	132	99	99	118	110	110	110	115	115	115	116
9	29119	100	113	107	105	105	-	126	126	-	-	113	113	113	113	-	-	-	113
10	29120	129	113	121	117	117	130	137	137	106	106	121	97	97	97	114	114	114	116
11	29121	109	95	102	134	134	113	113	113	87	87	101	99	99	99	107	107	107	102
12	29122	119	128	124	113	113	128	132	132	100	100	120	105	105	105	114	114	114	116
13	29123	119	129	124	126	126	114	134	134	87	87	117	-	-	-	110	110	110	116
14	29124	119	129	124	115	115	123	131	131	93	93	118	-	-	-	-	-	-	118
15	29125	125	113	119	112	112	128	135	135	120	120	123	102	102	102	-	-	-	119
16	29126	97	87	92	95	95	109	124	124	104	104	103	82	82	82	96	96	96	98
17	29127	97	115	106	106	106	97	127	127	-	-	113	-	-	-	-	-	-	113
18	29128	115	127	121	117	117	129	136	136	89	89	117	-	-	-	114	114	114	116
19	29129	129	110	120	128	128	105	123	123	94	94	114	97	97	97	114	114	114	111
20	29130	104	94	99	96	96	100	117	117	59	59	94	82	82	82	96	96	96	92
21	29131	109	111	110	103	103	104	127	127	93	93	110	85	85	85	101	101	101	104
22	29132	130	111	121	120	120	130	130	130	90	90	115	104	104	104	114	114	114	113
23	29133	109	124	117	102	102	107	126	126	94	94	113	100	100	100	96	96	96	108
24	29134	119	114	117	110	110	124	126	126	90	90	112	-	-	-	115	115	115	113
25	29135	131	110	121	129	129	129	127	127	93	93	115	103	103	103	114	114	114	113
26	29136	111	106	109	111	111	120	123	123	90	90	108	88	88	88	101	101	101	103
27	29137	127	129	128	129	129	126	134	134	93	93	121	105	105	105	111	111	111	117
28	NC_CR Dhan 506	128	114	121	128	128	123	125	125	106	106	118	101	101	101	113	113	113	115
29	ZC_Purnendu/MTU1172	111	98	105	110	110	114	129	129	90	90	107	83	83	83	118	118	118	105
30	Local_Check	121	130	126	110	110	113	122	122	94	94	117	98	98	98	115	115	115	113
	<b>Exp. Mean</b>	<b>115.69</b>	<b>114.53</b>	<b>114.94</b>	<b>114.13</b>	<b>114.13</b>	<b>117.5</b>	<b>127.17</b>	<b>127.17</b>	<b>94.22</b>	<b>94.22</b>	<b>115.78</b>	<b>98.23</b>	<b>98.23</b>	<b>98.23</b>	<b>108.73</b>	<b>108.73</b>	<b>108.73</b>	<b>111.79</b>



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**Table No. 11.21: Plant height (cm) of entries in IVT-SDW, Kharif 2020**

S. No	IET NO.	Zone-III										Zone-IV			Zone VII			Over all mean (6)	
		BBN	CTK	OD (2)	@ PSA	@ BI	@ CHN	BNK	WB (1)	MSD	UP (1)	Eastern mean (4)	TTB	Assam (1)	North-eastern mean (1)	MTU	AP (1)		Southern mean (1)
1	29111	125	83	104	80	80	99	83	83	121	121	103	88	88	88	116	116	116	103
2	29112	130	95	113	102	102	122	75	75	117	117	104	129	129	129	139	139	139	114
3	29113	130	105	118	85	85	123	100	100	110	110	111	106	106	106	139	139	139	115
4	29114	150	126	138	111	111	153	85	85	125	125	122	128	128	128	157	157	157	128
5	29115	.	.	.	89	89	.	.	.	.	.	.	.	.	.	155	155	155	155
6	29116	120	103	112	90	90	98	110	110	123	123	114	.	.	.	132	132	132	118
7	29117	126	96	111	117	117	105	93	93	125	125	110	90	90	90	137	137	137	111
8	29118	130	102	116	100	100	103	95	95	125	125	113	101	101	101	142	142	142	116
9	29119	140	108	124	87	87	.	95	95	.	.	114	87	87	87	143	143	143	115
10	29120	165	125	145	115	115	154	85	85	115	115	123	120	120	120	168	168	168	130
11	29121	150	130	140	112	112	137	80	80	121	121	120	112	112	112	154	154	154	124
12	29122	155	90	123	96	96	113	112	112	135	135	123	107	107	107	145	145	145	124
13	29123	118	90	104	110	110	99	100	100	123	123	108	.	.	.	129	129	129	112
14	29124	125	95	110	99	99	113	85	85	125	125	108	.	.	.	110	110	110	108
15	29125	165	125	145	110	110	132	75	75	129	129	124	120	120	120	.	.	.	123
16	29126	140	110	125	106	106	128	80	80	125	125	114	117	117	117	151	151	151	121
17	29127	125	93	109	90	90	95	65	65	.	.	94	.	.	.	148	148	148	108
18	29128	132	113	123	95	95	116	95	95	129	129	117	.	.	.	128	128	128	119
19	29129	148	114	131	92	92	125	85	85	101	101	112	108	108	108	151	151	151	118
20	29130	153	113	133	110	110	130	85	85	98	98	112	118	118	118	145	145	145	119
21	29131	155	121	138	99	99	129	95	95	109	109	120	128	128	128	150	150	150	126
22	29132	160	131	146	110	110	132	130	130	110	110	133	119	119	119	162	162	162	135
23	29133	150	108	129	96	96	121	115	115	121	121	124	109	109	109	147	147	147	125
24	29134	140	96	118	100	100	112	100	100	109	109	111	.	.	.	142	142	142	117
25	29135	150	117	134	110	110	128	130	130	125	125	131	110	110	110	156	156	156	131
26	29136	155	119	137	124	124	160	80	80	109	109	116	112	112	112	149	149	149	121
27	29137	140	96	118	125	125	105	73	73	121	121	108	96	96	96	144	144	144	112
28	NC-CR Dhan 506	125	111	118	90	90	121	90	90	113	113	110	107	107	107	159	159	159	117
29	ZC-Purnendu / MTU 1172	175	105	140	114	114	114	135	135	105	105	130	131	131	131	114	114	114	128
30	Local Check	135	114	125	107	107	119	116	116	127	127	123	100	100	100	127	127	127	120
	<b>Exp. Mean</b>	<b>142</b>	<b>108</b>	<b>125</b>	<b>102</b>	<b>102</b>	<b>121</b>	<b>95</b>	<b>95</b>	<b>118</b>	<b>118</b>	<b>115</b>	<b>111</b>	<b>111</b>	<b>111</b>	<b>143</b>	<b>143</b>	<b>143</b>	<b>120</b>

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**Table No. 11.22: No. of panicles/m<sup>2</sup> of entries in IVT-SDW, Kharif 2020**

S.No.	IET No.	Zone-III											Zone-IV			Zone -VII			Overall mean (6)
		BBN	CTK	OD(2)	@ PSA	@BI mean	@ CHN	BNK	WB (1)	MSD	UP (1)	Eastern mean (4)	TTB	Assam (1)	North-eastern mean (1)	MTU	AP (1)	Southern mean (1)	
1	29111	212	152	182	122	122	396	258	258	216	216	210	218	218	218	239	239	239	216
2	29112	230	114	172	120	120	253	258	258	221	221	206	273	273	273	290	290	290	231
3	29113	249	176	213	117	117	341	382	382	195	195	251	246	246	246	265	265	265	252
4	29114	198	133	166	166	166	341	262	262	224	224	204	178	178	178	263	263	263	210
5	29115	-	-	-	219	219	-	-	-	-	-	-	-	-	-	-	-	-	-
6	29116	213	193	203	127	127	385	295	295	221	221	231	-	-	-	254	254	254	235
7	29117	274	158	216	240	240	352	348	348	229	229	252	267	267	267	296	296	296	262
8	29118	240	141	191	110	110	220	320	320	206	206	227	210	210	210	293	293	293	235
9	29119	199	237	218	138	138	-	418	418	-	-	285	198	198	198				263
10	29120	303	145	224	123	123	330	192	192	171	171	203	196	196	196	277	277	277	214
11	29121	341	188	265	211	211	319	313	313	205	205	262	222	222	222	276	276	276	258
12	29122	413	212	313	171	171	352	283	283	153	153	265	258	258	258	282	282	282	267
13	29123	346	177	262	202	202	495	341	341	218	218	271	-	-	-	277	277	277	272
14	29124	266	142	204	156	156	462	278	278	218	218	226	-	-	-	-	-	-	226
15	29125	241	146	194	210	210	352	211	211	191	191	197	240	240	240	-	-	-	206
16	29126	196	153	175	211	211	374	260	260	218	218	207	263	263	263	277	277	277	228
17	29127	183	191	187	156	156	374	273	273	-	-	216	-	-	-	-	-	-	216
18	29128	202	163	183	118	118	319	247	247	238	238	213	-	-	-	285	285	285	227
19	29129	264	126	195	140	140	396	263	263	207	207	215	201	201	201	281	281	281	224
20	29130	238	149	194	210	210	297	340	340	189	189	229	228	228	228	251	251	251	233
21	29131	225	169	197	103	103	319	357	357	251	251	251	263	263	263	297	297	297	260
22	29132	191	159	175	207	207	341	182	182	245	245	194	190	190	190	290	290	290	210
23	29133	204	183	194	114	114	297	264	264	193	193	211	241	241	241	297	297	297	230
24	29134	193	169	181	208	208	363	283	283	218	218	216	-	-	-	290	290	290	231
25	29135	247	165	206	172	172	319	241	241	209	209	216	183	183	183	323	323	323	228
26	29136	193	232	213	196	196	297	223	223	219	219	217	294	294	294	298	298	298	243
27	29137	241	136	189	222	222	264	309	309	237	237	231	178	178	178	325	325	325	238
28	NC_CR Dhan 506	204	146	175	158	158	253	255	255	200	200	201	283	283	283	268	268	268	226
29	ZC-Purnendu MTU1172	238	146	192	146	146	319	329	329	186	186	225	248	248	248	289	289	289	239
30	Local Check	289	148	219	152	152	330	218	218	226	226	220	228	228	228	310	310	310	237
	<b>Exp. Mean</b>	<b>242.14</b>	<b>163.61</b>	<b>189.16</b>	<b>164.73</b>	<b>164.73</b>	<b>337.86</b>	<b>282.94</b>	<b>282.94</b>	<b>211.09</b>	<b>211.09</b>	<b>225.25</b>	<b>230.81</b>	<b>230.81</b>	<b>230.81</b>	<b>283.8</b>	<b>283.8</b>	<b>283.8</b>	<b>236.59</b>

## INITIAL VARIETY TRIAL - DEEP WATER (IVT-DW)

Locations: 02

Test Entries: 07

Checks: CR Dhan 500 (National), Dinesh (Zonal) and Local Check Table: 11.23

IVT-DW trial was constituted with seven test entries and three checks viz., CR Dhan 500 (National Check), Dinesh (Zonal check) and Local Check. Among the seven entries, five entries were in first year of testing, one test entry i.e. IET 28319 was in second year of testing and one entry i.e. IET 26741 was in the third year of testing. The trial was sent to four locations and data was received from two locations (Chinsurah and Pusa). Out of them Chinsurah maintained the maximum water level of 80 cm whereas, Pusa could not maintain required water level (75-120 cm). The data on six adaptability parameters viz. elongation ability, seedling survival (%), kneeling ability, PACP, submergence tolerance (%) and grain shattering was provided by Chinsurah, whereas, the data only on elongation ability was provided by Pusa. The data pertaining to water regimes, adaptability parameters, grain yield, days to 50% flowering, plant height number of panicles/m<sup>2</sup> and grain quality are presented in tables 11.24 to 11.28.

As the experimental CV of Pusa is less than 5 (1.64), the data of this center is not considered, hence data of Chinsurah is only considered for analysis.

Overall mean yield of the entries ranged from 4343 kg/ha (IET 26741) to 6011 kg/ha (IET 28318), days to 50% flowering ranged from 110 days (IET 29139) to 129 days (IET 28318), plant height varied from 95 cm (IET 28318) to 177 cm (IET 29138) & (IET 29139) and panicles per square meter varied from 209 (IET 26741) to 341 (IET 28318).

**Based on single location result, as IET 28318 (CR 3993-13-58-3) shown yield advantage of 16% over the best check, it is promoted to second year of testing.**

### Performance of superior test entries IVT-DW for Zone III during Kharif 2020

Sl. No.	IET No./Designation/ Cross Combination	GY (Kg/ha) DFP/GT	% over best check	Remarks
1	<b>IET 28318</b> CR 3993-13-58-3 CR 1009/ <i>O. brachyantha</i> //CR 1009	6011 129 SB	16	Promoted to second year of testing
	CD Dhan 500 (NC)	5177 119		
	Local Check	5177 117		

**Details of water regimes in IVT-DW Kharif 2020**

Location	Week	June	July	August	September	October	November	December
<b>Pusa (PSA)</b>	1 <sup>st</sup>			30	60	40		
	2 <sup>nd</sup>			40	60	30		
	3 <sup>rd</sup>		10	50	60	20		
	4 <sup>th</sup>		20	60	50	10		
<b>Chinsurah (CHN)</b>	1 <sup>st</sup>				40	80	25	
	2 <sup>nd</sup>			15	50	60	15	
	3 <sup>rd</sup>			20	60	40	10	
	4 <sup>th</sup>			30	70	30		

**Adaptability parameters of entries in IVT-DW Kharif 2020**

Entry No.	IET No.	Seedling Survival		Kneeing ability		Elongation ability		PACP		Submergence Tolerance (%)		Grain Shattering	
		CHN	PSA	CHN	PSA	CHN	PSA	CHN	PSA	CHN	PSA	CHN	PSA
701	26741	5	-	3	-	1	7	3	-	75	-	1	-
702	28318	3	-	3	-	3	7	1	-	85	-	3	-
703	CR Dhan 500 (NC)	3	-	1	-	1	5	3	-	80	-	-	-
704	28319	5	-	3	-	3	5	3	-	80	-	1	-
705	28320	3	-	1	-	3	9	3	-	85	-	1	-
706	Dinesh (ZC)	-	-	-	-	-	1	-	-	-	-	-	-
707	29138	3	-	3	-	1	3	5	-	80	-	3	-
708	28321	5	-	3	-	3	9	3	-	70	-	3	-
709	29139	3	-	1	-	3	1	3	-	80	-	3	-
710	Local Check	5	-	3	-	1	3	3	-	75	-	1	-

**Table No. 11.23: Composition of entries in Initial Variety Trial-Deep Water (IVT-DW), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	Grain Type
<b>3<sup>rd</sup> year of testing</b>				
701	26741(R)	NDGR 706	Pankaj / Jalnidhi	SB
<b>1<sup>st</sup> year of testing</b>				
702	28318	CR 3993-13-58-3	CR 1009/ <i>O. brachyantha</i> //CR 1009	SB
703	<b>CR Dhan 500(NC)</b>			
<b>2<sup>nd</sup> year of testing</b>				
704	28319	NDGR 709	NDR-207 / IR 49906-B-B-B-10-GHT-2	LB
<b>1<sup>st</sup> year of testing</b>				
705	28320	CR 3993-14-13-24	CR 1009/ <i>O. brachyantha</i> //CR 1009	SB
706	<b>Dinesh (ZC)</b>			
707	29138	NDGR 713	PS46/NDR8002-07-GHT-03	MB
708	28321	CR 3993-11-45-3	CR 1009/ <i>O. brachyantha</i> //CR 1009	SB
709	29139	NDGR 714	PS 46 / CR780-1937-3-GHT-07	MB
710	<b>Local Check</b>			

**Table No. 11.24: Grain yield (kg/ha) of entries of IVT-DW for Zone III Kharif2020**

Entry No.	IET NO	Zone III				ZONE III (1)	
		WB		BI		Mean	
		CHN		@PSA			
701	26741	4343	9	2802	8	4343	9
702	28318	6011	1 * 16%	3203	5	6011	1* 16%
703	CR Dhan 500 (NC)	5177	5	4295	2	5177	5
704	28319	5482	3 6%	2518	9	5482	3 6%
705	28320	5523	2 7%	2894	7	5523	2 7%
706	Dinesh (ZC)			2914	6		
707	29138	4408	8	4325	1	4408	8
708	28321	5222	4	4254	3	5222	4
709	29139	4513	7	2447	10	4513	7
710	Local Check	5177	5	4223	4	5177	5
	<b>Exp. Mean</b>	<b>5095.19</b>		<b>3387.15</b>		<b>5095.19</b>	
	CD	702.96		125.68		702.96	
	CV%	<b>7.97</b>		<b>1.64</b>		<b>7.97</b>	
	D/S	07-07-2020		11-07-2020			
	D/P	11-08-2020					
	Local Check Name	Rajdeep		Sudha			

% superior over best check

**Table No. 11.25: Days to 50% flowering of entries of IVT-DW for Zone III Kharif2020**

Entry No.	IET NO	Zone III		ZONE III (1)
		WB	BI	Mean
		CHN	@PSA	
701	26741	114	106	114
702	28318	129	118	129
703	CR Dhan 500 (NC)	119	117	119
704	28319	116	88	116
705	28320	121	119	121
706	Dinesh (ZC)		123	
707	29138	114	98	114
708	28321	126	119	126
709	29139	110	102	110
710	Local Check	117	102	117
	<b>Exp. Mean</b>	<b>118.52</b>	<b>109</b>	<b>118.52</b>
	CD	1.7	6.75	1.7
	CV%	0.83	2.74	0.83

**Table No. 11.26: Plant height (cm) of entries of IVT-DW for Zone III Kharif 2020**

Entry No.	IET NO	Zone III		ZONE III (1)
		WB	BI	
		CHN	@PSA	Mean
701	26741	158	107	158
702	28318	95	82	95
703	CR Dhan 500 (NC)	170	94	170
704	28319	129	90	129
705	28320	107	77	107
706	Dinesh (ZC)		120	
707	29138	177	103	177
708	28321	104	68	104
709	29139	177	132	177
710	Local Check	117	121	117
	<b>Exp. Mean</b>	<b>137</b>	<b>99</b>	<b>137</b>

**Table No. 11.27: No of Panicle/m<sup>2</sup> of entries of IVT-DW for Zone III Kharif 2020**

Entry No.	IET NO	Zone III		ZONE III (1)
		WB	BI	
		CHN	@PSA	Mean
701	26741	209	146	209
702	28318	341	222	341
703	CR Dhan 500 (NC)	242	212	242
704	28319	286	190	286
705	28320	308	184	308
706	Dinesh (ZC)		179	
707	29138	231	228	231
708	28321	286	262	286
709	29139	231	212	231
710	Local Check	242	187	242
	<b>Exp. Mean</b>	<b>264</b>	<b>202</b>	<b>264</b>
	CD	71.56	13.15	71.56
	CV%	15.66	2.88	15.66

**Table No. 11.28: Grain Quality characteristics of entries in IVT-DW, Kharif 2020**

Entry No.	IET No.	Hull (%)	Mill (%)	HRR (%)	Grain Chalk	KL (mm)	KB (mm)	L/B	ASV	WU (ml/100g)	VER	KLAC (mm)	ER	AC (%)	GC	GT
701	26741 (R)	71	64	57	OC	5.92	2.16	2.74	3	235	3.75	9	1.52	21.45	32	SB
702	28318	74	61	59	OC	4.52	2.23	2.02	4	170	3.75	8	1.76	24.07	30	SB
703	CR Dhan 500	76	64	60	OC	5.52	1.9	2.9	3	195	4	9	1.63	24.00	30	
704	28319	80	73	67	OC	6.1	2.05	2.97	3	240	3.75	9	1.47	22.50	37	LB
705	28320	76	64	61	OC	4.7	2.25	2.08	3	255	3.75	9	1.91	20.70	36	SB
706	Dinesh	73	60	51	OC	4.82	2.44	1.97	4	55	3.75	8	1.65	25.95	30	
707	29138	72	67	59	OC	6.28	2.12	2.96	3	195	3.75	9	1.43	24.15	35	MB
708	28321	79	70	67	OC	4.77	2.41	1.97	4	180	4	9	1.88	23.55	37	SB
709	29139	78	69	62	OC	6.35	2.24	2.83	3	225	3.75	10	1.57	23.62	36	MB
710	Rajdeep	73	66	62	A	5.5	1.3	4.23	3	215	4	9	1.63	19.57	32	

**Abbreviations:** Hull%: Hulling, Mill%: Milling; HRR: Head Rice Recovery; KL: Kernel length; KB: Kernel Breadth; L/B: Length Breadth ratio; ASV: Alkali spreading value; WU: Water uptake; VER: Volume expansion ratio; KLAC: Kernel length after cooking; ER: Elongation ratio; AC: Apparent amylose content; GC: Gel consistency.

## ADVANCE VARIETY TRIAL 1- NIL (SUBMERGENCE) (AVT 1-NIL SUB)

<b>Locations:</b>	<b>03</b>	<b>Test Entries: 24</b>
<b>Recurrent Parents/ Checks:</b>	<b>NILs--14; Recurrent Parents—8; Pooja,ADT 46, RajendraMahsuri, CR Dhan 800, Swarna Sub-1, Varshadhan, Sarala, Gayatri, Ranjit Sub-1</b>	<b>Table:12.1</b>

This trial includes 14 NILs along with their respective recurrent parents (8). The IETs 26744, 28791, 28789 and 28794 were in the second year of testing and rest 10 entries were in the first year of testing. IETs 28791 and 28789 are sister lines from the cross ADT 46 \* 3 / Swarna Sub-1; CR 2538-42-17-32-3-1, CR 2538-42-17-32-3-3, CR 2538-42-17-32-3-2 and CR 2538-20-14-24-2 are sister lines of Varshadhan\*3/IR49830-7 and CR 2531-72-6-19-5 and CR 2531-72-6-19-6 are sister lines of the Gayatri\*3/IR49830-7. The data pertaining to yield, days to 50% flowering, plant height, panicles/m<sup>2</sup> are presented in tables 12.2 to 12.5.

**Yield performance of entries under normal condition:** The entries of AVT1-NIL-Submergence were tested for their yield performance under normal condition in the trials of their respective ecologies of the states for which the recurrent parents were gazette notified.

**Trait verification:** For trait verification entries were tested at three locations, viz. Cuttack, Karaikal and Maruteru. Data from Karaikal was not considered in the analysis due to very low coefficient of variation (<5%). The performance of the entries under submergence condition is presented in the Table 1. In the two locations (Cuttack and Maruteru), there were extremely high variations for yield and survival percentage of recurrent parents which are not comparable. Based on mean yield over two locations (Cuttack and Maruteru) under submergence stress condition, all the NILs performed better than their respective recurrent parents except those derived from Swarna Sub1 and Ranjit Sub1. With respect to mean survival percentage under submergence stress, all tested NILs derived from Swarna Sub1 and Ranjit Sub 1 and one NIL (IET 29029) derived from Varshadhan were found to be inferior with respect to their respective recurrent parents. Remaining tested NILs performed better with respect to mean value of survival (%) under stress.

**Summary of two years performance of entries found promising in AVT-1 NIL-Submergence:** IET 26744 (CR3932-7) derived from the cross Pooja\*3 / Swarna-Sub1 is in the second year of testing. It showed 13.7% and 84.1% yield advantage over the recurrent parent under submergence condition in 2019 and 2020, respectively. It also performed better than its recurrent parent Pooja with regard to survival percentage (76.2) under submergence condition in 2020.

IET 28791 (KR 16024) and IET 28789 (KR 16022), derived from the cross ADT 46 \* 3 / Swarna Sub-1 were in the second year of testing. IET 28791 showed 72.2 and 97.3 percentage yield advantage over the recurrent parent under submergence condition in 2019 and 2020 respectively. It also performed better than its recurrent parent ADT 46 with regard to survival percentage (64.8) under submergence condition in 2020.

IET 28789 showed 61.7 and 58.3 percentage yield advantage over the recurrent parent under submergence condition in 2019 and 2020, respectively. It also performed better than its recurrent parent ADT 46 with regard to survival percentage (82.8) under submergence condition in 2020. Among the two NILs, IET 28791 was the best performing entry with regard to yield under submergence stress as compared to recurrent parent.

IET 28794 (120-79-RM-Sub-1) derived from the cross RajendraMahsuri // Swarna Sub-1 showed 52.6 and 111.1% yield advantage over the recurrent parent RajendraMahsuri under submergence condition in 2019 and 2020, respectively. It also performed better than its recurrent parent RajendraMahsuri with regard to survival percentage (48.3) under submergence condition in 2020.

All the four entries performed consistently better than the respective recurrent parents, over two years of testing under submergence stress.



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**Grain yield (Kg/ha) and survival percentage of entries in AVT-1 NIL- SUB over their recurrent parents under submergence stress condition, Kharif, 2020**

Recurrent Parent	NIL-IET no.	NIL-Yield				RP- Yield				% over RP	NIL-SURVIVAL (%)				RP-SURVIVAL (%)				% over RP
		CTK	MTU	KRK @	Mean	CTK	MTU	KRK @	Mean		CTK	MTU	KRK @	Mean	CTK	MTU	KRK @	Mean	
Pooja	26744	2456	4566	NG	3511.0	252	3563	2292	1907.5	84.06	46.11	48.70	No data	47.40	6.11	47.70	No data	26.91	76.19
ADT 46	28791	1961	3455	4083	2708.0	394	2351	2139	1372.5	97.30	36.67	58.90	70.35	47.78	9.44	48.60	33.28	29.02	64.66
	28789	2065	2281	3486	2173.0	394	2351	2139	1372.5	58.32	40.56	65.50	68.25	53.03	9.44	48.60	33.28	29.02	82.74
RajendraMahsuri	28794	2117	3549	3264	2833.0	517	2167	2444	1342.0	111.10	39.44	45.40	64.62	42.42	13.33	43.80	36.37	28.57	48.50
Swarna Sub1	29025	1813	3337	NG	2575.0	1748	4747	3264	3247.5	-20.71	35.56	37.20	NG	36.38	34.44	83.70	59.26	59.07	-38.41
	29027	1670	2288	NG	1979.0	1748	4747	3264	3247.5	-39.06	32.78	69.40	NG	51.09	34.44	83.70	59.26	59.07	-13.51
Varshadhan	29029	3413	2219	3396	2816.0	252	3198	3319	1725.0	63.25	63.33	35.20	62.31	49.26	5.00	97.80	64.26	51.40	-4.15
	29026	3259	4427	3111	3843.0	252	3198	3319	1725.0	122.78	60	45.70	64.58	52.85	5.00	97.80	64.26	51.40	2.82
	29031	3409	3198	3556	3303.5	252	3198	3319	1725.0	91.51	62.22	46.90	58.74	54.56	5.00	97.80	64.26	51.40	6.15
	29032	3643	4788	3347	4215.5	252	3198	3319	1725.0	144.38	66.67	95.60	67.31	81.13	5.00	97.80	64.26	51.40	57.85
Sarala	29028	3150	4326	NG	3738.0	0	3198	2278	1599.0	133.77	58.33	95.20	NG	76.76	0.00	75.20	39.85	37.60	104.16
Gayatri	29030	3674	5132	NG	4403.0	615	2128	2528	1371.5	221.04	68.33	98.20	NG	83.26	14.44	71.10	41.5	42.77	94.68
	29033	3565	3424	NG	3494.5	615	2128	2528	1371.5	154.79	66.11	69.10	NG	67.60	14.44	71.10	41.5	42.77	58.07
Ranjit Sub1	29034	507	3188	2667	1847.5	291	4806	3556	2548.5	-27.51	12.22	75.60	43.6	43.91	7.22	98.20	67.8	52.71	-16.70

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**Two years performance of NILs those are in the second year of testing in AVT 1-NIL-Sub Kharif 2020**

IET No./ Designation / Cross combination	Year	Yield under submergence condition			Survival (%) under submergence condition		
		RP Yield	NIL Yield	% over RP	RP survival	NIL survival	% over RP
26744 (CR 3932-7) Pooja*3/ Swarna-Sub1	2020	OD 252 AP 3563 Overall 1907.5	OD 2456 AP 4566 Overall 3511	OD 874.6 AP 28.15 Overall 84.1	OD 6.1 AP 47.7 Overall 26.9	OD 46.1 AP 48.7 Overall 47.4	OD 655.7 AP 2.1 Overall 76.2
	2019	OD 3161 AP@ 3649 PUD@ 245 Overall 3161	OD 3593 AP@ 3966 PUD@ 2602 Overall 3593	OD 13.7 AP@ 8.7 PUD@ 962 Overall 13.7			
28791 (KR 16024) ADT 46 * 3 / Swarna Sub-1	2020	OD 394 AP 2351 PUD@ 2139 Overall 1372.5	OD 1961 AP 3455 PUD@ 4083 Overall 2708	OD 397.7 AP 46.9 PUD@ 90.9 Overall 97.3	OD 9.4 AP 48.6 PUD@ 33.3 Overall 29.0	OD 36.7 AP 58.9 PUD@ 70.4 Overall 47.8	OD 290.4 AP 21.2 PUD@ 111.4 Overall 64.8
	2019	OD 2605 AP@ 2439 PUD@ 295 Overall 2605	OD 4485 AP@ 4168 PUD@ 3375 Overall 4485	OD 72.2 AP@ 70.9 PUD@ 1044.1 Overall 72.2			
28789 (KR 16022) ADT 46 * 3 / Swarna Sub-1	2020	OD 394 AP 2351 PUD@ 2139 Overall 1372.5	OD 2065 AP 2281 PUD@ 3486 Overall 2173	OD 424.1 AP -2.9 PUD@ 62.9 Overall 58.3	OD 9.4 AP 48.6 PUD@ 33.3 Overall 29.0	OD 40.6 AP 65.5 PUD@ 68.3 Overall 53.0	OD 331.9 AP 34.8 PUD@ 105.1 Overall 82.8
	2019	OD 2605 AP@ 2439 PUD@ 295 Overall 2605	OD 4212 AP@ 3509 PUD@ 4542 Overall 4212	OD 61.7 AP@ 43.9 PUD@ 1439.7 Overall 61.7			
28794(120-79-RM- Sub-1) RajendraMahsuri // Swarna Sub-1	2020	OD 517 AP 2167 PUD@ 2444 Overall 1342	OD 2117 AP 3549 PUD@ 3264 Overall 2833	OD 309.5 AP 63.8 PUD@ 33.6 Overall 111.1	OD 13.3 AP 43.8 PUD@ 36.4 Overall 28.6	OD 39.4 AP 45.4 PUD@ 64.6 Overall 42.4	OD 195.9 AP 3.7 PUD@ 77.5 Overall 48.3
	2019	OD 3029 AP@ 2750 PUD@ 620 Overall 3029	OD 4621 AP@ 2752 PUD@ 4637 Overall 4621	OD 52.6 AP@ 0.1 PUD@ 647.9 Overall 52.6			

## ADVANCE VARIETY TRIAL-1-NEAR ISOGENIC LINES-DROUGHT (AVT 1-NIL-DRT)

**Locations: 05**

**Test Entries: 10**

**Checks: Recurrent Parents(6): Anjali, IR64,Pusa44,  
Pusa Basmati 1, Swarna and Varalu;  
Donor Parents (2): IR81896-B-B-142 and Nagina 22;  
Sensitive Checks (2): IR64 and GangavatiAgeti;  
Checks (2): MTU 1010 and Shabhagidhan**

**Table:12.6**

Advance variety trial 1-NIL (drought) was conducted across 5 locations to evaluate the performance of 10 drought near isogenic lines as compared to the six recipient parents, two donor parents (IR81896-B-B-142 and Nagina 22), two sensitive checks (IR64 and GangavatiAgeti) and two check varieties (MTU 1010 and Shabhagidhan) during wet season, 2020. Data of three centers were not included due to very high experimental CV for grain yield at Rewa center, high grain yield of recipient parents and check varieties at Bikramganj and many missing plots data at Raipur. The experimental mean grain yield was 1493.91 kg/ha while the yield of entries varied from 303 kg/ha (IET28788) to 2675.75 kg/ha (IET29069). Sahabhagidhan was the best check (BC) in the experiment showing means yield of 1749.635 kg/ha under the stress condition. Sensitive check, IR64 was best sensitive check (BSC) which produced low yield of 1083.49 kg/ha compared to GangavatiAgeti under the stress condition.

Four drought NILs viz., IET 29069, IET 28032, IET 28033, IET2068, IET 28017 and IET 2801 performed well compared to the recurrent parent (RP) AVT1 NIL (DRT) trial, 2020. Two Swarna NIL lines, IET 29068 and IET 29069 were promoted on regional and the overall bases as the performance of NIL lines were superior to RP under drought stress conditions. IET 28032 and IET 28033 were promoted on regional and the overall basis based on the performance of NIL lines under drought stress conditions. IET28017 and 28018 showed advantage over the RP in region III and found to be promising for the year, 2020.

### Performance of the NILs compared to recurrent parent, sensitive check and best check under the NIL trial, 2020.

Sl. No.	IET No./Designation/ Crosscombination	Yield	%RP	%BSC	% BC	Remarks
1	IET28017 (Pusa 1823-12-62) Pusa44*3/IR81896-B-B-142	1499.9	+23.39	+38.43	-14.27	Promising in region III as the performance of NIL is superior to RP under drought stress conditions
2	IET28018 (Pusa 1823-12-82) Pusa44*3/IR81896-B-B-142	1405.48	+15.63	+29.72	-19.67	Promising in region III as the performance of NIL is superior to RP under drought stress conditions
	Pusa 44(RP)	1215.49				

Sl. No.	IET No./Designation/ Crosscombination	Yield	%RP	%BSC	% BC	Remarks
3	IET 28787 (Pusa-1882-12-111-7) PB 1*3/N22	1567.79	-21.32	+44.70	-10.39	Yield of NIL did not show superiority over RP in the region and overall basis
4	IET 28788 (Pusa-1882-12-111-20) PB 1*3/N22	1303.48	-34.59	+20.30	-25.50	Yield of NIL did not show superiority over RP in the region and overall basis
	Pusa Basmati 1 (RP)	1992.85				
5	IET 29068 (R-RF-161) Swarna *3/ IR 90019-17-159-B	1372.48	+45.38	+26.67	-21.55	Promising in region III and on overall basis as the performance of NIL is superior to RP under drought stress conditions in region III and overall basis.
6	IET 29069 (R-RF-120) Swarna *3/ IR 90019-17-159-B	1943.94	+105.92	+79.41	+11.10	Promising in region III, region VII and on overall basis as the performance of NIL is superior to RP under drought stress conditions in region III, region VI and overall basis.
	Swarna	944.02				
7	IET 28032 (CRR 751-1-7-B-B) IR 64 Sub1*4/IR 88287-367-B-B	1966.1	+81.45	+81.46	+12.37	Promising in region III, region VII and on overall basis as the performance of NIL is superior to RP under drought stress conditions in region III, region VI and overall basis.
8	IET 28033 (CRR 751-1-12-B-B) IR 64 Sub1*4/IR 88287-367-B-B	1864.14	+72.04	+72.05	+6.54	Promising in region III, region VII and on overall basis as the performance of NIL is superior to RP under drought stress conditions in region III, region VI and overall basis.
	IR64 (RP)	1083.49				
9	IET 29024 (CRR 753-5-1-B) Anjali*3/IR 84984-83-15-18-B-B-93	706.92	-40.53	-34.76	-59.59	Yield of NIL did not show superiority over RP in the region and overall basis
	Anjali (RP)	1186.8				
10	IET26753 (RP 6270-MSM 36-Bio-62-4-15) Varalu*3/Vandana	1649.39	+0.91	52.23	-5.72	Yield of NIL did not show superiority over RP in the region and overall basis
	Varalu(RP)	1634.51				

**Table No. 12.1: Composition of entries in Advance Variety Trial 1- Near Isogenic Lines – Submergence (AVT 1-NIL-Sub) Kharif 2020.**

Entry No.	IET No.	Designation	Cross combination	Grain Type
<b>2<sup>nd</sup> Year of testing:</b>				
6301	26744 (R)	CR 3932-7	Pooja*3 / Swarna-Sub1	SB
6302	<b>Pooja (RP)</b>			
6303	28791	KR 16024	ADT 46 * 3 / Swarna Sub-1	LS
6304	28789	KR 16022	ADT 46 * 3 / Swarna Sub-1	LS
6305	<b>ADT 46 (RP)</b>			
6306	28794	120-79-RM-Sub-1	RajendraMahsuri // Swarna Sub-1	MS
6307	<b>RajendraMahsuri (RP)</b>			
<b>1<sup>st</sup> Year of testing:</b>				
6308	29025	CR4050-121-28-13-1	Swarna Sub 1*3/IRBB60	MS
6309	29027	CR4050-121-28-13-2	Swarna Sub 1*3/IRBB61	MS
6310	<b>CR Dhan 800</b>			
6311	<b>Swarna Sub 1</b>			
6312	29029	CR 2538-42-17-32-3-1	Varshadhan*3/IR49830-7	LB
6313	29026	CR 2538-42-17-32-3-3	Varshadhan*3/IR49830-7	LB
6314	29031	CR 2538-42-17-32-3-2	Varshadhan*3/IR49830-7	LB
6315	29032	CR 2538-20-14-24-2	Varshadhan*3/IR49830-7	LB
6316	<b>Varshadhan (RP)</b>			
6317	29028	CR 2532-9-21-35-1	Sarala*3/IR49830-7	MS
6318	<b>Sarala (RP)</b>			
6319	29030	CR 2531-72-6-19-5	Gayatri*3/IR49830-7	SB
6320	29033	CR 2531-72-6-19-6	Gayatri*3/IR49830-7	SB
6321	<b>Gayatri (RP)</b>			
6322	29034	TTB 238	Ranjit Sub 1/ Improved Samba Mahsuri// Ranjit Sub 1///Ranjit Sub 1	MS
6323	<b>Ranjit Sub1 (RP)</b>			
6324	<b>Swarna (Sensitive check) *</b>			

\*The seed of the entry number 6324 was checked, and the husk color was found straw white. Hence the material is not Swarna.

**Table No. 12.2: Grain yield (Kg/ha) of entries in AVT 1-NIL-Sub Kharif 2020**

Entry No.	IET No.	Zone III (1)		Zone VII		Overall (2) Mean
		OD	AP	PUD		
		CTK	MTU	@KRK		
6301	26744 (R)	2456	4566	-		3511
6302	Pooja (RP)	252	3563	2292		1908
6303	28791	1961	3455	4083		2708
6304	28789	2065	2281	3486		2174
6305	ADT 46 (RP)	394	2351	2139		1373
6306	28794	2117	3549	3264		2833
6307	RajendraMahsuri (RP)	172	2167	2444		1170
6308	29025	1813	3337	-		2575
6309	29027	1670	2288	-		1979
6310	CR Dhan 800	676	2170	2458		1423
6311	Swarna Sub 1	1748	4747	3264		3248
6312	29029	3413	2219	3396		2816
6313	29026	3259	4427	3111		3843
6314	29031	3409	3198	3556		3304
6315	29032	3643	4788	3347		4216
6316	Varshadhan (RP)	252	3198	3319		1725
6317	29028	3150	4326			3739
6318	Sarala (RP)	0	3198	2278		1599
6319	29030	3674	5132			4403
6320	29033	3565	3424			3495
6321	Gayatri (RP)	615	2128	2528		1372
6322	29034	507	3188	2667		1848
6323	Ranjit Sub1 (RP)	291	4806	3556		2549
6324	Swarna (Sensitive check)	1657	4597	3597		3127
<b>Exp. Mean</b>		<b>1781.67</b>	<b>3462.6</b>	<b>3043.59</b>		<b>2622.13</b>
<b>CD</b>		429.96	481.62	219.34		322.41
<b>CV%</b>		<b>14.67</b>	<b>8.46</b>	<b>4.34</b>		<b>7.48</b>
<b>D/S</b>		23.07.2020	01.08.2020	11.08.2020		
<b>D/P</b>		28.08.2020	28.08.2020	11.09.2020		

**Table No.12.3: Days to 50% flowering of entries in AVT 1-NIL-Sub Kharif 2020**

Entry No.	IET No.	Zone III (1)		Zone VII		Overall (2) Mean
		OD	AP	PUD		
		CTK	MTU	@KRK		
6301	26744 (R)	117	121			119
6302	Pooja (RP)	117	137	92		127
6303	28791	135	135	110		135
6304	28789	135	138	108		137
6305	ADT 46 (RP)	114	136	109		125
6306	28794	124	118	94		121
6307	RajendraMahsuri (RP)	41	136	95		89
6308	29025	108	115			112
6309	29027	133	112			123
6310	CR Dhan 800	121	110	95		116
6311	Swarna Sub 1	124	115	98		120
6312	29029	121	131	95		126
6313	29026	127	103	95		115
6314	29031	126	126	94		126
6315	29032	126	103	96		115
6316	Varshadhan (RP)	130	105	100		118
6317	29028	118	121			120
6318	Sarala (RP)	0	114	99		57
6319	29030	123	111			117
6320	29033	123	114			119
6321	Gayatri (RP)	119	115	95		117
6322	29034	131	127	107		129
6323	Ranjit Sub1 (RP)	135	105	108		120
6324	Swarna (Sensitive check)	128	112	97		120
<b>Exp. Mean</b>		<b>115.75</b>	<b>119.11</b>	<b>99.3</b>		<b>117.43</b>
<b>CD</b>		24.66	1.73	2.52		11.97
<b>CV%</b>		12.95	0.89	1.53		6.2

**Table No. 12.4: Plant height (cm) of entries in AVT 1-NIL-Sub Kharif 2020**

Entry No.	IET No.	Zone VII			Overall (2) Mean
		Zone III	AP	PUD	
		OD CTK	MTU	@KRK	
6301	26744 (R)	81	102		92
6302	Pooja (RP)	66	74	126	70
6303	28791	80	99	141	90
6304	28789	71	95	141	83
6305	ADT 46 (RP)	75	98	134	87
6306	28794	80	77	126	79
6307	RajendraMahsuri (RP)	71	93	136	82
6308	29025	76	84		80
6309	29027	75	87		81
6310	CR Dhan 800	60	78	113	69
6311	Swarna Sub 1	62	78	112	70
6312	29029	100	82	166	91
6313	29026	99	146	157	123
6314	29031	99	122	170	111
6315	29032	97	139	156	118
6316	Varshadhan (RP)	99	147	146	123
6317	29028	77	99		88
6318	Sarala (RP)	0	80	144	40
6319	29030	78	117		97
6320	29033	62	112		87
6321	Gayatri (RP)	66	77	135	71
6322	29034	60	79	143	69
6323	Ranjit Sub1 (RP)	83	92	146	88
6324	Swarna (Sensitive check)	60	82	121	71
<b>Exp. Mean</b>		<b>74</b>	<b>97</b>	<b>140</b>	<b>86</b>

**Table No. 12.5: Panicles/m<sup>2</sup> of entries in AVT 1-NIL-Sub Kharif 2020**

Entry No.	IET No.	Zone VII			Overall (2) Mean
		Zone III	AP	PUD	
		OD CTK	MTU	@KRK	
6301	26744 (R)	176	186		181
6302	Pooja (RP)	11	194	551	103
6303	28791	101	319	630	210
6304	28789	106	294	668	200
6305	ADT 46 (RP)	13	190	547	102
6306	28794	116	229	599	173
6307	RajendraMahsuri (RP)	25	182	580	104
6308	29025	184	220		202
6309	29027	155	181		168
6310	CR Dhan 800	35	268	621	152
6311	Swarna Sub	162	209	413	186
6312	29029	195	186	397	191
6313	29026	196	218	535	207
6314	29031	161	191	435	176
6315	29032	192	223	444	208
6316	Varshadhan (RP)	11	242	367	127
6317	29028	183	200		192
6318	Sarala (RP)	0	292	643	146
6319	29030	195	307		251
6320	29033	188	257		223
6321	Gayatri (RP)	34	265	592	150
6322	29034	35	305	678	170
6323	Ranjit Sub1 (RP)	11	273	608	142
6324	Swarna (Sensitive check)	152	282	708	217
<b>Exp. Mean</b>		<b>109.88</b>	<b>238.04</b>	<b>556.46</b>	<b>173.96</b>
<b>CD</b>		19.39	32.5	206.35	19.63
<b>CV%</b>		10.73	8.31	22.35	6.87

**Table No. 12.6: Composition of entries in Advance Variety Trial 1- Near Isogenic Lines – Drought AVT 1-NIL (DRT) kharif 2020.**

Entry No.	IET No.	Designation	Cross combination	Grain Type
<b>2<sup>nd</sup> Year of testing:</b>				
6401	28017	Pusa 1823-12-62	Pusa44/IR81896-B-B-142//Pusa 44*3	LB
6402	<b>Pusa 44 (RP)</b>			
6403	28018	Pusa 1823-12-82	Pusa 44/ IR81896-B-B-142//Pusa 44*3	LB
<b>6404</b>	<b>IR 81896B-B-142 (DP)</b>			
6405	<b>Pusa Basmati 1 (RP)</b>			
6406	28787	Pusa-1882-12-111-7	PB 1/N22//PB1*3	LS
6407	<b>GangavatiAgeti (Sensitive Check)</b>			
6408	28788	Pusa-1882-12-111-20	PB 1/N22//PB1*3	LS
6409	<b>Nagina -22 (DP)</b>			
<b>1<sup>st</sup> year of testing:</b>				
6410	29068	R-RF-161	Swarna / IR 90019-17-159-B/Swarna/Swarna/Swarna	SB
6411	<b>MTU 1010 (check)</b>			
6412	29069	R-RF-120	Swarna / IR 90019-17-159-B/Swarna/Swarna/Swarna	SB
6413	<b>Swarna(RP)</b>			
6414	28032	CRR 751-1-7-B-B (Repeat)	IR 64 Sub1*4/IR 88287-367-B-B	LS
6415	<b>Sahbhagi Dhan (Check)</b>			
6416	28033	CRR 751-1-12-B-B (Repeat)	IR 64 Sub1*4/IR 88287-367-B-B	LS
6417	<b>IR 64 (RP)</b>			
6418	29024	CRR 753-5-1-B	Anjali*3/IR84984-83-15-18-B-B-93	SB
6419	<b>Anjali (RP)</b>			
6420	26753(R)	RP 6270-MSM 36-Bio-62-4-15	Varalu *3 / Vandana NIL	LS
6421	<b>Varalu (RP)</b>			



**Table No. 12.7 contd.: Grain Yield (Kg/ha) of entries in AVT1- NIL (DRT) Kharif, 2020**

Entry No.	IET No.	Zone III		Zone III(1)	Zone V	
		BI	JH	Mean	CG	MP
		BKG@	HZB		RPR@	REW@
6401	28017	3439	704	704		
6402	Pusa 44 (RP)	3476	318	318		
6403	28018	3364	795	795		
6404	IR 81896B-B-142 (DP)	4228	1364	1364		
6405	Pusa Basmati 1 (RP)	2691	545	545		
6406	28787	2982	561	561		
6407	Gangavati Ageti (Sensitive Check)	2841	1591	1591	749	33
6408	28788	3215	303	303		
6409	Nagina -22 (DP)	2841	1152	1152		141
6410	29068	4411	1553	1553		141
6411	MTU 1010 (check)	5022	1015	1015		43
6412	29069	3215	1212	1212	1486	87
6413	Swarna (RP)	3177	182	182		
6414	28032	4149	1875	1875		
6415	Sahbhagi Dhan (Check)	2953	1451	1451	583	22
6416	28033	3813	1838	1838		0
6417	IR 64 (RP)	4860	913	913		22
6418	29024	2617	205	205	321	65
6419	Anjali (RP)	2990	970	970	547	119
6420	26753(R)	2916	727	727	274	
6421	Varalu (RP)	3850		787.66	583	0
<b>Exp. Mean</b>		<b>3478.59</b>		<b>955.28</b>	<b>648.86</b>	<b>61.12</b>
<b>CD</b>		<b>607.79</b>		<b>256.95</b>	<b>239.23</b>	<b>68.1</b>
<b>CV%</b>		<b>10.59</b>		<b>16.24</b>	<b>23.09</b>	<b>64.37</b>

**Table No. 12.7 contd.: Grain Yield (Kg/ha) of entries in AVT1- NIL (DRT) Kharif 2020**

Entry No.	IET No.	Zone VII	Zone VII(1)	Overall Mean (2)
		TN (1)		
		CBT		
6401	28017	2295	2295	1499
6402	Pusa 44 (RP)	2112	2112	1215
6403	28018	2015	2015	1405
6404	IR 81896B-B-142 (DP)	2213	2213	1788
6405	Pusa Basmati 1 (RP)	3440	3440	1992
6406	28787	2574	2574	1567
6407	Gangavati Ageti (Sensitive Check)	1859	1859	1725
6408	28788	2303	2303	1303
6409	Nagina -22 (DP)	1369	1369	1260
6410	29068	1191	1191	1372
6411	MTU 1010 (check)	2008	2008	1511
6412	29069	2675	2675	1943
6413	Swarna (RP)	1706	1706	944
6414	28032	2057	2057	1966
6415	Sahbhagi Dhan (Check)	2048	2048	1749
6416	28033	1890	1890	1864
6417	IR 64 (RP)	1254	1254	1083
6418	29024	1209	1209	706
6419	Anjali (RP)	1403	1403	1186
6420	26753(R)	2571	2571	1649
6421	Varalu (RP)	2481	2481	1634
<b>Exp. Mean</b>		<b>2032.54</b>	<b>2032.54</b>	<b>1493.91</b>
<b>CD</b>		<b>371.091</b>	<b>371.091</b>	<b>293.48</b>
<b>CV%</b>		<b>11.023</b>	<b>11.023</b>	

**Table No. 12.8: Days to50%floweringofentriesinAVT1- NIL (DRT)Kharif 2020**

Entry No.	IET No.	Zone III		ZoneIII(1)	Zone V		Zone VII	Overall (2) Mean
		BI	JH	Mean	CG	MP	TN(1)	
		BKG@	HZB		RPR@	REW@	CBT	
6401	28017	96	94	94			96	95
6402	Pusa 44 (RP)	97	98	98			94	96
6403	28018	96	93	93		84	99	96
6404	IR 81896B-B-142 (DP)	87	95	95			83	88
6405	Pusa Basmati 1 (RP)	95	93	93			89	92
6406	28787	96	92	92			90	93
6407	GangavatiAgeti (Sensitive Check)	71	75	75	71	83	80	74
6408	28788	97	96	96			93	95
6409	Nagina -22 (DP)	72	72	72		76	65	70
6410	29068	84	90	90	97	87	66	84
6411	MTU 1010 (check)	80	86	86	95	85	84	86
6412	29069	83	86	86	86	85	83	85
6413	Swarna(RP)	83	100	100			94	92
6414	28032	78	86	86			81	82
6415	Sahbhagi Dhan (Check)	78	80	80	89	84	71	80
6416	28033	80	86	86	94	85	83	86
6417	IR 64 (RP)	82	88	88		94	100	90
6418	29024	72	74	74	74	77	64	71
6419	Anjali (RP)	71	73	73	74	80	66	71
6420	26753(R)	83	82	82	76		83	81
6421	Varalu (RP)	83	83	83	88	94	80	84
<b>Exp. Mean</b>		<b>83.97</b>	<b>86.68</b>	<b>86.68</b>	<b>84.26</b>	<b>84.59</b>	<b>83.08</b>	<b>85.02</b>
<b>CD</b>		<b>1.97</b>	<b>1.42</b>	<b>1.42</b>	<b>43.88</b>	<b>35.27</b>	<b>1.3</b>	<b>1.71</b>
<b>CV%</b>		<b>1.42</b>	<b>1</b>	<b>1</b>	<b>23.02</b>	<b>24.63</b>	<b>0.95</b>	<b>1.22</b>

**Table No. 12.9: Plant heightofentriesinAVT1- NIL (DRT)Kharif2020**

Entry No.	IET No.	Zone III		ZoneIII(1)	Zone V		Zone VII	Overall (2) Mean
		BI	JH	Mean	CG	MP	TN(1)	
		BKG@	HZB		RPR@	REW@	CBT	
6401	28017	85	60	60			68	71
6402	Pusa 44 (RP)	77	67	67			75	73
6403	28018	77	68	68		70	66	70
6404	IR 81896B-B-142 (DP)	107	97	97		.	105	103
6405	Pusa Basmati 1 (RP)	104	75	75		.	90	90
6406	28787	106	79	79		.	81	89
6407	GangavatiAgeti (Sensitive Check)	73	82	82	74	65	82	78
6408	28788	96	76	76	.	.	81	84
6409	Nagina -22 (DP)	124	107	107	.	80	85	105
6410	29068	75	65	65	.	50	51	63
6411	MTU 1010 (check)	111	80	80	.	59	76	89
6412	29069	121	106	106	83	78	97	102
6413	Swarna(RP)	69	77	77	.	.	80	75
6414	28032	107	88	88	.	.	78	91
6415	Sahbhagi Dhan (Check)	110	100	100	75	73	89	93
6416	28033	105	85	85	.	56	70	87
6417	IR 64 (RP)	101	76	76	.	75	84	87
6418	29024	118	97	97	81	81	68	91
6419	Anjali (RP)	116	104	104	79	77	116	104
6420	26753(R)	97	83	83	75	.	69	81
6421	Varalu (RP)	107	84	84	72	73	77	85
<b>Exp. Mean</b>		<b>99</b>	<b>84</b>	<b>84</b>	<b>77</b>	<b>70</b>	<b>80</b>	<b>86</b>

**Table No. 12.10: Panicles/m<sup>2</sup> of entries in AVT1- NIL (DRT) Kharif 2020**

Entry No.	IET No.	Zone III		Zone III(1)	Zone V		Zone VII	Overall (2)
		BI	JH	Mean	CG	MP	TN(1)	Mean
		BKG@	HZB		RPR@	REW@	CBT	
6401	28017	274	168	168			301	248
6402	Pusa 44 (RP)	250	189	189			339	259
6403	28018	282	201	201			233	239
6404	IR 81896B-B-142 (DP)	288	201	201			268	252
6405	Pusa Basmati 1 (RP)	293	194	194			388	292
6406	28787	301	191	191			296	263
6407	Gangavati Ageti (Sensitive Check)	256	212	212		34	313	260
6408	28788	278	201	201			278	252
6409	Nagina -22 (DP)	247	194	194		86	338	260
6410	29068	271	170	170		76	323	255
6411	MTU 1010 (check)	248	182	182		58	301	244
6412	29069	264	159	159		81	248	224
6413	Swarna (RP)	226	189	189			331	249
6414	28032	268	226	226			313	269
6415	Sahbhagi Dhan (Check)	274	201	201		53	291	255
6416	28033	278	219	219		52	278	258
6417	IR 64 (RP)	264	205	205		56	434	301
6418	29024	237	149	149		66	152	179
6419	Anjali (RP)	257	159	159		75	383	266
6420	26753(R)	250	215	215			274	246
6421	Varalu (RP)	257	210	210		34	298	255
<b>Exp. Mean</b>		<b>264.85</b>	<b>192.11</b>	<b>192.11</b>		<b>61</b>	<b>303.61</b>	<b>253.53</b>
<b>CD</b>		<b>28.81</b>	<b>51.98</b>	<b>51.98</b>		<b>35.83</b>	<b>13.71</b>	<b>21.19</b>
<b>CV%</b>		<b>6.59</b>	<b>16.4</b>	<b>16.4</b>		<b>34.49</b>	<b>2.74</b>	<b>5.06</b>

## ADVANCE VARIETY TRIAL 1– BASMATI (AVT 1- BT)

<b>Locations:</b>	<b>13</b>	<b>Test Entries:</b>	<b>32</b>
<b>Checks and Recurrent Parents :</b>	<b>Pusa Basmati 1 (YC &amp; RP), Pusa Basmati 1121 (YC, QC &amp; RP), Taraori Basmati (QC), Pusa RH 10 (HC), Local Check (LC), Pusa Basmati 6 (RP) and Pusa Basmati 1509(RP)</b>	<b>Table:</b>	<b>13.1</b>

Advance Variety Trial 1-Basmati constituted of 32 entries including ten varietal test entries; two hybrid entries; thirteen Near isogenic lines; four recurrent parents namely, Pusa Basmati 1, Pusa Basmati 6, Pusa Basmati 1121 and Pusa Basmati 15049; five checks namely Pusa Basmati 1 (Yield Check), Pusa Basmati 1121 (Yield and Quality Check), Taraori Basmati (Quality Check), Pusa RH10 (Hybrid Check) and local check. Out of 32 test entries one entry namely, IET 27720 are in 3<sup>rd</sup> year of testing, 24 entries are in second year of testing while the remaining seven entries are checks and recurrent parents. Trial was conducted at 13 typical locations for Basmati cultivation. Out of 13 test locations, the data from nine locations namely, New Delhi, Kaul, Karnal, Modipuram, Meerut, Ludhiana, Rauni, Gurdaspur and Chatha was considered for analysis, while the data from four locations namely Pant Nagar, Kapurtala, Nagina and Malan was not considered for analysis due to low experimental mean and or low CV.

Experimental mean of the locations ranged from 1599 kg/ha at Malan to 6951 kg/ha at IARI, New Delhi while CV ranged from 3.8 % at Meerut and Nagina to 19.5 % at Pant Nagar. Days to 50% flowering ranged from 86 days (IET 28810) to 109 days (IET 28808 and IET 28809). Plant height of the entries ranged from 92 cm (IET 28808 and IET 28809) to 136 cm (Taraori Basmati) while panicles per sq m ranged from 265 (IET 28573) to 352 (IET 28812). Among the checks, hybrid check Pusa RH 10 registered 6196 kg/ha with 2<sup>nd</sup> rank based on overall mean. The data on yield, days to 50% flowering, plant height, number of panicles/m<sup>2</sup>, quality and panel test are presented in 13.2, 13.3, 13.4, 13.5, 13.6 to 13.9 and 13.10 to 13.11 respectively. The details of best performing entries are elaborated below.

### Performance of entries in AVT 1-BT during second year of testing

Out of 11 test entries which include 9 varieties and two hybrid entry, seven varietal test entries namely, IET 28589, IET 28572, IET 28583, IET 28574, IET 28575, IET 28577 and IET 28586 showed superior yield performance over best varietal check and the hybrid IET 28579 was superior over best varietal as well as hybrid check.

On overall mean basis, the entry, IET28572 (CSR162-11-917) derived from the cross CSR30/FL478 possessed yield advantage of 11% over the best varietal check Pusa Basmati 1121. However, it recorded poor KLAC (11.85 mm), low elongation ratio (1.60) and high amylose content (25.74%). Based on its unacceptable quality parameters, the entry IET 28572 do not qualify for promotion to next year of testing. However, the entry will be repeated in AVT1-BT.

The entry IET28575 (HKR 15-455) derived from the cross PAU 3030-29-2 / PAU 2020-10-3-1 possessed yield advantage of 28% over the best varietal check Pusa Basmati

1121 on overall mean basis. However, it recorded poor KLAC (11.18 mm), low elongation ratio (1.60) and high amylose content (27.08%). Based on its unacceptable quality parameters, the entry IET 28575 do not qualify for promotion to next year of testing.

The entry IET 28574 (Pusa 1630-07-12-2-62) derived from the cross Pusa 1527/Pusa 1221 possessed yield advantage of 5% over the best varietal check Pusa Basmati 1121 on overall mean basis. Although, it recorded high KLAC (15.85 mm) and high elongation ratio (1.93) but it possessed low amylose content (18.04%). Therefore, based on its unacceptable quality parameter, the entry IET 28574 do not qualify for promotion to next year of testing.

Four entries namely, IET 28589 (PAU 5089-3-7-2-1-1-2), IET 28583 (UPR 4088-1-1-1), IET 28577 (UPR 4079-10-1-1-1) and IET 28586 (UPR 4084-14-1-1-1); and a hybrid entry IET 28579 (TAJ) are promoted to AVT-2 for third year of testing.

#### Performance of promising entries in second year of testing in AVT1-BT Kharif, 2020

S.No.	IET No/ Designation/ Cross Combination	GY/ FD	Yield advantage % over BC/HC	Performance, rank % increase over best check			
				State	Yield	% over BC	% over HC
1	IET 28589 PAU 5089-3-7-2-1- 1-2 Pusa Basmati 1121/PAU3429-6-3- 4-2	<b>5235</b> <b>105</b>	8 -	DE	6375	-	-
				PU (8)	4860	17	-
				HA(9)	5887	9	-
				UP	5201	-	-
				JK	3980	-	-
2	IET 28583 UPR 4088-1-1-1 Pant SugandhDhan- 15/Taroari Basmati	<b>5115</b> <b>91</b>	6 -	DE (8)	7418	8	-
				PU	4293	-	-
				HA	5726	12	-
				UP	5201	-	-
				JK	3980	-	-
3	IET 28577 UPR 4079-10-1-1-1 Sugandhmati/Pant SugandhDhan15	<b>5892</b> <b>91</b>	22 -	DE (5)	8127	18	-
				PU (4)	5421	30	-
				HA (3)	6337	24	-
				UP (6)	5827	14	-
				JK	4313	17	-
4	IET 28586 UPR 4084-14-1-1-1 Sugandhmati-5/ Type-3	<b>5197</b> <b>93</b>	8 -	DE	7201	-	-
				PU	4516	9	-
				HA	5664	11	-
				UP (9)	5736	12	-
				JK	3220	-	-
5	IET 28579 TAJ F501/510R	<b>6903</b> <b>89</b>	43 11	DE (1)	9380	36	11
				PU (1)	6008	44	12
				HA (1)	6809	33	10
				UP (1)	7395	44	8
				JK (1)	6313	71	23

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S.No.	IET No/ Designation/ Cross Combination	GY/ FD	Yield advantage % over BC/HC	Performance, rank % increase over best check			
				State	Yield	% over BC	% over HC
	Pusa Basmati-1 (YC)	<b>4377</b> <b>104</b>		DE PU HA UP JK	5879 4162 4551 4386 3153		
	Pusa Basmati-1121 (YC & QC)	<b>4825</b> <b>105</b>		DE PU HA UP JK	6900 4109 5124 5130 3687		
	Taraori Basmati (QC)	<b>3530</b> <b>106</b>		DE PU HA UP JK	4207 3555 3952 3072 2847		
	Pusa RH 10 (HC)	<b>6196</b> <b>89</b>		DE (4) PU (5) HA (4) UP (2) JK (3)	8437 5367 6195 6851 5133		
	Local Check (LC)	<b>4692</b> <b>98</b>		DE PU HA UP JK	6733 3608 4980 5266 4180		

**Summarizing the three years performance of entries found promising in AVT 1-BT**

IET 27720 (Pusa 1301-95-12-5-2-4-2) derived from the cross Khalsa7/Improved Sabarmati recorded mean grain yield of 5517 kg/ha during 2019 with 9.81% yield advantage over best varietal check. During third year of testing (*Kharif* 2020), it recorded mean yield of 5040 kg/ha with yield advantage of 4.41%. Based on overall yield performance the entry has more than 5% yield superiority. Though this entry has shown marginally low amylose content, it has shown most favourable values for GC and ASV, it has been considered promising.

**Quality wise it possessed acceptable grain and cooking quality traits with strong scent**

IET NO./ Designation/ Cross Combination	Year	Mean yield FD/GT	Yield advantage (%) over BC/HC	% increase over best check			
				State	Yield	% BC	% HC
27720 Pusa 1301-95- 12-5-2-4-2  Khalsa 7/ Improved Sabarmati	2018	5310	24	DE(3)	5924	19	-
		84	-	PU (8)	4456	-	-
		LS		HR (8)	5200	40	-
				UP (6)	5659	12	-
	2019	5517	9.81	DE (4)	7043	16.74	-
		83 LS	-	HA	4718	10.91	-
	2020	5040	4.41	DE	6911	-	-
		91	-	PU (9)	4817	16	-
		LS		HA	5042	-	-
			UP	5056	-	-	
			JK	3800	-	-	

**Near Isogenic Lines for drought tolerance**

The two NIL entries in the genetic background of Pusa Basmati 1 namely, IET 28787 and IET 28788 derived from the cross Pusa Basmati 1/N22//Pusa Basmati1\*3 and possesses drought tolerant QTL *qDTY 1.1* governing reproductive stage drought tolerance. These two NILs were evaluated for yield under regular Basmati trial. These NILs along with the recurrent (PB 1) and donor parent (Nagina 22) were also tested under AVT1-NILs (Drt) trial for verification of the target trait, reproductive stage drought stress tolerance.

The entry, IET 28787 was found to be 4.46% superior over the recurrent parent under normal irrigated transplanted condition. Over two years, it has shown a superiority of 5.07% (2019) and 4.46% (2020) with an average of 4.75% superiority over the recurrent parent under irrigated trial in Basmati locations. For trait drought stress, it had recorded 308.5% superiority over recurrent parent during 2019. The grain and cooking quality parameters were similar to the recurrent parent. Considering the fact that the NIL performed at par under normal irrigated condition (4.75% superiority over the RP) while sufficient data not available for reproductive stage drought stress under rainout shelter, the NIL entry IET 28787 may repeated for trait verification alone during the AICRIP trial 2021.

The entry, IET 28788 was found to be 9.16% superior over the recurrent parent under normal irrigated transplanted condition. Over two years, it has shown a superiority of 11.43% (2019) and 9.16% (2020) with an average of 10.26% superiority over the recurrent parent under irrigated trial in Basmati locations. For trait drought stress, it had recorded 404.4% superiority over recurrent parent during 2019. The grain and cooking quality parameters were similar to the recurrent parent. Considering the fact that the NIL performed at par under normal irrigated condition (10.26% superior over the RP), while sufficient data not available for reproductive stage drought stress under rainout shelter, the NIL entry IET 28788 may repeated for trait verification alone during the AICRIP trial 2021.

Sl. No.	IET No	Recurrent Parent (RP) and genes	Year	Normal condition			Drought condition	Remarks
				RP yield (kg/ha)	NIL yield (kg/ha)	Per cent superiority		
1	28787	Pusa Basmati 1 ( <i>qDTY1.1</i> )	2019	4121	4330	5.07	Tolerant	Repeat for trait verification
			2020	4377	4572	4.46	Tolerant but inconclusive	
2	28788	Pusa Basmati 1 ( <i>qDTY1.1</i> )	2019	4121	4592	11.43	Tolerant	Repeat for trait verification
			2020	4377	4778	9.16	Inconclusive	

### Near Isogenic Lines for Bacterial Leaf Blight and Blast Resistance

A total of seven NIL entries and their respective recurrent parents (Pusa Basmati 6, Pusa Basmati 1121 and Pusa Basmati 1509) were evaluated for yield and grain quality in regular basmati trial and for bacterial leaf blight and blast resistance, a separate trial under NSN was conducted in hot spot regions in the Basmati GI locations to determine the resistance of NILs for bacterial leaf blight and blast disease.

Two NIL entries IET 28808 and IET 28809 in the genetic background of **Pusa Basmati 6** were evaluated for yield, quality, bacterial leaf blight and blast resistance.

**IET 28808** (Pusa 1886-13-91-26-9) derived from the cross Pusa 1884/PB1728 possessing genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. In the first year of testing it exhibited yield advantage of +19.42 % over RP and in the second year of testing it was on par with the recurrent parent. It recorded resistance reaction to blast with disease severity index value of 3.0 and 2.0 during first and second year of testing, respectively. Further, for bacterial blight it exhibited moderate resistance reaction with disease severity index of 4.5 during first year of testing and resistance reaction with disease severity index of 3.0 during second year of testing as compared to the susceptible reaction exhibited by its recurrent parent Pusa Basmati 6. Quality wise it is similar to its recurrent parent. **Hence, IET 28808 has been identified promising.**

**IET 28809** (Pusa 1886-13-201-18-13) derived from the cross Pusa 1884/PB1728 possesses genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. During two years of testing it has exhibited on par performance with its recurrent parent Pusa Basmati 6. For blast disease, it was found resistant with DSI of 3.0 during first year of testing and moderate resistance with DSI of 4.0 during second year of testing. For bacterial blight it was found resistant with DSI of 3.5 and 3.0 during two years of testing as compared to the susceptible reaction exhibited by its recurrent parent Pusa Basmati 6. Quality wise it is similar to its recurrent parent. **Hence, IET 28809 has been identified promising.**

Two NIL entries IET 28806 and IET 28807 in the genetic background of **Pusa Basmati 1121** were evaluated for yield, quality, bacterial leaf blight and blast resistance.

**IET 28806** (Pusa 1885-13-242-9-3) derived from the cross Pusa 1883/PB 1718 and possesses genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. It exhibited yield advantage of +14.77 % over RP during first year of testing and it performed on par performance with its recurrent parent Pusa Basmati 1121 during second year of



testing. It recorded resistance reaction with disease severity index value of 5.0 and 2.0 for blast; 3.3 and 3.0 for BLB during first and second year of testing, respectively. However, the recurrent parent Pusa Basmati 1121 was susceptible for both bacterial blight and blast diseases. Owing to its similarity with RP in morphological attributes, yield performance along with resistance reaction to blast and BLB, **IET 28806 has been identified promising.**

**IET 28807** (Pusa 1885-13-125-20-6) derived from the cross Pusa 1883/PB 1718 and possesses genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. It recorded yield advantage of +16.86 % over RP during first year of testing and it exhibited on par performance during second year of testing. It recorded resistance reaction with disease severity index value of 3.0 and 1.7 for blast; 4.0 and 3.0 for BLB during first and second year of testing, respectively. **Hence, IET 28807 has been identified promising.**

Three NIL entries IET's 28810, 28811 and 27722 in the genetic background of **Pusa Basmati 1509** were evaluated for yield, quality, bacterial leaf blight and blast resistance.

**IET 28810** (Pusa 1847-12-62-184-36-9-155) derived from the cross Pusa Basmati 1509\*2/Pusa 1790 possesses genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. It recorded resistance reaction with DSI of 1.5 and 1.0 for blast; 3.5 and 3.0 for BLB. Further, it exhibited on par performance for yield and quality parameters to its recurrent parent Pusa Basmati 1509. **Hence, IET 28810 has been identified promising.**

**IET 28811** (Pusa 1847-12-62-64-12-6-8) derived from the cross Pusa Basmati 1509\*2/Pusa 1790 possesses genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. It exhibited on par yield performance with its recurrent parent during both years of testing. It showed resistance reaction with disease severity index value of 3.0 and 1.0 for blast; 3.5 and 2.3 for BLB during first and second year of testing, respectively. Owing to its similarity for yield and quality parameters with its RP along with resistance to blast and BLB, **IET 28811 has been identified promising.**

**IET 27722** (Pusa 1847-12-62-190-39-7-15) derived from the cross Pusa Basmati 1509\*2/Pusa 1790 possesses genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. It recorded on par performance with its recurrent parent Pusa Basmati 1509 during two years of testing. It exhibited resistance reaction with DSI of 3.0 and 2.0 for blast; 4.0 and 3.0 for BLB. Owing to its similarity for yield and quality parameters with its RP along with resistance to blast and BLB, **IET 27722 been identified promising.**

Performance of the NIL entries during *Kharif* 2019 and 2020

Sl. No.	IET No	Recurrent Parent (RP) and genes	Year	Normal condition			Severity Index (%) from hot spots				Remarks
				RP yield (kg/ha)	NIL yield (kg/ha)	CD (0.05)	Blast		Bacterial leaf blight		
							RP	NIL	RP	NIL	
1	28808	Pusa Basmati 6 ( <i>Pi2, Pi54, xa13, Xa21</i> )	2019	3784	4519	495	7.5	3.0	6.5	4.5	Promising
			2020	4028	4479	685	7.7	2.0	8.3	3.0	Promising
2	28809	Pusa Basmati 6 ( <i>Pi2, Pi54, xa13, Xa21</i> )	2019	3784	3752	495	7.5	3.0	6.5	3.5	Promising
			2020	4028	4468	685	7.7	4.0	8.3	3.0	Promising
3	28806	Pusa Basmati 1121 ( <i>Pi2, Pi54, xa13, Xa21</i> )	2019	3690	4235	495	6.5	5.0	5.5	3.3	Promising
			2020	4825	4676	685	7.7	2.3	6.3	3.0	Promising
4	28807	Pusa Basmati 1121 ( <i>Pi2, Pi54, xa13, Xa21</i> )	2019	3690	4312	495	6.5	3.0	5.5	4.0	Promising
			2020	4825	4849	685	7.7	1.7	6.3	3.0	Promising
5	28810	Pusa Basmati 1509 ( <i>Pi2, Pi54, xa13, Xa21</i> )	2019	5409	5162	495	4.0	1.5	6.5	3.5	Promising
			2020	5136	4993	685	7.0	1.0	8.3	3.0	Promising
6	28811	Pusa Basmati 1509 ( <i>Pi2, Pi54, xa13, Xa21</i> )	2019	5409	5440	495	4.0	3.0	6.5	3.5	Promising
			2020	5136	5370	685	7.0	1.0	8.3	2.3	Promising
7	27722	Pusa Basmati 1509 ( <i>Pi2, Pi54, xa13, Xa21</i> )	2019	5409	5656	495	4.0	3.0	6.5	4.0	Promising
			2020	5136	5727	685	7.0	2.0	8.3	3.0	Promising

**Near Isogenic Lines for herbicide tolerance**

Mean grain yield (t/ha) data of herbicide (Imazethapyr) tolerance trial at six test locations during *Kharif* 2019 and *Kharif* 2020

A total of four NIL entries, two each in the genetic background of Pusa Basmati 1121(IET 28812 and IET 28813) and Pusa Basmati 1509 (IET 28814 and IET 28815) were evaluated for yield and herbicide tolerance. All the four NILs were evaluated for yield performance in the regular basmati trial and for trait confirmation(herbicide tolerance), a separate herbicide trial was conducted at five locations namely, New Delhi, Kaul, Ludhiana, Nagina and Pantnagar with nine treatments as mentioned bellow.

- Treatment 1 : Imazethapyr 10% SL (X dose) – 100 g a.i applied at 16-18 DAS  
 Treatment 2 : Imazethapyr 10% SL (1.25X dose) – 125 a.i applied at 16-18 DAS  
 Treatment 3 : Imazethapyr 10% SL (2X dose) – 200 a.i applied at 16-18 DAS  
 Treatment 4 : Imazethapyr 10% SL fb Imazethapyr 10% SL (X dose) – 100 + 100 a.i applied at 16-18 DAS and 35-37 DAS  
 Treatment 5 : Imazethapyr 10% SL fb Imazethapyr 10% SL (1.25 X dose) – 125 + 125 a.i applied at 16-18 DAS and 35-37 DAS  
 Treatment 6 : Imazethapyr 10% SL fb Imazethapyr 10% SL (2 X dose) - 200 + 200 a.i applied at 16-18 DAS and 35-37 DAS  
 Treatment 7 : Pendimethalin(PM) 30% EC + Bispyribac-sodium (BS)10% SC – PM- 2 DAS, BS – Early post emergence (16-18 DAS) and Late post emergence (23-25 DAS)  
 Treatment 8 : Weed Free Control – 2 times hand weeding  
 Treatment 9 : Untreated control (weedy check)

However, the trial at Pantnagar failed due to continuous rains and the data from Kaul was incomplete and hence not included in the analysis. Data from three locations New Delhi, Ludhiana and Nagina were analysed and the data is presented in following table

Treatment 1: Imazethapyr-X				T5: Imazethapyr-1.25X+1.25X			
Genotypes	DEL	LUD	NGN	Genotypes	DEL	LUD	NGN
IET 28813	5.75	5.39	4.92	IET 28813	5.74	5.36	4.96
IET 28812	4.98	4.58	4.92	IET 28812	5.68	4.43	5
Pusa Basmati 1121	0	0	0	Pusa Basmati 1121	0	0	0
IET 28815	5.68	5.86	4.75	IET 28815	4.53	4.93	5.02
IET 28814	4.41	5.28	4.09	IET 28814	4.4	4.81	4.04
Pusa Basmati 1509	0	0	0	Pusa Basmati 1509	0	0	0
Mean	3.47	3.52	3.11	Mean	3.39	3.26	3.17
T2: Imazethapyr-1.25X				T6: Imazethapyr-2X+2X			
Genotypes	DEL	LUD	NGN	Genotypes	DEL	LUD	NGN
IET 28813	6.17	5.68	4.98	IET 28813	5.94	5.45	5.01
IET 28812	4.69	4.62	4.9	IET 28812	5.19	4.55	4.85
Pusa Basmati 1121	0	0	0	Pusa Basmati 1121	0	0	0
IET 28815	4.64	5.4	4.8	IET 28815	5.64	5.01	4.86
IET 28814	4.41	5.15	4.05	IET 28814	4.41	4.93	3.95
Pusa Basmati 1509	0	0	0	Pusa Basmati 1509	0	0	0
Mean	3.32	3.48	3.12	Mean	3.53	3.32	3.11

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<b>T3: Imazethapyr-2X</b>				<b>T7: Pendimethalin + Bispyribac Sodium</b>			
Genotypes	DEL	LUD	NGN	Genotypes	DEL	LUD	NGN
<b>IET 28813</b>	5.85	5.56	4.96	<b>IET 28813</b>	3.71	5.6	4.89
<b>IET 28812</b>	4.85	4.82	4.91	<b>IET 28812</b>	3.98	4.58	4.85
<b>Pusa Basmati 1121</b>	0	0	0	<b>Pusa Basmati 1121</b>	3.74	4.43	4.74
<b>IET 28815</b>	4.56	5.58	4.8	<b>IET 28815</b>	3.71	5.28	4.83
<b>IET 28814</b>	4.47	5.46	4.02	<b>IET 28814</b>	2.96	5.23	3.91
<b>Pusa Basmati 1509</b>	0	0	0	<b>Pusa Basmati 1509</b>	3	4.89	4.7
<b>Mean</b>	3.29	3.57	3.12	<b>Mean</b>	3.52	5	4.65
<b>T4: Imazethapyr-X+X</b>				<b>T8: Weed free Control (2HW)</b>			
Genotypes	DEL	LUD	NGN	Genotypes	DEL	LUD	NGN
<b>IET 28813</b>	6.14	5.29	5.01	<b>IET 28813</b>	4.57	5.35	5
<b>IET 28812</b>	5.74	4.35	4.94	<b>IET 28812</b>	4.6	4.67	4.91
<b>Pusa Basmati 1121</b>	0	0	0	<b>Pusa Basmati 1121</b>	3.53	4.43	4.75
<b>IET 28815</b>	4.94	4.89	4.98	<b>IET 28815</b>	3.44	5.28	5.04
<b>IET 28814</b>	4.82	4.88	4.07	<b>IET 28814</b>	3.25	5.04	4.11
<b>Pusa Basmati 1509</b>	0	0	0	<b>Pusa Basmati 1509</b>	3.12	4.87	4.75
<b>Mean</b>	3.61	3.24	3.17	<b>Mean</b>	3.75	4.94	4.76
<b>T9: Untreated Control (Weedy check)</b>							
Genotypes	<b>IARI</b>		<b>LUD</b>		<b>NGN</b>		
<b>IET 28813</b>	0.41		0.25		1.45		
<b>IET 28812</b>	0.6		0.3		1.41		
<b>Pusa Basmati 1121</b>	0.45		0.26		1.42		
<b>IET 28815</b>	0.43		0.38		1.61		
<b>IET 28814</b>	0.83		0.23		1.34		
<b>Pusa Basmati 1509</b>	0.68		0.23		1.6		
<b>Mean</b>	0.57		0.28		1.47		

Following are the salient findings of the herbicide tolerance trial

1. All the treatments with Imazethapyr (T1 to T6), irrespective of the dosage showed complete survival of the HT-NIL genotypes namely, IET 28813, IET 28812, IET 28815 and IET 28814, while the recurrent parents, Pusa Basmati 1121 and Pusa Basmati 1509 did not survive these treatments.
2. In all the three locations, the grain yield from the treatment T9 was significantly lower than rest treatments. The mean grain yield did not show any statistically significant difference among the treatments, T1 to T8 at Ludhiana and Nagina. However, at New Delhi, treatments T1 to T6 showed significantly higher grain yield than treatment T7 and T8.
3. In case of other agro-morphological traits, such as plant height, days to 50% flowering, panicle number/m<sup>2</sup>, panicle weight, test weight and straw yield, the unweeded control (T9) showed significantly lower values than other treatments. The average performance data for these traits in among other treatments were at par in almost all the treatments.

The mean yield (t/ha) performance of NILs over their recurrent parents under normal and herbicide tolerance trials conducted across three locations are presented in the following table:

Entries	Normal Condition	T1: IT-X	T2: IT-1.25X	T3: IT-2X	T4: IT-X+X	T5: IT-1.25X+1.25X	T6: IT-2X+2X	T7: PMB	T8: WFC	WC
IET 28813	5.33	5.35	5.61	5.45	5.48	5.35	5.47	4.73	4.97	0.70
IET 28812	5.07	4.83	4.74	4.86	5.01	5.04	4.86	4.47	4.73	0.77
Pusa Basmati 1121	4.83	0.00	0.00	0.00	0.00	0.00	0.00	4.30	4.24	0.71
IET 28815	5.10	5.43	4.95	4.98	4.94	4.83	5.17	4.61	4.58	0.81
IET 28814	5.01	4.59	4.54	4.65	4.59	4.42	4.43	4.04	4.13	0.80
Pusa Basmati 1509	5.14	0.00	0.00	0.00	0.00	0.00	0.00	4.19	4.25	0.84
CD (0.05)	0.69	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73

**IET 28812** (Pusa 1979-14-7-33-99-66) derived from the cross Pusa Basmati1121/Robin processing Imazethapyr herbicide tolerant allele of *AHAS* was on par with the recurrent parent Pusa Basmati 1121 during two years of testing in the normal basmati trial. It yielded 3.9 t/ha and 4.83 t/ha during 2019 and 2020 respectively after spraying with Imazethapyr in the herbicide tolerance trial, while there was 100% mortality of RP. Quality wise, it is on par with the recurrent parent. Hence, **IET 28812 has been identified as promising entry.**

**IET 28813** (Pusa 1979-14-7-33-99-15) derived from the cross Pusa Basmati1121/Robin processing Imazethapyr herbicide tolerant allele of *AHAS* was on par with the recurrent parent Pusa Basmati 1121 during two years of testing in the normal basmati trial. It yielded 3.93 t/ha and 5.35 t/ha during 2019 and 2020 respectively after spraying with Imazethapyr in the herbicide tolerance trial, while there was 100% mortality of RP. Quality wise, it is on par with the recurrent parent. Hence, **IET 28813 has been identified as promising entry.**

**IET 28814** (Pusa 1985-15-7-58-190) derived from the cross Pusa Basmati 1509/Robin possessing Imazethapyr herbicide tolerant allele of *AHAS*, recorded on par performance with RP, Pusa Basmati 1509 in normal basmati trial. It had 3.88 t/ha and 4.59 t/ha during 2019 and 2020, respectively, while there was 100% mortality in the recurrent parent upon herbicide spray in herbicide tolerance trial. Quality wise, it was on par with the recurrent parent. Hence, **IET 28814 has been identified as promising entry.**

**IET 28815** (Pusa 1985-15-7-112-125) derived from the cross Pusa Basmati 1509/Robin possessing Imazethapyr herbicide tolerant allele of *AHAS*, recorded on par performance with RP, Pusa Basmati 1509 in normal basmati trial. It had 3.86 t/ha and 5.43 t/ha during 2019 and 2020, respectively, while there was 100% mortality in the recurrent parent upon herbicide spray in herbicide tolerance trial. Quality wise, it was on par with the recurrent parent. Hence, **IET 28815 has been identified as promising entry.**

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The yield (t/ha) performance of NIL entries over recurrent parent under normal and herbicide tolerance trial are presented in the following table:

IET No	Recurrent Parent	Year	Normal Condition			Herbicide Tolerance Trial						
			RP yield (t/ha)	NIL yield (t/ha)	CD (0.05)	IT		PFB		WFC		CD (0.05)
						NIL Yield (t/ha)	RP Yield (t/ha)	NIL Yield (t/ha)	RP Yield (t/ha)	NIL Yield (t/ha)	RP Yield (t/ha)	
28812	PB1121	2019	3.69	3.99	0.50	3.90	0	3.96	3.61	4.55	4.01	0.73
		2020	4.83	5.07	0.69	4.83	0	4.47	4.3	4.73	4.24	0.73
28813	PB1121	2019	3.69	4.02	0.50	3.93	0	3.81	3.61	4.39	4.01	0.73
		2020	4.83	5.33	0.69	5.35	0	4.73	4.30	4.97	4.24	0.73
28814	PB1509	2019	5.40	5.41	0.50	3.88	0	3.47	3.46	3.77	3.89	0.73
		2020	5.14	5.01	0.69	4.59	0	4.03	4.20	4.13	4.25	0.73
28815	PB1509	2019	5.40	5.56	0.50	3.86	0	3.62	3.46	4.11	3.89	0.73
		2020	5.14	5.10	0.69	5.43	0	4.61	4.20	4.59	4.25	0.73

IT: Imazethapyr treatment; PFB: Pendimethalin followed by bispyribac sodium treatment; WFC: Weed Free Control; NIL: Near Isogenic Line; RP: Recurrent Parent

**INITIAL VARIETY TRIAL – BASMATI (IVT - BT)**

**Locations:** 13 **Test Entries:** 20  
**Checks:** Pusa Basmati 1 (YC), Pusa Basmati 1121 (YC & Table: 13.12  
 QC), Taraori Basmati (QC), RH 10 (HC) and  
 Local Check (LC)

Initial Variety Trial – Basmati constituted of 20 entries including two hybrids and five checks namely, Pusa Basmati-1 (Yield Check), Pusa Basmati 1121 (Yield & Quality Check), Taraori Basmati (Quality Check), Pusa RH10 (Hybrid Check) and local check (Table 14.1). The trial was conducted at 13 typical locations within the Basmati GI area and data was received from all the centres. The data from Pant Nagar, Rauni, Kapurtala and Malan was not considered for analysis due to low experimental mean (< 4 t/ha). Experimental mean of the locations ranged from 1843 kg/ha at Malan to 7504 kg/ha at IARI, New Delhi while CV ranged from 5.1 % at Nagina to 19.1 % at Pant Nagar. Days to 50% flowering ranged from 84 days (IET 28942 and IET 28947) to 108 days (Taraori Basmati). Plant height of the entries ranged from 103 cm (PB1, IET 28935 and IET28940) to 131 cm (IET 28948) while panicles per sq m ranged from 280 (IET 28943) to 352 (IET 28945). The data on yield, days to 50% flowering, plant height, number of panicles/m<sup>2</sup>, quality and panel test are presented in 13.13, 13.14, 13.15, 13.16, 13.17 to 13.20 and 13.21 to 13.22 respectively.

Among the checks, hybrid check Pusa RH 10 registered 5832 kg/ha with 3<sup>rd</sup> rank based on overall mean. Out of 20 test entries, only three varietal entries (IET 28938, IET 28943 and IET 28945) out yielded the best varietal check with required yield advantage. One hybrid entry, IET 28941 out yielded the best varietal check but unable to out yield against the hybrid check. The details of best performing top three entries in the trial are elaborated below.

IET 28943 (UPR 4257-8-1-1-1) from the cross,NRC6154/Pant Sugandh Dhan17recorded 1<sup>st</sup> rank (5992 kg/ha) with 14 % yield advantage over the best varietal check and 3 % over the hybrid check with long slender grains and 92 days to 50% flowering. State-wise performance revealed that this entry recorded 2<sup>nd</sup>rank in Punjab (5385 kg/ha), Uttar Pradesh (5534 kg/ha) and recorded 3<sup>rd</sup> Rank in Haryana (6358 kg/ha) with 14, 16 and 16 % yield advantage over best varietal check. It ranked, 4<sup>th</sup> in the state of Delhi (8894 kg/ha) and in Jammu and Kashmir (4950 kg/ha) with 8 % and 15 % yield advantage over the best varietal checks. However, **based on quality parameters, this entry was not found acceptable due to low elongation ratio (1.61) and low amylose content (17.37%) and hence the entry not recommended for next year of testing.**

IET 28945 (CSRCPB 55) from the cross,CSR89IR15/PB1recorded 7% yield increment over the best check with an overall mean yield of 5618 kg/ha. However, for the quality parameters the entry **showed low elongation ratio (1.63) and high amylose content (27.29). Therefore this entry not recommended for next year of testing.**

IET 28938 (UPR 4259-9-1-1-2) ) from the cross, Pusa Sugandh 6/Pant Sugandh Dhan 17 recorded 5<sup>th</sup> rank (5514 kg/ha) with 5 % yield advantage over the best varietal check along with long slender grains and 91 days to 50% flowering. State-wise performance revealed that this entry recorded 2<sup>nd</sup> rank in Delhi (9059 kg/ha) and recorded 4<sup>th</sup> Rank in Uttar Pradesh (5108 kg/ha) with 10 and 7 % yield advantage over best varietal check. Quality wise also it recorded HRR (56.05%), ASV (6.7), AC (24.36%), GC (39.50 mm), 14.0 mm KLAC and

Mild scent. Based on its superior performance over best varietal check and acceptable quality parameters, the entry qualify to be promoted to next year of testing.

**Overall performance of promising entry in IVT-BT during Kharif2020**

Entry	GY/DFE	Yield adv % over BC/HC	Yield (kg/ha)	Performance, rank, % increase over best check		
				State	% Over BC	% HC
IET 28938	5514	5%	9059	ND(2)	10	-
UPR 4259-9-1-1-2	91		4902	PUN (6)	-	-
(UPR3506-15-1-1/Sarwati)	LS		5108	UP (4)	7	-

Only one entry is promoted from IVT-BT to AVT1-BT namely: *IET 28938*.

**Table 13.1: Composition of entries in Advance Variety Trial 1 - Basmati (AVT 1 - BT), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	Grain Type
1801	28589	PAU 5089-3-7-2-1-1-2	Pusa Basmati 1121/PAU3429-6-3-4-2	LS
1802	28572	CSR162-11-917	CSR30/FL478	LS
1803	28583	UPR 4088-1-1-1	Pant SugandhDhan-15/Taraori Basmati	LS
1804	28573	SJR 103-4-1	Pusa 2517-2-51-1/Vasumati	LS
1805	28574	Pusa 1630-07-12-2-62	Pusa 1527/Pusa 1221	LS
1806	28575	HKR 15-455	PAU 3030-29-2 / PAU 2020-10-3-1	LS
1807	<b>Pusa RH-10 (Hybrid check)</b>			
1808	27728	Pusa RH 55 (Hybrid) (Repeat)	Pusa 6A / PRR1009	LS
1809	28579	TAJ (Hybrid)	F501/510R	LS
1810	28582	PAU 5366-47-3-2-2-3	Muskan/Punjab Mehak-1	LS
1811	28577	UPR 4079-10-1-1-1	Sugandhmati/Pant SugandhDhan15	LS
1812	<b>Taraori Basmati (QC)</b>			
1813	28586	UPR 4084-14-1-1-1	Sugandhmati-5/Type-3	LS
1814	27720	Pusa 1301-95-12-5-2-4-2	Khalsa-7/Improved Sabarmati	LS
1815	28813	Pusa 1979-14-7-33-99-15	Pusa Basmati 1121/Robin	ELS
1816	28812	Pusa 1979-14-7-33-99-66	Pusa Basmati 1121/Robin	ELS
1817	28806	Pusa 1885-13-242-9-3	Pusa 1883/Pusa Basmati 1718	ELS
1818	28807	Pusa 1885-13-125-20-6	Pusa 1883/Pusa Basmati 1718	ELS
1819	<b>Pusa Basmati 1121(Y &amp; QC, RP)</b>			
1820	27722	Pusa 1847-12-62-190-39-7-15	Pusa Basmati 1509*2/Pusa 1790	ELS
1821	28810	Pusa 1847-12-62-184-36-9-155	Pusa Basmati 1509*2/Pusa 1790	ELS
1822	28811	Pusa 1847-12-62-64-12-6-8	Pusa Basmati 1509*2/Pusa 1790	ELS
1823	28815	Pusa 1985-15-7-112-25	Pusa Basmati 1509/ Robin	ELS
1824	28814	Pusa 1985-15-7-58-190	Pusa Basmati 1509/ Robin	ELS
1825	<b>Pusa Basmati 1509 (RP)</b>			
1826	28788	Pusa 1882-12-111-20	PB 1*3/N22	LS
1827	28787	Pusa 1882-12-111-7	PB 1*3/N22	LS
1828	<b>Pusa Basmati1(Yield check, RP)</b>			
1829	28809	Pusa 1886-13-201-18-13	Pusa 1884/Pusa Basmati 1728	ELS
1830	28808	Pusa 1886-13-91-26-9	Pusa 1884/Pusa Basmati 1728	ELS
1831	<b>Pusa Basmati-6 (RP)</b>			
1832	<b>Local check</b>			



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**Table 13.2: Grain Yield (kg/ha) of entries in AVT 1 BT, Kharif 2020**

Entry No.	IET No.	ND		UK		PUN				PUN (3)		
		IARI		@PANT	LDH	RUN	GDP	@KPT	Mean			
1801	28589	6375		2898	5769	9	4465	9	4346	3567	4860	8 (17%)
1802	28572	6814		2807	5738		4432		3548	4067	4573	10 (10%)
1803	28583	7418	8 (8%)	3255	4911		4798	6	3169	3184	4293	
1804	28573	6385		2769	5473		4185		3519	3729	4392	(6%)
1805	28574	7253	(5%)	2127	4416		3777		3150	3308	3781	
1806	28575	9011	2 (31%)	4219	5891	6	5348	2	5107	4628	5449	3 (31%)
1807	PRH 10 (HC)	8437	4 (22%)	2917	5533		4895	4	5673	4280	5367	5 (29%)
1808	27728	8755	3 (27%)	2512	5948	3	5388	1	3255	3432	4864	7 (17%)
1809	28579	9380	1 (36%, # 11%)	3501	7353	1	5266	3	5404	4201	6008	1 (44% # 12%)
1810	28582	6840		2601	5524		4369		3098	3852	4330	
1811	28577	8127	5 (18%)	3330	6041	2	4886	5	5337	4189	5421	4 (30%)
1812	TB (QC)	4207		1542	3764		3305		3596	2575	3555	
1813	28586	7201		2387	5769	10	4470	8	3308	3301	4516	(9%)
1814	27720	6911		2435	4879		3850		5724	3020	4817	9 (16%)
1815	28813	6981		2636	5894	5	4207		3432	3642	4511	(8%)
1816	28812	7389	9 (7%)	2697	5086		3828		3853	3221	4256	
1817	28806	6453		1785	5249		4133		3630	3214	4337	
1818	28807	6447		2355	5125		3841		4459	3786	4475	(8%)
1819	PB1121 (YC & RP)	6900		3307	5156		3781		3390	3690	4109	
1820	27722	7678	6 (11%)	3449	5722	4	4570	7	4461	4220	4918	6 (18%)
1821	28810	6623		2435	4860		3620		4491	3008	4323	
1822	28811	7604	7 (10%)	2853	5172		4053		4205	3455	4477	(8%)
1823	28815	6997		2347	4719		3715		4638	3078	4357	(5%)
1824	28814	7224		2301	4167		3379		4291	3135	3946	
1825	PB1509 (RP)	6497		3154	4770		3680		5074	3169	4508	(8%)
1826	28788	5965		3044	5932	4	4462	10	5962	3394	5452	2 (31%)
1827	28787	6112		2784	5624		4359		3594	3211	4526	
1828	PB1 (RP & YC)	5879		3244	5227		4224		3037	3472	4162	
1829	28809	5975		2410	5776	8	3614		3125	3316	4172	
1830	28808	5794		2604	5872	7	4337		3504	3578	4571	
1831	PB6 (RP)	6067		2703	4783		3413		3334	3123	3843	
1832	LC	6733		4172	4221	2	3319		3285	3490	3608	
<b>Exp. Mean</b>		<b>6951</b>		<b>2799</b>	<b>5324</b>		<b>4187</b>		<b>4062</b>	<b>3517</b>	<b>4524</b>	
CD		727		891	732		838		585	540	<b>718</b>	
CV		6.4		19.5	8.4		12.3		8.8	9.4		
Sowing Date		19-Jun		29-Jun	20-Jun	20-Jul	26-Jun	24-Jun				
Planting Date		15-Jul		23-Jul	23-Jul	24-Aug	22-Jul	28-Aug				
Local Check		Pusa Basmati 1509		PB 1	Punjab Basmati 3	Punjab Basmati 3	Punjab Basmati 3	Punjab Basmati 3				

% Superior over best check, # % superior over hybrid check, @ not included in means, DFF-Days to 50% flowering, PH- Plant height

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**Table 13.2 (contd...): Grain Yield (kg/ha) of entries in AVT 1 BT, Kharif 2020**

Entry No.	IET No.	HR				HR (2)		UP					
		KAR		KUL		Mean		MDP (BDF)		MDP (SB)		@NGN	
1801	28589	5691	10	6083	10	5887	9 (9%)	6438		3965		2700	
1802	28572	6627	1	5646		6137	5 (20%)	6851	7	4686	6	2209	
1803	28583	5643		5810		5726	(12%)	6183		4218		3928	10
1804	28573	5037		6410	6	5723	(12%)	6194		3794		3655	
1805	28574	5649		6056		5852	10 (14%)	6688	9	4419	9	4501	5
1806	28575	5317		6901	2	6109	6 (19%)	8774	3	4696	5	3792	
1807	PRH 10 (HC)	5815	7	6574	5	6195	4 (21%)	9243	2	4460	8	4364	7
1808	27728	6369	3	6601	4	6485	2 (27% #5%)	7563	5	4298		5074	2
1809	28579	6525	2	7092	1	6809	1 (33% #10 %)	9622	1	5168	1	4692	4
1810	28582	5555		4719		5137		5313		4276		2510	
1811	28577	5854	6	6819	3	6337	3 (24%)	6555		5100	2	3055	
1812	TB (QC)	3431		4474		3952		3059		3085		2346	
1813	28586	5110		6219	8	5664	(11%)	6566		4906	3	2728	
1814	27720	5365		4719		5042		5878		4233		4910	3
1815	28813	5632		6328	7	5980	8 (17%)	6872	6	4669	7	2510	
1816	28812	5779	8	5210		5495	(7%)	6170		4324		3273	
1817	28806	5563		4801		5182		6052		3402		3382	
1818	28807	5651		4774		5212		5732		4060		3410	
1819	PB1121 (YC & RP)	5284		4965		5124		5851		4409		2891	
1820	27722	5935	5	5701		5818	(14%)	7642	4	4815	4	3846	
1821	28810	5713	9	5265		5489	(7%)	6445		3471		4255	9
1822	28811	6028	4	6110	9	6069	7 (18%)	6729	8	3580		3846	
1823	28815	5446		5892		5669		6635	10	3673		4310	8
1824	28814	5591		5646		5619		6365		4013		2946	
1825	PB1509 (RP)	5591		5565		5578		6500		3598		5128	1
1826	28788	4247		4528		4387		4639		4089		2537	
1827	28787	4743		4774		4758		4917		3711		2428	
1828	PB1 (RP & YC)	4656		4446		4551		4854		3917		2619	
1829	28809	4491		5319		4905		5510		3380		3819	
1830	28808	4557		4283		4420		5167		3448		2428	
1831	PB6 (RP)	4086		4037		4062		4309		3206		3137	
1832	LC	4641		5319		4980		6205		4328		4392	6
<b>Exp. Mean</b>		<b>5363</b>		<b>5534</b>		<b>5449</b>		<b>6297</b>		<b>4106</b>		<b>3488</b>	
CD		698		617		658		1047		255		219	
CV		8.0		6.8				10.2		3.8		3.8	
Sowing Date		26-Jun		20-Jun				21-Jun		19-Jun		20-Jun	
Planting Date		25-Jul		17-Jul				15-Jul		14-Jul		14-Jul	
Local Check		CSR 30		Haryana Basmati 2				Pusa Basmati 1509		Vallabh Basmati 24		Pusa Basmati 1509	

% Superior over best check, # % superior over hybrid check, @ not included in means, DFF-Days to 50% flowering, PH- Plant height

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**Table 13.2 (contd...): Grain Yield of entries in AVT 1 BT, Kharif 2020**

Entry No.	IET No.	UP (2)		JK		HP		Overall (9)		DFF (days)	PH (cm)	Panicles/ m <sup>2</sup>
		Mean		CHT		@MLN		Mean				
1801	28589	5201		3980		1909	10	5235	10 (8%)	105	122	289
1802	28572	5769	8 (12%)	3847		1481		5354	8 (11%)	103	107	267
1803	28583	5201		3887		2026	8	5115	(6%)	91	110	284
1804	28573	4994		3980		2104	5	4997		92	111	265
1805	28574	5553	10 (8%)	4380	9 (19%)	870		5087	(5%)	94	106	329
1806	28575	6735	3 (31%)	4713	7 (28%)	2429	2	6195	3 (28%)	100	115	302
1807	PRH 10 (C)	6851	2 (34%)	5133	3 (39%)	1857		6196	2	89	105	278
1808	27728	5930	5 (16%)	5380	2 (46%)	2078	6	5951	4 (23%)	90	106	296
1809	28579	7395	1 (44% #8%)	6313	1 (71%)	3234	1	6903	1 (43% #11%)	89	122	297
1810	28582	4794		4287	(16%)	2052	7	4887		105	125	277
1811	28577	5827	6 (14%)	4313	(17%)	1883		5892	5 (22%)	91	110	278
1812	TB (QC)	3072		2847		1286		3530		106	136	335
1813	28586	5736	9 (12%)	3220		2416	3	5197	(8%)	93	109	276
1814	27720	5056		3800		1234		5040		91	107	313
1815	28813	5770	7 (12%)	3913	(6%)	1312		5325	9 (10%)	98	114	343
1816	28812	5247		4020	(9%)	1143		5073	(5%)	102	116	352
1817	28806	4727		2800		1558		4676		108	110	332
1818	28807	4896		3553		1961	9	4849		107	112	337
1819	PB1121 (YC & RP)	5130		3687		1117		4825		105	113	340
1820	27722	6228	4 (21%)	5020	4 (36%)	2195	4	5727	6 (19%)	94	108	296
1821	28810	4958		4447	8 (21%)	1558		4993		86	99	319
1822	28811	5155		4847	6 (31%)	1714		5370	7 (11%)	87	101	321
1823	28815	5154		4220	(14%)	1610		5104	(6%)	87	101	329
1824	28814	5189		4380	10 (19%)	1494		5006		87	100	319
1825	PB1509 (RP)	5049		4953	5 (34%)	1468		5136	(6%)	87	102	332
1826	28788	4364		3180		442		4778		104	102	307
1827	28787	4314		3313		468		4572		103	106	318
1828	PB1 (RP & YC)	4386		3153		532		4377		104	105	333
1829	28809	4445		3020		1143		4468		109	92	335
1830	28808	4307		3353		1506		4479		109	92	327
1831	PB6 (RP)	3758		3020		0		4028		108	95	314
1832	LC	5266		4180		1805		4692		98	109	316
<b>Exp. Mean</b>		<b>5202</b>		<b>4036</b>		<b>1599</b>		<b>5096</b>		<b>97</b>	<b>108</b>	<b>311</b>
CD		651		666		298		685		1		55
CV				10.1		11.7		8		1		11
Sowing Date				22-Jun		23-Jun						
Planting Date				17-Jul		20-Jul						
Local Check				Jammu Basmati 129		Kasturi						

% Superior over best check, # % superior over hybrid check, @ not included in means, DFF-Days to 50% flowering, PH- Plant height

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**Table No. 13.3: Days to 50% flowering (DFF) of entries in AVT-BT during Kharif 2020**

Entry No.	IET No.	ND	UK	PUN				PUN (4)	HR		HR (2)	UP			UP (3)	JK	HP	Overall Mean (13)
		IARI	PANT	LDH	RUN	GDP	KPT	Mean	KAR	KUL	Mean	MDP (BDF)	MDP (SB)	NGN	Mean	CHT	MLN	
1801	28589	107	96	108	105	100	104	105	98	103	100	100	115	111.0	109	108.67	109	105
1802	28572	105	93	102	106	96	102	101	93	96	95	94	116	111.0	107	107.67	112	103
1803	28583	92	84	93	94	92	92	93	77	85	81	84	103	98.3	95	93.67	95	91
1804	28573	94	84	93	96	89	92	93	80	84	82	86	106	100.7	97	95.33	92	92
1805	28574	95	85	94	95	108	93	98	82	86	84	85	100	99.0	95	98.00	96	94
1806	28575	95	92	98	104	104	97	101	86	94	90	91	114	111.0	105	109.00	100	100
1807	PRH 10 (HC)	86	82	92	94	91	92	92	77	83	80	81	95	97.7	91	94.33	96	89
1808	27728	90	84	93	97	83	93	91	77	85	81	82	102	95.3	93	95.67	91	90
1809	28579	87	81	93	92	85	92	91	79	85	82	81	99	97.7	92	94.33	95	89
1810	28582	110	94	108	108	103	103	106	96	101	99	102	113	110.7	109	107.33	109	105
1811	28577	90	81	93	94	89	93	92	75	84	80	81	104	102.3	96	94.67	96	91
1812	TB (QC)	114	98	109	106	104	106	106	98	110	104	102	115	111.7	109	92.33	112	106
1813	28586	93	84	93	96	104	94	97	76	84	80	84	105	101.3	97	97.67	93	93
1814	27720	91	82	93	94	88	94	93	78	86	82	83	100	99.3	94	97.33	92	91
1815	28813	89	90	101	99	104	99	101	90	96	93	93	112	102.7	103	102.33	93	98
1816	28812	102	92	104	106	101	101	103	94	97	96	95	112	115.3	107	110.67	95	102
1817	28806	109	102	109	113	105	107	109	97	106	101	101	116	115.7	111	107.33	109	108
1818	28807	109	105	110	113	105	107	109	99	107	103	100	116	116.7	111	97.67	109	107
1819	PB1121 (YC & RP)	106	99	108	106	108	104	107	95	101	98	97	111	112.3	107	107.67	109	105
1820	27722	96	87	96	98	90	97	95	83	90	87	90	104	102.3	99	97.33	96	94
1821	28810	86	77	91	90	86	91	90	75	80	78	77	94	95.3	89	93.67	86	86
1822	28811	88	79	91	90	87	92	90	76	82	79	78	94	97.3	90	91.67	91	87
1823	28815	87	79	89	91	97	91	92	73	79	76	79	91	92.0	87	92.67	86	87
1824	28814	87	80	89	91	99	90	92	73	79	76	77	91	93.3	87	91.67	87	87
1825	PB1509 (RP)	86	78	90	90	95	92	92	74	81	77	77	94	96.3	89	92.67	89	87
1826	28788	102	99	106	109	99	105	105	93	101	97	96	108	122.7	109	106.67	100	104
1827	28787	102	96	105	107	97	105	103	92	103	97	97	114	121.3	111	106.33	99	103
1828	PB1 (RP & YC)	100	97	106	111	108	105	107	92	101	97	96	114	117.0	109	109.67	97	104
1829	28809	112	105	109	114	107	107	109	95	107	101	102	113	128.3	114	107.67	113	109
1830	28808	112	105	110	112	108	106	109	96	106	101	103	112	131.0	115	107.00	112	109
1831	PB6 (RP)	112	105	109	111	102	103	106	99	105	102	102	114	126.0	114	109.67		108
1832	LC	87	99	105	102	100	103	102	100	102	101	79	117	93.7	97	89.67	93	98
	<b>Exp. Mean</b>	<b>98</b>	<b>91</b>	<b>100</b>	<b>101</b>	<b>98</b>	<b>99</b>	<b>99</b>	<b>87</b>	<b>93</b>	<b>90</b>	<b>90</b>	<b>107</b>	<b>107</b>	<b>101</b>	<b>100</b>	<b>98</b>	97
	<b>CD</b>	<b>0</b>	1.96	1.28	0.88	1.33	2.7	<b>1.6</b>	1.78	1.25	1.5	1.58	0.81	0.95	1.1	0.82	1.03	1
	<b>CV</b>	<b>0</b>	1.3	0.8	0.5	0.8	1.7	<b>1</b>	1.3	0.8	1.1	1.1	0.5	0.5	0.7	0.50	0.7	1

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**Table 13.4: Plant height (cm) of entries in AVT-BT during *Kharif* 2020**

Entry No.	IET No.	ND	UK	PUN				PUN (4)	HR		HR (2)	UP			UP (3)	JK	HP	Overall Mean (13)
		IARI	PANT	LDH	RUN	GDP	KPT	Mean	KAR	KUL	Mean	MDP (BDF)	MDP (SB)	NGN	Mean	CHT	MLN	
1801	28589	135	132	130	121	115	115	120	132	125	129	151	112	110	124	117	95	122
1802	28572	122	114	114	109	109	101	108	115	106	111	122	100	100	107	99	78	107
1803	28583	116	115	114	109	107	109	110	118	111	115	125	115	108	116	95	91	110
1804	28573	121	118	117	110	108	105	110	112	121	117	135	102	103	113	103	92	111
1805	28574	116	111	114	104	104	108	108	109	118	114	125	97	103	108	95	73	106
1806	28575	133	120	120	113	115	109	114	121	119	120	137	110	104	117	107	84	115
1807	PRH 10 (C)	114	109	107	103	111	102	106	108	113	111	122	99	98	106	97	80	105
1808	27728	114	118	112	104	107	99	105	110	117	114	129	95	93	106	103	83	106
1809	28579	137	127	124	116	116	114	118	125	135	130	144	117	114	125	122	93	122
1810	28582	137	145	131	122	113	117	121	126	123	125	152	125	116	131	118	99	125
1811	28577	121	111	113	106	114	103	109	118	118	118	127	96	109	110	108	92	110
1812	TB (QC)	151	150	155	129	120	136	135	145	136	141	160	132	131	141	122	101	136
1813	28586	120	115	113	107	103	104	107	115	116	116	124	100	100	108	98	95	109
1814	27720	123	110	111	105	119	102	109	117	118	118	130	90	94	105	87	88	107
1815	28813	126	120	122	110	111	109	113	133	133	133	145	103	94	114	92	88	114
1816	28812	124	127	122	108	123	106	115	129	132	131	145	100	103	116	106	89	116
1817	28806	119	121	112	98	113	107	108	129	120	125	134	100	100	111	88	85	110
1818	28807	119	119	115	109	125	107	114	126	123	125	128	108	101	112	97	86	112
1819	PB1121 (YC & RP)	121	122	118	106	108	103	109	126	126	126	139	102	107	116	104	88	113
1820	27722	116	111	111	105	119	102	109	119	114	117	122	100	105	109	98	86	108
1821	28810	106	95	103	101	117	101	105	103	106	105	119	80	93	97	85	78	99
1822	28811	107	105	106	91	115	98	103	105	112	109	117	86	96	100	97	84	101
1823	28815	110	101	104	97	123	96	105	106	115	111	119	83	90	97	85	82	101
1824	28814	108	104	105	96	121	97	105	108	115	112	120	82	81	94	85	79	100
1825	PB1509 (RP)	108	100	105	92	128	98	106	108	117	113	119	85	81	95	97	83	102
1826	28788	114	115	111	100	117	94	106	113	113	113	118	94	81	98	91	70	102
1827	28787	118	119	112	101	109	101	106	117	110	114	125	100	99	108	98	68	106
1828	PB1 (RP & YC)	119	120	110	99	118	101	107	114	116	115	122	88	96	102	95	70	105
1829	28809	96	102	98	86	101	84	92	104	98	101	108	85	88	94	82	61	92
1830	28808	94	108	96	93	104	88	95	108	96	102	101	80	86	89	82	64	92
1831	PB6 (RP)	101	101	96	85	105	88	93	105	97	101	110	81	87	93	82		95
1832	LC	109	125	107	102	105	99	103	139	117	128	117	98	94	103	102	100	109
	<b>Exp. Mean</b>	<b>118</b>	<b>116</b>	<b>113</b>	<b>104</b>	<b>113</b>	<b>103</b>	<b>109</b>	<b>118</b>	<b>117</b>	<b>117</b>	<b>128</b>	<b>98</b>	<b>99</b>	<b>108</b>	<b>98</b>	<b>84</b>	<b>108</b>

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**Table No. 13.5: Panicles/m<sup>2</sup> of entries in AVT-BT during Kharif 2020**

Entry No.	IET No.	ND	UK	PUN				PUN (4)	HR		HR (2)	UP		UP (2)	JK	HP	Overall (12)
		IARI	PANT	LDH	RUN	GDP	KPT	Mean	KAR	KUL	Mean	MDP (BDF)	NGN	Mean	CHT	MLN	
1801	28589	532	221	279	177	270	189	229	439	323	381	285	220	253	290.00	236	289
1802	28572	376	201	268	168	250	192	220	572	276	424	241	203	222	268.67	190.67	267
1803	28583	537	199	264	215	283	178	235	416	225	321	320	255	288	308.67	204	284
1804	28573	481	194	251	184	285	196	229	362	250	306	322	216	269	282.67	162	265
1805	28574	737	239	310	230	348	213	275	408	246	327	370	252	311	301.33	296	329
1806	28575	590	242	304	215	270	196	246	315	336	326	342	227	285	287.33	302	302
1807	PRH 10 (C)	483	211	240	209	288	178	229	439	230	335	309	205	257	299.33	246	278
1808	27728	544	221	262	211	337	172	245	564	257	410	273	206	239	300.00	204.67	296
1809	28579	488	214	279	179	295	189	236	560	265	412	312	267	290	314.67	198	297
1810	28582	469	202	240	201	269	163	218	408	336	372	273	212	242	307.33	244	277
1811	28577	446	198	251	205	268	191	229	416	248	332	304	297	300	298.00	210	278
1812	TB (QC)	674	242	290	294	380	207	293	315	348	332	429	287	358	274.67	278	335
1813	28586	464	232	266	209	245	180	225	393	280	336	296	224	260	292.67	228	276
1814	27720	653	230	286	217	375	183	265	385	324	355	363	224	294	284.67	232	313
1815	28813	698	261	337	253	327	207	281	424	321	372	437	246	342	284.00	316	343
1816	28812	651	255	392	235	423	243	323	478	357	418	407	227	317	281.33	272	352
1817	28806	623	278	332	244	329	207	278	443	344	394	389	288	339	282.67	224	332
1818	28807	618	273	372	223	345	227	292	447	341	394	391	254	322	297.33	252	337
1819	PB1121 (YC & RP)	677	253	334	224	327	250	284	397	338	367	394	313	353	301.33	266	340
1820	27722	490	197	293	218	275	183	242	490	280	385	341	265	303	309.33	208	296
1821	28810	502	333	312	248	265	207	258	482	363	423	376	219	297	300.00	222	319
1822	28811	541	303	255	266	325	207	263	541	241	391	362	302	332	299.33	206	321
1823	28815	539	336	341	287	252	216	274	428	313	370	371	327	349	331.33	214	329
1824	28814	530	288	310	279	283	200	268	478	244	361	373	296	334	284.67	268	319
1825	PB1509 (RP)	565	244	319	281	335	224	290	478	353	416	363	344	354	262.00	214.67	332
1826	28788	548	252	334	227	312	187	265	350	332	341	308	241	274	278.00	310	307
1827	28787	656	242	335	247	345	194	280	377	348	363	355	243	299	262.67	210	318
1828	PB1 (RP & YC)	635	259	350	269	373	178	293	424	354	389	383	230	306	290.00	256	333
1829	28809	679	246	317	253	384	212	292	401	336	368	333	289	311	290.67	284	335
1830	28808	600	227	317	300	304	238	290	404	328	366	333	251	292	300.00	322	327
1831	PB6 (RP)	576	261	364	230	265	194	263	369	317	343	381	214	297	282.67		314
1832	LC	513	234	321	285	350	204	290	385	308	347	367	290	329	300.00	231	316
	<b>Exp. Mean</b>	<b>566</b>	<b>243</b>	<b>304</b>	<b>234</b>	<b>312</b>	<b>200</b>	<b>262</b>	<b>431</b>	<b>305</b>	<b>368</b>	<b>347</b>	<b>254</b>	<b>301</b>	<b>292</b>	<b>242</b>	<b>311</b>
	<b>CD</b>	158	56	58	53.7	41	51.4	<b>51</b>	80	26	53	55.03	21.8	38.415	32.00	27.31	55
	<b>CV</b>	17.6	14	12	14.1	8.1	15.7	<b>12</b>	11.4	5.2	8	9.7	5.3	7.5	6.70	7.1	11

**Table 13.6. Summary of the grain quality characteristics of entries in Advanced Varietal Trial - Basmati (AVT BT) conducted at ICAR-IARI, New Delhi and analyzed at ICAR-IARI, New Delhi**

Entry No	IET No.	Hull %	Mill %	HRR	KL (mm)	KB (mm)	L/B	Grain Type	Grain Chalk	VER	WU (ml)
1801	28589	81.88	75.60	67.00	8.25	1.66	4.97	ELS	A	6.23	330.00
1802	28572	79.25	73.17	60.49	7.28	1.66	4.39	LS	VOC	6.20	357.50
1803	28583	81.00	73.44	61.70	7.67	1.46	5.25	ELS	VOC	6.80	332.50
1804	28573	81.50	75.52	67.51	7.10	1.68	4.23	LS	OC	5.95	340.00
1805	28574	80.38	73.14	66.18	8.07	1.66	4.86	ELS	A	6.80	185.00
1806	28575	82.00	75.58	68.61	6.7	1.63	4.11	LS	A	5.40	350.00
1807	PRH 10 (C)	82.25	73.20	53.46	6.73	1.65	4.09	LS	P	6.80	320.00
1808	27728	82.50	74.25	58.85	6.92	1.66	4.17	LS	P	5.66	235.00
1809	28579	81.50	73.49	59.50	7.50	1.63	4.60	ELS	VOC	7.65	340.00
1810	28582	82.25	75.26	67.99	7.85	1.66	4.73	ELS	VOC	6.90	357.50
1811	28577	81.38	75.14	66.32	7.23	1.66	4.36	LS	P	6.90	330.00
1812	TB (QC)	81.38	74.59	62.93	6.85	1.62	4.24	LS	A	7.53	172.50
1813	28586	80.63	73.91	64.37	7.60	1.63	4.66	ELS	OC	6.67	322.50
1814	27720	79.38	70.78	60.33	8.10	1.57	5.18	ELS	VOC	8.10	350.00
1815	28813	80.50	73.79	66.14	8.08	1.65	4.91	ELS	OC	4.50	352.50
1816	28812	79.88	73.49	66.70	7.90	1.62	4.89	ELS	P	6.60	347.50
1817	28806	80.38	72.61	58.54	7.78	1.65	4.73	ELS	P	5.75	152.50
1818	28807	79.63	72.33	59.06	7.97	1.63	4.89	ELS	OC	7.00	142.50
1819	PB1121 (YC & RP)	79.88	72.82	63.50	7.85	1.65	4.77	ELS	P	8.10	340.00
1820	27722	79.50	73.27	67.05	8.23	1.65	5.00	ELS	VOC	7.05	335.00
1821	28810	77.50	68.33	35.26	8.27	1.66	4.98	ELS	OC	7.17	280.00
1822	28811	79.75	71.64	53.57	8.43	1.65	5.12	ELS	P	5.83	325.00
1823	28815	78.38	69.62	52.25	7.70	1.56	4.94	ELS	P	6.50	270.00
1824	28814	79.88	71.49	46.46	8.05	1.66	4.85	ELS	P	6.00	275.00
1825	PB1509 (RP)	79.38	70.78	48.15	8.20	1.66	4.94	ELS	P	7.85	257.50
1826	28788	78.50	71.30	59.53	7.30	1.65	4.44	LS	VOC	6.00	297.50
1827	28787	80.13	72.65	62.36	7.50	1.52	4.95	ELS	OC	6.60	415.00
1828	PB1 (RP & YC)	81.50	73.62	62.35	6.78	1.55	4.39	LS	OC	7.30	415.00
1829	28809	80.25	72.09	63.67	7.82	1.66	4.71	ELS	A	8.63	325.00
1830	28808	80.00	73.20	63.73	7.70	1.60	4.81	ELS	A	8.50	360.00
1831	PB6 (RP)	81.25	74.75	63.38	7.46	1.63	4.58	LS	VOC	8.10	357.50
1832	LC	79.25	71.85	51.38	8.30	1.66	5.00	ELS	P	8.88	305.00

**Table 13.6 (contd...): Summary of the grain quality characteristics of entries in Advanced Varietal Trial - Basmati (AVT BT) conducted at ICAR-IARI, New Delhi and analyzed at ICAR-IARI, New Delhi**

Entry No	IET No.	KLAC (mm)	ER	ASV	AC (%)	GC	Aroma
1801	28589	15.20	1.84	7.00	21.49	34.00	SS
1802	28572	11.50	1.58	7.00	25.86	23.00	SS
1803	28583	13.70	1.78	7.00	23.05	23.00	SS
1804	28573	11.85	1.67	7.00	19.66	23.00	SS
1805	28574	15.05	1.87	2.00	19.11	56.00	SS
1806	28575	10.06	1.50	7.00	31.18	25.00	NS
1807	PRH 10 (C)	10.90	1.62	7.00	19.68	70.00	MS
1808	27728	10.85	1.57	7.00	19.25	67.50	MS
1809	28579	13.06	1.74	6.00	19.71	47.50	MS
1810	28582	14.85	1.89	7.00	22.04	44.00	SS
1811	28577	12.20	1.69	5.00	26.84	23.00	SS
1812	TB (QC)	13.20	1.93	5.00	23.05	40.50	SS
1813	28586	12.73	1.68	5.00	24.86	25.00	SS
1814	27720	14.67	1.81	5.00	20.1	53.00	SS
1815	28813	17.00	2.10	7.00	22.30	25.00	SS
1816	28812	17.45	2.21	7.00	24.08	35.00	SS
1817	28806	16.35	2.10	5.00	17.53	60.00	SS
1818	28807	15.65	1.96	5.00	23.91	25.00	SS
1819	PB1121 (YC & RP)	16.00	2.04	7.00	24.80	25.00	SS
1820	27722	15.93	1.94	7.00	25.63	25.00	SS
1821	28810	16.10	1.95	6.00	25.11	43.00	SS
1822	28811	16.10	1.91	7.00	24.25	31.00	SS
1823	28815	15.60	2.03	7.00	22.90	55.00	SS
1824	28814	14.45	1.80	7.00	23.30	40.00	SS
1825	PB1509 (RP)	16.25	1.98	7.00	25.03	60.00	SS
1826	28788	15.85	2.17	7.00	27.27	25.00	SS
1827	28787	15.05	2.01	7.00	26.67	25.00	SS
1828	PB1 (RP & YC)	15.60	2.30	7.00	29.34	25.00	SS
1829	28809	16.10	2.06	7.00	27.30	25.00	SS
1830	28808	15.20	1.98	7.00	26.32	30.00	SS
1831	PB6 (RP)	17.20	2.31	7.00	27.10	57.50	SS
1832	LC	18.05	2.17	7.00	22.44	52.00	SS



**Table 13.7. Summary of the grain quality characteristics of entries in Advanced Varietal Trial - Basmati (AVT BT) conducted at ICAR-IARI, New Delhi and analyzed at ICAR-IIRR, Hyderabad Kharif 2020**

Entry No	IET No.	KL (mm)	KB (mm)	L/B	Grain Type	Grain Chalk	VER	WU (ml)	KLAC (mm)	ER	ASV
1801	28589	8.42	2.03	4.14	ELS	A	4.20	320	16.40	1.94	7.00
1802	28572	7.40	1.91	3.87	LS	VOC	4.80	345	11.50	1.55	7.00
1803	28583	7.95	1.70	4.67	ELS	VOC	4.40	305	13.80	1.73	7.00
1804	28573	7.76	1.88	4.12	ELS	VOC	5.10	275	13.60	1.75	7.00
1805	28574	8.45	1.90	4.41	ELS	A	4.60	125	17.70	2.09	3.00
1806	28575	7.14	1.92	3.71	LS	A	4.70	320	11.40	1.59	7.00
1807	PRH 10 (C)	7.45	1.86	4.00	LS	VOC	4.40	310	11.90	1.59	7.00
1808	27728	7.15	1.97	3.62	LS	VOC	4.80	260	13.70	1.83	7.00
1809	28579	8.31	1.81	4.59	ELS	VOC	4.80	290	13.80	1.66	3.00
1810	28582	8.64	2.11	4.09	ELS	VOC	4.70	300	14.60	1.75	7.00
1811	28577	7.89	1.81	4.35	ELS	VOC	5.10	295	16.90	1.95	7.00
1812	TB (QC)	7.55	1.99	3.79	ELS	A	4.40	200	11.40	1.44	5.00
1813	28586	8.05	1.82	4.42	ELS	VOC	4.70	280	14.90	1.97	7.00
1814	27720	8.50	1.79	4.74	ELS	A	4.70	320	14.70	1.82	5.00
1815	28813	8.40	1.84	4.56	ELS	VOC	4.80	275	19.20	2.25	7.00
1816	28812	8.64	1.86	4.64	ELS	VOC	4.60	355	18.20	2.16	7.00
1817	28806	8.37	2.01	4.16	ELS	VOC	5.80	220	19.00	2.19	4.00
1818	28807	8.17	1.90	4.30	ELS	VOC	5.20	230	16.70	1.99	6.00
1819	PB1121 (YC & RP)	8.32	1.89	4.40	ELS	VOC	4.80	340	18.70	2.28	7.00
1820	27722	8.69	1.97	4.41	ELS	A	4.80	310	14.90	1.79	7.00
1821	28810	8.46	1.85	4.57	ELS	VOC	5.60	350	16.10	1.85	7.00
1822	28811	8.61	1.83	4.70	ELS	VOC	4.70	295	16.90	1.99	7.00
1823	28815	8.71	1.94	4.48	ELS	VOC	5.60	280	17.20	1.99	7.00
1824	28814	8.13	1.86	4.37	ELS	VOC	4.70	275	17.80	2.04	7.00
1825	PB1509 (RP)	8.35	1.87	4.46	ELS	OC	5.50	285	18.00	2.21	7.00
1826	28788	7.64	1.69	4.52	ELS	VOC	4.80	365	14.80	1.77	7.00
1827	28787	7.58	1.67	4.53	ELS	VOC	4.20	350	13.80	1.80	7.00
1828	PB1 (RP & YC)	7.45	1.72	4.33	LS	VOC	5.30	385	15.30	2.01	7.00
1829	28809	7.35	1.70	4.32	LS	A	4.20	390	15.70	2.10	7.00
1830	28808	7.21	1.65	4.36	LS	A	4.70	390	13.80	1.87	7.00
1831	PB6 (RP)	8.31	1.73	4.80	ELS	A	4.20	340	17.10	2.05	7.00
1832	LC	8.53	1.87	4.56	ELS	VOC	4.70	335	18.00	2.11	7.00

**Table 13.7.(contd...): Summary of the grain quality characteristics of entries in Advanced Varietal Trial - Basmati (AVT BT) conducted at ICAR-IARI, New Delhi and analyzed at ICAR-IIRR, Hyderabad Kharif 2020**

Entry No	IET No.	ASV	AC (%)	GC	Aroma
1801	28589	7.00	22.00	45.00	SS
1802	28572	7.00	26.95	22.00	SS
1803	28583	7.00	25.60	25.00	SS
1804	28573	7.00	22.58	46.00	SS
1805	28574	3.00	14.90	82.00	SS
1806	28575	7.00	25.75	25.00	SS
1807	PRH 10 (C)	7.00	23.20	77.00	SS
1808	27728	7.00	20.26	52.00	SS
1809	28579	3.00	24.05	65.00	SS
1810	28582	7.00	25.93	36.00	SS
1811	28577	7.00	25.81	44.00	SS
1812	TB (QC)	5.00	21.17	22.00	SS
1813	28586	7.00	24.40	22.00	SS
1814	27720	5.00	14.96	69.00	SS
1815	28813	7.00	21.94	22.00	SS
1816	28812	7.00	21.09	25.00	SS
1817	28806	4.00	20.53	25.00	SS
1818	28807	6.00	20.82	22.00	SS
1819	PB1121 (YC & RP)	7.00	22.76	22.00	SS
1820	27722	7.00	20.70	23.00	SS
1821	28810	7.00	19.80	22.00	SS
1822	28811	7.00	22.61	49.00	SS
1823	28815	7.00	20.56	22.00	SS
1824	28814	7.00	20.03	52.00	SS
1825	PB1509 (RP)	7.00	20.62	24.00	SS
1826	28788	7.00	23.46	22.00	SS
1827	28787	7.00	24.40	26.00	SS
1828	PB1 (RP & YC)	7.00	24.28	25.00	SS
1829	28809	7.00	23.87	22.00	SS
1830	28808	7.00	23.73	22.00	SS
1831	PB6 (RP)	7.00	23.43	22.00	SS
1832	LC	7.00	19.13	59.00	SS

**Table 13.8: Summary of the grain quality characteristics of entries in Advanced Varietal Trial - Basmati (AVT BT) conducted at ICAR-IARI, New Delhi and analyzed at ICAR-NRRI, Cuttack.**

Entry No.	IET No.	Hull %	Mill %	HRR	KL (mm)	KB (mm)	L/B	Grain Type
1801	28589	80.50	63.00	54.50	8.10	1.80	4.51	ELS
1802	28572	78.00	60.50	44.50	6.84	1.86	3.67	LS
1803	28583	79.00	60.50	43.50	7.80	1.49	5.23	ELS
1804	28573	81.50	63.50	57.50	7.14	1.69	4.24	LS
1805	28574	75.50	61.50	55.50	7.37	1.78	4.16	LS
1806	28575	76.00	64.00	57.00	6.37	1.65	4.11	LS
1807	PRH 10 (C)	77.50	73.00	61.50	7.27	1.71	4.26	LS
1808	27728	78.00	67.00	58.50	6.83	1.83	3.73	LS
1809	28579	76.00	73.00	54.50	7.88	1.60	4.93	ELS
1810	28582	77.00	62.50	54.50	7.58	1.81	4.18	ELS
1811	28577	75.50	64.50	55.00	7.35	1.62	4.55	LS
1812	TB (QC)	72.50	60.50	55.50	6.51	1.61	4.04	MS
1813	28586	75.00	56.50	51.00	7.24	1.51	4.81	LS
1814	27720	75.50	62.00	57.50	7.86	1.47	5.35	ELS
1815	28813	74.50	61.50	54.00	7.66	1.75	4.37	ELS
1816	28812	72.50	60.50	54.50	7.87	1.78	4.43	ELS
1817	28806	78.00	62.50	51.50	7.94	1.69	4.71	ELS
1818	28807	68.50	60.00	54.50	8.18	1.70	4.83	ELS
1819	PB1121 (YC & RP)	78.50	62.50	56.50	8.35	1.71	4.89	ELS
1820	27722	81.00	62.50	57.50	8.16	1.63	5.01	ELS
1821	28810	78.50	62.50	55.00	8.58	1.67	5.14	ELS
1822	28811	80.50	62.50	56.00	8.81	1.69	5.21	ELS
1823	28815	81.00	66.50	52.50	8.64	1.72	5.02	ELS
1824	28814	80.00	67.50	57.50	7.13	1.50	4.76	LS
1825	PB1509 (RP)	81.50	60.00	50.50	7.19	1.60	4.49	LS
1826	28788	78.00	60.50	46.50	6.74	1.36	4.97	LS
1827	28787	77.50	60.50	46.50	6.89	1.56	4.42	LS
1828	PB1 (RP & YC)	78.50	61.50	54.00	7.25	1.46	4.98	LS
1829	28809	80.00	63.50	54.50	7.47	1.57	4.77	LS
1830	28808	70.50	60.00	54.50	7.50	1.60	4.68	ELS
1831	PB6 (RP)	75.50	62.00	53.50	7.39	1.47	5.03	LS
1832	LC	74.50	63.50	54.50	8.22	1.66	4.96	ELS

**Table 13.8 (contd...): Summary of the grain quality characteristics of entries in Advanced Varietal Trial - Basmati (AVT BT) conducted at ICAR-IARI, New Delhi and analyzed at ICAR-NRRI, Cuttack.**

Entry No.	IET No.	Grain Chalk	VER	WU (ml)	KLAC (mm)	ER	ASV	GC
1801	28589	No	4.38	144.00	15.00	1.85	6.00	50.00
1802	28572	Yes	4.13	199.00	10.00	1.46	6.00	47.00
1803	28583	No	3.75	106.00	13.70	1.75	6.00	38.00
1804	28573	No	4.25	101.00	12.00	1.68	6.00	47.50
1805	28574	No	4.13	67.00	12.00	1.63	3.00	55.50
1806	28575	No	4.00	172.00	11.00	1.72	6.00	34.00
1807	PRH 10 (C)	No	4.00	128.50	11.60	1.55	6.00	47.50
1808	27728	No	3.75	112.50	11.00	1.61	4.00	32.50
1809	28579	No	4.13	141.00	13.00	1.65	5.00	31.50
1810	28582	No	4.00	173.50	13.00	1.71	6.00	32.00
1811	28577	No	3.75	87.50	13.00	1.77	6.00	34.50
1812	TB (QC)	No	3.75	52.50	12.00	1.84	5.00	32.00
1813	28586	No	4.00	110.00	12.00	1.65	6.00	40.50
1814	27720	No	3.75	111.00	11.00	1.40	5.00	31.50
1815	28813	No	4.13	126.00	13.00	1.69	6.00	33.50
1816	28812	No	4.25	115.50	14.00	1.77	6.00	36.00
1817	28806	No	4.13	77.00	14.60	1.84	6.00	32.50
1818	28807	No	4.13	44.50	14.60	1.78	3.00	36.50
1819	PB1121 (YC & RP)	No	4.25	81.00	17.00	2.03	3.00	34.00
1820	27722	No	4.00	56.00	14.00	1.71	6.00	36.50
1821	28810	No	3.75	140.00	14.00	1.63	6.00	42.50
1822	28811	No	4.00	231.00	13.40	1.52	6.00	43.50
1823	28815	No	4.13	184.50	14.00	1.62	6.00	46.00
1824	28814	Yes	4.00	263.50	14.00	1.96	6.00	48.00
1825	PB1509 (RP)	Yes	4.25	308.50	12.00	1.67	6.00	38.50
1826	28788	No	4.50	290.50	13.00	1.93	6.00	37.00
1827	28787	No	4.13	290.00	12.00	1.74	6.00	38.50
1828	PB1 (RP & YC)	No	3.75	274.50	11.00	1.52	6.00	42.50
1829	28809	No	4.38	255.00	13.00	1.74	6.00	35.00
1830	28808	No	4.50	292.50	13.00	1.73	7.00	37.50
1831	PB6 (RP)	No	4.38	161.50	13.00	1.76	7.00	40.50
1832	LC	No	4.25	163.50	15.00	1.82	6.00	43.00

**Table 13.9: Summary of the grain quality characteristics of entries in Advanced Varietal Trial - Basmati (AVT-BT) conducted at ICAR-IARI, New Delhi and analyzed at BEDF, Modipuram during Kharif 2020**

Entry No.	IET No.	Hull %	Mill %	HRR	KL (mm)	KB (mm)	L/B	Grain Type	Grain Chalk
1801	28589	78.71	73.95	59.63	9.03	1.99	4.54	ELS	VOC
1802	28572	76.62	71.91	54.30	7.99	1.95	4.10	ELS	VOC
1803	28583	77.41	71.39	49.39	8.68	1.75	4.96	ELS	VOC
1804	28573	78.93	75.04	62.01	8.06	1.90	4.24	ELS	VOC
1805	28574	78.47	73.51	58.80	8.77	1.92	4.57	ELS	VOC
1806	28575	78.89	73.82	67.45	7.66	1.84	4.16	ELS	VOC
1807	PRH 10 (C)	80.23	75.65	52.68	8.03	1.86	4.32	ELS	OC
1808	27728	80.24	75.84	58.41	7.81	1.96	3.98	ELS	VOC
1809	28579	79.17	75.01	50.30	8.41	1.83	4.60	ELS	VOC
1810	28582	78.95	74.87	62.06	9.10	1.98	4.60	ELS	VOC
1811	28577	78.25	73.51	56.47	8.14	1.83	4.45	ELS	OC
1812	TB (QC)	78.76	73.64	53.80	8.13	1.84	4.42	ELS	A
1813	28586	78.75	74.33	57.54	8.43	1.83	4.61	ELS	VOC
1814	27720	76.72	71.84	52.46	8.96	1.84	4.87	ELS	VOC
1815	28813	76.48	71.82	50.71	8.91	1.87	4.76	ELS	OC
1816	28812	76.14	70.73	51.31	8.85	1.86	4.76	ELS	OC
1817	28806	76.45	71.46	50.02	8.86	1.95	4.54	ELS	OC
1818	28807	75.52	69.62	45.33	8.80	1.93	4.56	ELS	VOC
1819	PB1121 (YC & RP)	77.31	72.55	51.47	8.70	1.91	4.55	ELS	OC
1820	27722	77.43	73.67	53.02	9.08	1.98	4.59	ELS	VOC
1821	28810	75.44	66.71	48.30	8.96	1.83	4.90	ELS	OC
1822	28811	77.67	72.04	50.21	9.17	1.82	5.04	ELS	OC
1823	28815	76.17	70.93	49.27	8.87	1.95	4.50	ELS	OC
1824	28814	76.84	70.37	49.26	8.60	1.91	4.50	ELS	P
1825	PB1509 (RP)	77.31	72.38	48.19	8.70	1.90	4.58	ELS	OC
1826	28788	75.49	69.91	51.04	8.25	1.69	4.88	ELS	VOC
1827	28787	76.81	71.40	50.65	8.23	1.67	4.93	ELS	OC
1828	PB1 (RP & YC)	77.18	71.83	54.84	8.00	1.74	4.60	ELS	OC
1829	28809	76.96	71.80	49.33	8.61	1.74	4.95	ELS	VOC
1830	28808	77.13	72.22	52.93	8.52	1.72	4.95	ELS	VOC
1831	PB6 (RP)	76.93	72.21	51.89	8.51	1.72	4.95	ELS	VOC
1832	LC	76.81	72.70	48.54	8.75	1.88	4.65	ELS	OC

**Table 13.9. (contd...): Summary of the grain quality characteristics of entries in Advanced Varietal Trial - Basmati (AVT BT) conducted at ICAR-IARI, New Delhi and analyzed at BEDF, Modipuram during Kharif 2020**

Entry No	IET No.	VER	WU (ml)	KLAC (mm)	ER	ASV	AC (%)	GC	Aroma
1801	28589	4.50	350.00	18.65	2.07	6.50	24.60	43.50	SS
1802	28572	5.20	355.00	14.40	1.80	7.00	24.40	44.00	MS
1803	28583	4.80	365.00	15.50	1.79	6.00	24.40	45.00	SS
1804	28573	4.80	340.00	14.70	1.82	7.00	24.20	43.00	MS
1805	28574	5.20	225.00	18.65	2.13	2.00	20.10	59.00	MS
1806	28575	4.80	345.00	12.25	1.6	7.00	24.30	43.00	MS
1807	PRH 10 (C)	4.60	385.00	14.75	1.84	6.70	24.50	55.00	MS
1808	27728	4.30	280.00	13.65	1.75	6.20	24.30	53.00	SS
1809	28579	5.50	380.00	14.70	1.75	6.70	24.30	50.00	SS
1810	28582	5.20	365.00	18.58	2.04	7.00	24.10	41.00	SS
1811	28577	5.20	390.00	14.80	1.82	6.80	22.50	41.00	MS
1812	TB (QC)	5.10	270.00	14.75	1.81	4.30	24.60	43.00	SS
1813	28586	4.90	340.00	15.20	1.80	6.10	24.30	50.00	SS
1814	27720	4.80	385.00	17.05	1.90	5.00	20.30	60.00	SS
1815	28813	5.20	360.00	18.10	2.03	6.90	24.20	43.00	MS
1816	28812	4.80	345.00	18.30	2.07	7.00	24.30	41.00	MS
1817	28806	4.50	270.00	18.60	2.10	3.00	24.40	53.00	SS
1818	28807	5.00	295.00	18.25	2.07	3.00	22.80	50.00	SS
1819	PB1121 (YC & RP)	4.50	335.00	19.05	2.19	6.60	24.30	55.00	MS
1820	27722	5.10	380.00	18.45	2.03	6.00	24.00	44.00	MS
1821	28810	5.10	355.00	18.55	2.07	6.20	22.90	43.00	SS
1822	28811	4.50	390.00	18.50	2.02	6.00	23.90	43.00	MS
1823	28815	4.50	330.00	18.65	2.10	5.20	24.30	43.00	MS
1824	28814	4.80	345.00	16.80	1.95	5.00	23.30	43.00	SS
1825	PB1509 (RP)	4.60	335.00	17.10	1.97	6.10	24.30	58.00	MS
1826	28788	5.10	405.00	15.25	1.85	7.00	24.40	58.00	SS
1827	28787	4.70	390.00	15.20	1.85	7.00	24.40	56.00	MS
1828	PB1 (RP & YC)	5.10	385.00	14.80	1.85	7.00	24.60	60.00	SS
1829	28809	5.10	365.00	15.95	1.85	7.00	24.60	43.00	SS
1830	28808	4.50	375.00	15.15	1.78	7.00	24.20	60.00	MS
1831	PB6 (RP)	4.60	360.00	16.20	1.90	7.00	24.10	55.00	MS
1832	LC	4.50	345.00	17.30	1.98	6.00	22.80	43.00	SS

**Table 13.10: Panel Test Scores of entries in Advance Variety Trial 1- Basmati (AVT 1-BT) conducted at ICAR-IARI, New Delhi during Kharif 2020**

IET No	Appearance	Cohesiveness	Tenderness on Touching	Tenderness on Chewing	Taste	Aroma	Elongation	Overall Acceptability	Total	Mean	Rank
28589	3.5	4.5	4.5	4.5	4	4	4	4	33.00	4.13	17
28572	3	4.5	5	4.5	4	4	4	3.5	32.50	4.06	19
28583	3.5	3.5	4.5	3	3.5	4	3	2	27.00	3.38	32
28573	3.5	4	4.5	4.5	3	4	3.5	2	29.00	3.63	27
28574	5	5	5	4.5	4	3	3	3	32.50	4.06	20
28575	3.5	4.5	4.5	4.5	3	3	3	1.5	27.50	3.44	30
PRH 10 (C)	5	4.5	4.5	4.5	3.5	3	2.5	2	29.50	3.69	26
27728	5	4	4.5	4.5	3.5	4	2	1	28.50	3.56	28
28579	5	3.5	4.5	4.5	3.5	4	2	1	28.00	3.50	29
28582	3.5	4	4.5	4.5	4	2	3	2	27.50	3.44	31
28577	5	4.5	5	4.5	4	3	2	2	30.00	3.75	25
TB (QC)	5	4.5	4.5	4.5	4.5	4	3.5	3.5	34.00	4.25	12
28586	4.5	4.5	4.5	4.5	4.5	3	3	2.5	31.00	3.88	24
27720	4.5	3.5	4.5	4.5	4	4	4	3	32.00	4.00	23
28813	4.5	4.5	4.5	4.5	4.5	4	3.5	3.5	33.50	4.19	15
28812	4.5	4.5	4.5	4.5	4.5	4	5	4.5	36.00	4.50	5
28806	3.5	4.5	5	5	4.5	5	5	5	37.50	4.69	1
28807	3.5	4.5	4.5	4.5	4.5	3	4	4.5	33.00	4.13	18
PB1121 (YC & RP)	3.5	5	5	4.5	4.5	5	5	5	37.50	4.69	2
27722	3.5	4.5	4.5	4.5	4.5	4	4.5	4.5	34.50	4.31	11
28810	3.5	4	4.5	4.5	4.5	4	3.5	4	32.50	4.06	21
28811	3.5	4.5	5	4.5	4.5	5	4	4.5	35.50	4.44	8
28815	3.5	4	4.5	4.5	4.5	4	4.5	4	33.50	4.19	16
28814	3.5	4.5	5	5	4.5	4	5	5	36.50	4.56	3
PB1509 (RP)	3.5	4.5	4.5	4.5	4.5	5	4.5	5	36.00	4.50	6
28788	3.5	5	4.5	4.5	4	4	3.5	3.5	32.50	4.06	22
28787	3.5	5	5	4.5	4.5	4.5	3.5	3.5	34.00	4.25	13
PB1 (RP & YC)	3.5	5	5	4.5	4	4	4	4	34.00	4.25	14
28809	4.5	4.5	4.5	4.5	4.5	5	4.5	4	36.00	4.50	7
28808	4.5	4.5	4.5	4.5	4.5	4	4.5	4.5	35.50	4.44	9
PB6 (RP)	3.5	4.5	5	4.5	4.5	4.5	5	5	36.50	4.56	4
LC	3.5	4	4.5	4.5	4.5	4.5	5	4.5	35.00	4.38	10

**Table 13.11: Panel Test Scores of entries in Advance Variety Trial 1- Basmati (AVT 1-BT) conducted at BEDF, Modipuram during Kharif 2020**

IET No	Appearance	Cohesiveness	Tenderness on Touching	Tenderness on Chewing	Taste	Aroma	Elongation	Overall Acceptability	Total	Mean	Rank
28589	4.1	4.3	4.0	3.9	3.4	3.9	3.6	4.1	31.3	3.91	4
28572	3.6	4.0	4.0	4.0	3.0	2.5	2.6	4.1	27.8	3.48	25
28583	3.6	3.6	3.9	4.0	3.1	3.0	2.6	3.2	27.0	3.38	30
28573	3.5	3.4	3.8	4.1	3.5	3.2	2.8	3.2	27.5	3.44	26
28574	4.2	4.1	4.1	4.0	3.4	3.5	3.4	4.1	30.8	3.85	6
28575	3.5	4.0	3.7	3.9	2.7	2.7	3.2	3.2	26.9	3.36	32
PRH 10 (C)	3.5	3.7	3.8	3.8	3.6	2.4	2.9	3.4	27.1	3.39	29
27728	3.7	3.9	3.7	3.9	3.0	2.6	2.4	3.7	26.9	3.36	31
28579	3.8	4.1	4.0	4.0	3.3	2.7	3.0	3.4	28.3	3.54	24
28582	4.2	4.0	4.1	4.1	3.3	3.1	3.2	3.5	29.5	3.69	18
28577	3.9	3.7	4.0	3.8	2.5	2.8	2.9	3.6	27.2	3.40	27
TB (QC)	4.2	4.1	4.3	4.1	3.6	3.7	3.5	4.1	31.6	3.95	2
28586	3.9	3.9	4.0	4.0	2.6	1.6	3.1	4.0	27.1	3.39	28
27720	4.2	4.0	4.1	4.1	3.3	3.4	3.3	4.0	30.4	3.80	11
28813	4.2	4.0	4.2	4.1	3.3	3.7	3.2	4.1	30.8	3.85	7
28812	4.2	4.1	4.2	4.1	3.0	3.0	3.3	4.1	30.0	3.75	14
28806	4.2	4.1	4.2	4.0	2.7	3.6	3.6	4.1	30.5	3.81	10
28807	4.2	4.1	4.1	4.0	2.7	3.7	3.2	4.2	30.2	3.78	12
PB1121 (YC & RP)	4.0	4.0	4.0	4.0	2.6	3.4	3.2	4.0	29.2	3.65	20
27722	4.0	3.9	4.0	4.1	2.7	2.7	3.2	3.7	28.3	3.54	23
28810	3.6	4.0	4.0	3.7	3.1	3.3	2.7	4.1	28.5	3.56	21
28811	3.7	4.1	4.1	4.0	3.0	2.4	3.0	4.1	28.4	3.55	22
28815	4.0	4.1	4.0	4.0	3.0	3.6	3.0	4.1	29.8	3.73	17
28814	4.0	4.0	4.0	3.7	3.5	3.4	3.5	4.1	30.2	3.78	13
PB1509 (RP)	4.0	4.1	4.1	4.0	3.0	3.6	3.1	4.0	29.9	3.74	16
28788	4.1	3.8	4.1	4.0	3.2	3.6	3.1	4.0	29.9	3.74	15
28787	4.0	3.7	4.1	4.1	3.2	3.1	3.2	4.0	29.4	3.68	19
PB1 (RP & YC)	4.0	4.1	4.3	4.2	3.2	3.2	3.3	4.3	30.6	3.83	9
28809	4.6	4.4	4.4	4.2	3.4	3.5	3.7	4.4	32.6	4.08	1
28808	4.0	4.3	4.2	4.4	3.2	3.3	3.5	4.4	31.3	3.91	3
PB6 (RP)	4.1	4.0	4.0	4.1	3.0	3.8	3.6	4.1	30.7	3.84	8
LC	4.4	4.1	4.4	4.1	3.4	3.1	3.6	4.1	31.2	3.90	5



**Table 13.12: Composition of entries in Initial Variety trial –Basmati (IVT-BT), Kharif 2020**

Entry No.	IET No.	Designation	Cross combination	Grain Type
1901	28935	Pusa1557-06-8-186	Pusa1463/Pusa1460	ELS
1902	28936	PAU 7106-B-11-1 (RYT 3917)	PB1121/Punjab Basmati 3//PB1121	ELS
1903	28937	CSR-90	CSR30/CSR23	LS
1904	28938	UPR 4259-9-1-1-2	UPR3506-15-1-1/Sarbati	LS
1905	28948	HKR 16-464	Pusa Basmati 1/Taroari Basmati	
1906	28939	Pusa RH 62 (Basmati Hybrid)	Pusa 23A/PRR243	LS
1907	<b>Pusa Rice Hybrid 10 (Hybrid Check)</b>			
1908	28940	PAU 7081-3-2-1 (RYT 3913)	Pusa Basmati 1509/IR 75482//Pusa Basmati 1121	ELS
1909	28941	Pusa RH 63 (Basmati Hybrid)	Pusa 23A/PRR247	LS
1910	<b>Pusa Basmati 1121 (Y &amp; QC)</b>			
1911	28942	CSR-84	CSR30/CSR36	LS
1912	28949	HKR 16-448	Pusa Basmati 1/Taraori Basmati	LS
1913	28943	UPR 4257-8-1-1-1	NRC6154/Pant Sugandh Dhan17	LS
1914	28944	Pusa 1989-15-10-8-2	Pusa 1826/PB3	ELS
1915	<b>Pusa Basmat1 (Yield check)</b>			
1916	28945	CSRCPB 55	CSR89IR15/PB1	LS
1917	28946	UPR 4246-9-1-1-3	Pusa Sugandh 6/Pant Sugandh Dhan 17	LS
1918	<b>Taraori Basmati (QC)</b>			
1919	28947	CSR-86	CSR30/CSR36	LS
1920	<b>Local Check</b>			

**Table No. 13.13: Grain yield (kg/ha) of entries in IVT-BT during Kharif 2020**

Entry No.	IET No.	ND		UK		PUN							
		IARI		@PANT		LDH		@RUN		GDP		@KPT	
1901	28935	7448		2299		4550	10	3008		4141		3445	
1902	28936	7879		2924		5057	6	4086	9	5441	4	3431	
1903	28937	8420	7	3618	6	4506		4258	7	4073		3853	
1904	28938	9059	2 (10%)	3389		5309	3	4450	2	4495		4820	1
1905	28948	5038		3049		3611		3122		5868	2	3540	
1906	28939	8691	6 (5%)	3028		5141	4	4411	3	3912		4193	2
1907	PRH 10 (HC)	8794	5 (6%)	2368		4078		4615	1	5464	3	3670	
1908	28940	6934		4083	3	5088	5	4022	10	5895	1	3514	
1909	28941	9156	1 (11%)	3583	7	5388	2	4405	4	4587		3001	
1910	PB1121 (Y&QC)	8261		3556		4109		3406		5298		3706	
1911	28942	7566		2979		4550	9	4327	6	4454		3561	
1912	28949	4739		1951		2840		2985		2429		3336	
1913	28943	8894	4 (8%)	3486		5489	1	4351	5	5280		3668	
1914	28944	6675		2799		3272		3654		4582		3934	3
1915	PB1 (YC)	7378		3111		3523		3522		4123		3882	
1916	28945	8926	3 (8%)	4715	1	4874	7	3997		3999		3856	
1917	28946	8199		3687	5	3893		4104	8	4518		3473	
1918	TB	4390		1818		2251		2963		2755		2975	
1919	28947	6993		3944	4	4802	8	3243		5271		3619	
1920	LC	6647		4687	2	3329		3315		3935		3822	
<b>Exp. Mean</b>		<b>7504</b>		<b>3254</b>		<b>4283</b>		<b>3812</b>		<b>4526</b>		<b>3665</b>	
CD		1158		1302		660		745		674		625	
CV		7		19.1		7.4		9.3		7.1		8.2	
Sowing Date		19-Jun		29-Jun		23-Jun		22-Jun		26-Jun		24-Jun	
Planting Date		15-Jul		18-Jul		25-Jul		25-Jul		18-Jul		23-Jul	
Local Check		Pusa Basmati 1509		Pant Basmat1 1		Punjab Basmati 3		Punjab Basmati 3		Punjab Basmati 3		Punjab Basmati 3	

% Superior over best check, # % superior over hybrid check, @ not included in means

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**Table 13.13 (Contd...): Grain yield (kg/ha) of entries in IVT-BT during Kharif 2020**

Entry No.	IET No.	PUN (2)		HR			HR (2)		UP				
		Mean		KAR		KUL		Mean	MDP (BDF)	MDP (SB)			
1901	28935	<b>4346</b>		4570		4200		4385		4568		3348	
1902	28936	<b>5249</b>	3 (12%)	5135		6200	4	5668	9	6406	4	4086	
1903	28937	<b>4289</b>		6280	7	6600	1	6440	1 (17%)	5703	7	4850	5
1904	28938	<b>4902</b>	6	5486		5550		5518		6064	6	5352	2
1905	28948	<b>4739</b>	8	5045		5250		5148		3815		4016	
1906	28939	<b>4526</b>		5641	9	5450		5545	10	6647	3	5203	3
1907	PRH 10 (HC)	<b>4771</b>	7	6322	5	6200	5	6261	4 (14%)	6918	2	5073	4
1908	28940	<b>5492</b>	1 (17%)	5695	8	6000	7	5848	6 (6%)	5311		4538	8
1909	28941	<b>4987</b>	5 (6% #5%)	6299	6	6100	6	6200	5 (13%)	6275	5	5828	1
1910	PB1121 (Y&QC)	<b>4704</b>		5483		5500		5491		5402		4505	
1911	28942	<b>4502</b>		6329	4	5150		5740	8 (5%)	4267		3999	
1912	28949	<b>2634</b>		4297		5250		4774		4006		4525	10
1913	28943	<b>5385</b>	2 (14%)	6467	3	6250	2	6358	3 (16%)	7380	1	4535	9
1914	28944	<b>3927</b>		5614	10	6000	8	5807	7 (6%)	4869		4046	
1915	PB1 (YC)	<b>3823</b>		4037		5200		4619		3544		4013	
1916	28945	<b>4437</b>		6599	2	6250	3	6425	2 (17%)	5612	9	4787	6
1917	28946	<b>4206</b>		4280		5650	9	4965		4578		4548	7
1918	TB	<b>2503</b>		4177		4350		4264		1998		3348	
1919	28947	<b>5036</b>	4 (7%)	6865	1	4050		5458		5211		3504	
1920	LC	<b>3632</b>		4297		5350		4823		5643	8	4102	
<b>Exp. Mean</b>		<b>4405</b>		<b>5446</b>		<b>5528</b>		<b>5487</b>		<b>5211</b>		<b>4410</b>	
CD		667		757		738		748		1183		1100	
CV		7.3		8.4		6.4		7.4		10.8		11.9	
Sowing Date				26-Jun		20-Jun				20-Jun		19-Jun	
Planting Date				25-Jul		17-Jul				16-Jul		15-Jul	
Local Check				CSR 30		Haryana Basmati 2				Pusa Basmati 1509		Vallabh Basmati 24	

% Superior over best check, # % superior over hybrid check, @ not included in means

**Table 13.13 (Contd...): Grain yield (kg/ha) of entries in IVT-BT during Kharif 2020**

Entry No.	IET No.	NGN		UP (3)		JK		HP		Overall Mean (9)	DFF	PH (cm)	Panicles/m <sup>2</sup>	
				Mean		CHT		@MLN						
<b>1901</b>	28935	4818	2	4244		4300		846	4	4660	99	103	301	
<b>1902</b>	28936	4167		4886	7	3400		2514	4	5308	8	91	115	284
<b>1903</b>	28937	4036		4863	8	4350	10	2500	5	5424	7	93	111	309
<b>1904</b>	28938	3906		5108	4 (7%)	4400	9	2486	6	5514	5 (5%)	91	115	311
<b>1905</b>	28948	4492	6	4108		3650		1396		4532		105	131	331
<b>1906</b>	28939	3060		4970	5	5300	1 (23%)	2736	2	5449	6	93	110	290
<b>1907</b>	PRH 10 (HC)	4492	7	5494	3 (16%)	5150	2 (20%)	3194	1	5832	3	89	106	292
<b>1908</b>	28940	4622	4	4824	9	3400		2014	10	5276	9	103	103	306
<b>1909</b>	28941	5208	1	5770	1 (21% #5%)	4800	5 (12%)	2549	3	5960	2 (14% #2%)	90	109	289
<b>1910</b>	PB1121 (Y&QC)	4362		4756		4300		806		5247		105	114	315
<b>1911</b>	28942	4362		4209		3450		2097	8	4903		84	110	295
<b>1912</b>	28949	3906		4146		3550		1563		3949		106	130	315
<b>1913</b>	28943	4688	3	5534	2 (16%)	4950	4 (15%)	2375	7	5992	1 (14%, #3%)	92	116	280
<b>1914</b>	28944	4036		4317		3200		104		4699		105	113	314
<b>1915</b>	PB1 (YC)	3971		3843		3300		486		4343		105	103	301
<b>1916</b>	28945	4362		4920	6	5150	3 (20%)	1979		5618	4 (7%)	97	104	352
<b>1917</b>	28946	4167		4431		4650	6 (8%)	1667		4943		93	109	314
<b>1918</b>	TB	2799		2715		2650		1528		3191		108	130	342
<b>1919</b>	28947	4622	5	4446		4550	7 (6%)	2049	9	5096		84	105	300
<b>1920</b>	LC	3841		4529		4450	8	1972		4621		98	109	298
<b>Exp. Mean</b>		<b>4196</b>		<b>4606</b>		<b>4148</b>		<b>1843</b>		<b>5028</b>		<b>97</b>	<b>112</b>	<b>307</b>
CD		452		912		1050		391		864		2.2		64
CV		5.1		9.3		12.1		10.1		8.5		1.1		10
Sowing Date		20-Jun				23-Jun		23-Jun						
Planting Date		15-Jul				18-Jul		21-Jul						
Local Check		Pusa Basmati 1509				Jammu Basmati 129		Kasturi						

% Superior over best check, # % superior over hybrid check, @ not included in means, DFF-Days to 50% flowering, PH- Plant height

**Table 13.14: Days to 50% flowering (DFF) of entries in IVT-BT during Kharif 2020**

Entry No.	IET No.	ND	UK	PUN				PUN (4)	HR		HR (2)
		IARI	PANT	LDH	RUN	GDP	KPT	Mean	KAR	KUL	Mean
1901	28935	97	87.5	102	97	107	95	100	90	91	90
1902	28936	94	81.5	99	93	91	89	93	84	85	84
1903	28937	91	85	98	95	90	89	93	84	87	86
1904	28938	87	79.5	99	94	102	93	97	78	84	81
1905	28948	103	92	111	112	102	105	107	95	101	98
1906	28939	95	80.5	97	93	107	91	97	78	85	82
1907	PRH 10 (HC)	86	77.5	97	93	90	88	92	76	84	80
1908	28940	103	91	107	104	96	103	103	94	98	96
1909	28941	87	79.5	97	94	88	87	91	77	85	81
1910	PB1121 (Y&QC)	104	95.5	112	111	103	101	107	94	101	97
1911	28942	85	76.5	91	87	81	82	85	71	81	76
1912	28949	108	91.5	113	104	112	103	108	97	99	98
1913	28943	89	82.5	95	95	102	94	96	79	85	82
1914	28944	105	97.5	110	109	99	101	105	94	100	97
1915	PB1 (YC)	89	94	113	112	106	101	108	93	99	96
1916	28945	91	87	106	97	95	92	98	86	93	89
1917	28946	94	79.5	101	96	93	90	95	81	85	83
1918	TB	115	99	113	108	109	104	109	100	106	103
1919	28947	80	84.5	92	86	86	82	87	69	78	73
1920	LC	86	94.5	109	100	107	101	104	99	100	99
<b>Exp. Mean</b>		<b>94</b>	<b>87</b>	<b>103</b>	<b>99</b>	<b>98</b>	<b>94</b>	<b>99</b>	<b>86</b>	<b>91</b>	<b>89</b>
<b>CD</b>		0	7.82	3.26	1.38	1	2.9	<b>2.1</b>	1.6	1.4	1.5
<b>CV</b>		0	4.3	1.5	0.7	1	1.5	<b>1.1</b>	1.1	0.7	0.9

**Table 13.14 contd.: Days to 50% flowering (DFF) of entries in IVT-BT during Kharif 2020**

Entry No.	IET No.	UP			UP (3)	JK	HP	Overall Mean (13)
		MDP (BDF)	MDP (SB)	NGN	Mean	CHT	MLN	
1901	28935	92	115	107.0	105	102	101	99
1902	28936	88	101	99.0	96	97	90	91
1903	28937	89	102	100.5	97	100	99	93
1904	28938	83	97	101.0	93	93	94	91
1905	28948	96	122	114.5	111	109	110	105
1906	28939	83	105	103.5	97	94	94	93
1907	PRH 10 (HC)	82	99	102.0	94	91	90	89
1908	28940	95	122	108.0	108	111	108	103
1909	28941	83	111	101.0	98	94	94	90
1910	PB1121 (Y&QC)	98	116	111.0	108	113	109	105
1911	28942	78	96	96.0	90	86	90	84
1912	28949	98	112	114.0	108	113	110	106
1913	28943	85	104	103.0	97	94	93	92
1914	28944	98	115	110.0	108	112	112	105
1915	PB1 (YC)	99	115	117.0	110	111	112	105
1916	28945	92	109	102.0	101	100	109	97
1917	28946	84	107	115.0	102	94	94	93
1918	TB	102	121	108.0	110	113	112	108
1919	28947	77	96	94.5	89	88	87	84
1920	LC	82	120	98.5	100	91	93	98
<b>Exp. Mean</b>		<b>89</b>	<b>109</b>	<b>105</b>	<b>101</b>	<b>100</b>	<b>100</b>	<b>97</b>
<b>CD</b>		1.94	1.18	2.97	2.0	2.07	1.56	2.2
<b>CV</b>		1.0	0.5	1.3	0.9	1.00	0.7	1.1

**Table 13.15: Plant height (cm) of entries in IVT-BT 2020 during *Kharif* 2020**

Entry No.	IET No.	ND	UK	PUN				PUN (4)	HR		HR (2)
		IARI	PANT	LDH	RUN	GDP	KPT	Mean	KAR	KUL	Mean
1901	28935	114.9	113	106	96	124	97	106	119	101	110
1902	28936	130.7	128	112	114	117	99	110	125	124	125
1903	28937	127.9	125	111	108	119	101	110	122	122	122
1904	28938	123.3	127	114	113	125	109	115	120	119	119
1905	28948	153.5	136	135	124	128	122	127	142	153	148
1906	28939	116.0	125	103	106	120	108	109	123	123	123
1907	PRH 10 (HC)	122.0	116	101	104	114	88	102	118	116	117
1908	28940	107.6	119	106	93	119	96	103	113	112	113
1909	28941	114.5	116	110	108	120	100	109	118	122	120
1910	PB1121 (Y&QC)	123.3	127	114	106	123	108	113	124	126	125
1911	28942	126.5	127	110	114	116	103	111	113	117	115
1912	28949	144.2	144	125	111	137	123	124	154	147	151
1913	28943	136.0	127	119	113	110	108	112	120	132	126
1914	28944	123.3	132	113	110	123	106	113	120	125	122
1915	PB1 (YC)	118.7	123	97	95	113	101	102	116	115	116
1916	28945	118.2	114	110	105	101	100	104	118	115	116
1917	28946	121.4	127	106	105	123	106	110	122	114	118
1918	TB	153.2	136	134	132	114	118	124	137	146	142
1919	28947	122.8	120	102	97	111	101	103	103	113	108
1920	LC	101.8	127	95	100	112	93	100	141	124	132
<b>Exp. Mean</b>		<b>125</b>	<b>125</b>	<b>111</b>	<b>108</b>	<b>118</b>	<b>104</b>	<b>110</b>	<b>123</b>	<b>123</b>	<b>123</b>

**Table 13.15 contd.: Plant height (cm) of entries in IVT-BT 2020 during *Kharif* 2020**

Entry No.	IET No.	UP			UP (3)	JK	HP	Overall
		MDP (BDF)	MDP (SB)	NGN	Mean	CHT	MLN	Mean (13)
1901	28935	127	92	86.60	102	102	65	103
1902	28936	138	97	101.40	112	110	103	115
1903	28937	132	103	91.60	109	102	86	111
1904	28938	132	108	99.00	113	108	95	115
1905	28948	161	135	100.20	132	117	102	131
1906	28939	126	110	85.60	107	106	79	110
1907	PRH 10 (HC)	124	102	87.00	104	100	87	106
1908	28940	120	100	87.00	102	98	76	103
1909	28941	131	100	99.20	110	91	84	109
1910	PB1121 (Y&QC)	142	102	88.40	111	116	88	114
1911	28942	122	104	88.20	105	102	81	110
1912	28949	150	119	108.60	126	131	95	130
1913	28943	133	105	93.20	110	114	95	116
1914	28944	131	116	90.00	112	107	74	113
1915	PB1 (YC)	121	100	83.20	101	97	62	103
1916	28945	124	93	87.00	101	90	74	104
1917	28946	131	94	79.40	101	104	85	109
1918	TB	167	122	128.60	139	98	104	130
1919	28947	119	104	93.40	106	93	80	105
1920	LC	120	100	88.20	103	123	98	109
<b>Exp. Mean</b>		<b>132</b>	<b>105</b>	<b>93</b>	<b>110</b>	<b>105</b>	<b>87</b>	<b>112</b>

**Table 13.16: Panicles/m<sup>2</sup> of entries in IVT-BT during *Kharif* 2020**

Entry No.	IET No.	ND	UK	PUN				PUN (4)	HR		HR (2)
		IARI	PNT	LDH	RUN	GDP	KPT	Mean	KAR	KUL	Mean
1901	28935	487	176	340	228	325	228	<b>280</b>	393	330	361
1902	28936	515	177	337	203	238	188	<b>241</b>	412	298	355
1903	28937	497	209	393	221	248	267	<b>282</b>	478	325	402
1904	28938	553	237	261	208	358	224	<b>263</b>	438	377	407
1905	28948	529	253	389	265	328	231	<b>303</b>	412	400	406
1906	28939	462	233	307	221	308	274	<b>277</b>	447	305	376
1907	PRH 10 (HC)	410	228	284	194	298	264	<b>260</b>	529	322	425
1908	28940	445	311	347	208	288	241	<b>271</b>	397	319	358
1909	28941	445	207	290	204	260	208	<b>241</b>	494	339	416
1910	PB1121 (Y&QC)	574	271	316	218	258	244	<b>259</b>	404	262	333
1911	28942	364	208	294	232	263	238	<b>256</b>	490	410	450
1912	28949	651	244	332	232	346	241	<b>288</b>	315	259	287
1913	28943	347	191	304	216	280	215	<b>254</b>	572	256	414
1914	28944	550	254	330	237	255	244	<b>267</b>	412	414	413
1915	PB1 (YC)	494	203	413	234	308	238	<b>298</b>	292	314	303
1916	28945	658	254	353	224	343	248	<b>292</b>	599	262	430
1917	28946	560	280	389	226	293	218	<b>281</b>	315	288	302
1918	TB	557	287	376	263	358	277	<b>318</b>	303	454	379
1919	28947	413	236	297	220	263	215	<b>249</b>	630	318	474
1920	LC	483	248	349	244	285	241	<b>280</b>	315	327	321
<b>Exp. Mean</b>		<b>499</b>	<b>235</b>	<b>335</b>	<b>225</b>	<b>295</b>	<b>237</b>	<b>273</b>	<b>432</b>	<b>329</b>	<b>381</b>
<b>CD</b>		133.9	93.56	49.8	66.95	42	74	<b>58</b>	64.8	41.0	53
<b>CV</b>		12.8	19	7.1	14.2	7	15	<b>11</b>	9	6	7.6

**Table 13.16 (contd...): Panicles/m<sup>2</sup> of entries in IVT-BT during *Kharif* 2020**

Entry No.	IET No.	UP		UP (2)	JK	HP	Overall Mean (12)
		MDP	NGN	Mean	CHT	MLN	
1901	28935	295	227.0	261	275	315	301
1902	28936	281	231.5	256	293	231	284
1903	28937	315	204.5	260	293	255	309
1904	28938	300	266.0	283	299	216	311
1905	28948	409	230.5	320	312	219	331
1906	28939	271	190.0	230	284	177	290
1907	PRH 10 (HC)	309	213.0	261	296	159	292
1908	28940	337	239.0	288	294	246	306
1909	28941	259	244.5	252	353	165	289
1910	PB1121 (Y&QC)	409	264.5	337	313	249	315
1911	28942	290	252.0	271	281	216	295
1912	28949	408	225.0	316	299	234	315
1913	28943	269	244.5	257	294	177	280
1914	28944	317	234.5	276	275	242	314
1915	PB1 (YC)	371	211.5	291	281	258	301
1916	28945	356	256.0	306	309	360.5	352
1917	28946	363	254.0	309	315	267	314
1918	TB	398	250.0	324	266	318	342
1919	28947	272	287.0	280	286	159	300
1920	LC	351	242.0	297	285	201	298
<b>Exp. Mean</b>		<b>329</b>	<b>238</b>	<b>284</b>	<b>295</b>	<b>233</b>	307
<b>CD</b>		93.33	34.8	64	37.40	31.6	64
<b>CV</b>		13.6	7	10.3	6.10	6.5	10

**Table 13.17: Summary of the grain quality characteristics of entries in IVT-BT conducted at ICAR-IARI, New Delhi and analyzed at ICAR-IARI, New Delhi Kharif 2020**

Entry No.	IET No.	Hull %	Mill %	HRR	KL (mm)	KB (mm)	L/B	Grain Type	Grain Chalk	VER
1901	28935	81.63	74.69	63.53	8.58	1.66	5.17	ELS	A	4.28
1902	28936	80.00	73.47	57.33	7.68	1.66	4.63	ELS	OC	4.71
1903	28937	78.75	71.93	58.93	6.97	1.66	4.20	LS	P	4.95
1904	28938	81.25	74.07	60.80	6.36	1.68	4.11	LS	OC	4.95
1905	28948	79.50	72.35	58.57	8.15	1.66	4.91	ELS	VOC	4.57
1906	28939	81.00	75.20	69.12	7.83	1.66	4.72	ELS	VOC	5.66
1907	PRH 10 (HC)	81.63	73.33	61.49	6.77	1.66	4.08	LS	P	5.12
1908	28940	80.88	70.36	56.34	7.98	1.63	4.90	ELS	OC	5.33
1909	28941	80.50	74.46	66.14	7.60	1.66	4.58	ELS	OC	4.57
1910	PB1121 (Y&QC)	80.25	73.56	65.94	7.77	1.66	4.68	ELS	OC	4.29
1911	28942	79.88	71.62	55.51	6.50	1.62	4.02	MS	P	5.33
1912	28949	81.50	74.30	59.90	6.60	1.52	4.36	MS	VOC	3.50
1913	28943	80.38	72.47	55.59	6.83	1.57	4.36	LS	VOC	3.50
1914	28944	82.25	75.53	63.74	7.90	1.63	4.85	ELS	P	3.00
1915	PB1 (YC)	79.38	72.63	59.13	6.93	1.62	4.29	LS	P	3.50
1916	28945	81.13	73.82	65.04	7.20	1.55	4.65	LS	OC	3.00
1917	28946	81.00	74.12	55.49	6.95	1.58	4.40	LS	P	3.50
1918	TB	81.75	75.62	64.99	6.82	1.66	4.11	LS	A	3.25
1919	28947	78.75	69.56	50.01	7.40	1.65	4.50	LS	VOC	3.50
1920	LC	79.25	72.78	62.21	8.20	1.66	4.94	ELS	P	3.50

**Table 13.17 contd.: Summary of the grain quality characteristics of entries in IVT-BT conducted at ICAR-IARI, New Delhi and analyzed at ICAR-IARI, New Delhi Kharif 2020**

Entry No.	IET No.	WU (ml)	KLAC (mm)	ER	ASV	AC (%)	GC	Aroma
1901	28935	315.00	16.00	1.86	7.00	18.49	57.50	SS
1902	28936	355.00	14.33	1.87	7.00	20.70	25.00	SS
1903	28937	397.50	11.05	1.59	7.00	28.58	26.00	SS
1904	28938	342.50	10.60	1.66	7.00	24.78	25.00	MS
1905	28948	210.00	13.90	1.71	5.00	22.59	29.00	SS
1906	28939	340.00	12.98	1.66	7.00	20.05	22.00	SS
1907	PRH 10 (HC)	347.50	10.90	1.61	7.00	19.00	51.00	MS
1908	28940	105.00	14.85	1.86	5.00	24.56	41.00	SS
1909	28941	311.00	13.90	1.83	7.00	22.51	25.00	SS
1910	PB1121 (Y&QC)	342.50	15.75	2.03	7.00	20.43	29.00	SS
1911	28942	185.00	10.80	1.66	4.00	18.65	25.00	MS
1912	28949	215.00	14.95	2.27	6.00	20.84	47.50	SS
1913	28943	365.00	10.75	1.57	5.00	15.22	30.00	MS
1914	28944	365.00	16.45	2.08	7.00	27.72	28.00	SS
1915	PB1 (YC)	405.00	14.30	2.06	7.00	21.89	25.00	SS
1916	28945	357.50	11.15	1.55	7.00	30.80	22.00	MS
1917	28946	130.00	11.98	1.72	5.00	25.80	22.00	MS
1918	TB	172.50	12.60	1.85	5.00	20.43	51.00	SS
1919	28947	310.00	12.20	1.65	7.00	26.69	25.00	MS
1920	LC	307.50	16.45	2.01	7.00	20.05	41.00	SS

HULL: Hulling(%) MILL: Milling(%) HRR: Head Rice Recovery KL: Kernal length (mm) KB: Kernal Breadth(mm) L/B : Length and Breadth(mm) Grain chalk: Grain Chalkiness VOC Very Occasionally Chalky OC: Occasionally Chalky P: Present A: Absent KLAC: Kernal length after cooking WU: Water uptake ER: Elongation ratio AC: Amylose content ( % ) ASV: Alkali Spreading Value AC: Amylose Content ELS: Extra Long Slender LS: Long Slender MS: Medium Slender SS: Strongly Scented MS: Mild Scented NS: Non Scented @not included in the analysis.

**Table 13.18: Summary of the grain quality characteristics of entries in IVT-BT conducted at ICAR-IARI, New Delhi and analyzed at ICAR-IIRR, Hyderabad Kharif 2020**

Entry No	IET No.	Hull %	Mill %	HRR	KL (mm)	KB (mm)	L/B	Grain Type	Grain Chalk	VER
1901	28935	79.9	69.4	55.2	9.11	1.93	4.72	LS	A	5.5
1902	28936	77.1	67.6	66.5	8.42	1.89	4.45	LS	VOC	5.0
1903	28937	74.7	64.2	45.2	7.78	1.76	4.42	LS	VOC	4.8
1904	28938	79.4	69.2	54.6	7.58	1.83	4.14	LS	VOC	4.1
1905	28948	74.2	65.2	38.8	8.59	1.87	4.59	LS	VOC	5.1
1906	28939	78.8	68.7	61.7	8.28	1.91	4.33	LS	VOC	5.1
1907	PRH 10 (HC)	80.8	68.7	39.4	7.54	1.87	4.03	LS	VOC	4.7
1908	28940	75.0	63.7	28.4	8.57	1.80	4.76	LS	VOC	5.6
1909	28941	77.9	67.7	40.7	8.27	1.75	4.72	LS	VOC	4.2
1910	PB1121 (Y&QC)	75.6	65.8	50.9	8.69	1.89	4.59	LS	VOC	4.4
1911	28942	77.2	65.5	48.3	7.73	1.94	3.98	LS	VOC	4.2
1912	28949	77.6	67.3	39.3	8.30	1.82	4.56	LS	A	4.7
1913	28943	77.7	67.2	48.0	7.60	1.75	4.34	LS	VOC	5.3
1914	28944	78.3	67.5	30.0	8.16	1.79	4.55	LS	VOC	5.6
1915	PB1 (YC)	77.3	68.3	44.4	7.64	1.72	4.44	LS	VOC	5.6
1916	28945	78.5	70.2	52.2	7.78	1.85	4.20	LS	VOC	4.7
1917	28946	79.2	70.1	65.6	7.50	1.82	4.12	LS	VOC	5.0
1918	TB	79.6	69.5	50.5	7.48	1.83	4.08	LS	A	5.0
1919	28947	75.8	63.2	57.1	8.42	1.86	4.52	LS	VOC	4.2
1920	LC	76.5	66.7	26.8	8.63	1.89	4.56	LS	VOC	4.6

**Table 13.18 (contd...): Summary of the grain quality characteristics of entries in IVT-BT conducted at ICAR-IARI, New Delhi and analyzed at ICAR-IIRR, Hyderabad Kharif 2020**

Entry No	IET No.	WU (ml)	KLAC (mm)	ER	ASV	AC (%)	GC	Aroma
1901	28935	360	19.1	2.09	7.0	16.54	80	SS
1902	28936	325	15.8	1.87	7.0	22.76	57	SS
1903	28937	340	12.3	1.58	7.0	23.78	61	SS
1904	28938	330	12.9	1.70	7.0	24.20	35	SS
1905	28948	270	16.8	1.95	4.0	22.82	38	SS
1906	28939	325	14.2	1.71	7.0	23.81	45	SS
1907	PRH 10 (HC)	320	12.0	1.59	7.0	23.23	67	SS
1908	28940	270	17.0	1.98	4.0	22.23	50	SS
1909	28941	295	14.8	1.78	7.0	23.02	41	SS
1910	PB1121 (Y&QC)	360	19.4	2.23	7.0	23.46	22	SS
1911	28942	235	12.5	1.61	7.0	20.94	79	SS
1912	28949	305	15.8	1.90	4.0	22.70	53	NS
1913	28943	325	11.4	1.50	5.0	13.70	63	SS
1914	28944	365	18.0	2.20	7.0	25.52	22	NS
1915	PB1 (YC)	385	15.4	2.01	7.0	24.64	22	SS
1916	28945	310	12.3	1.58	7.0	26.19	24	NS
1917	28946	175	13.4	1.78	4.0	24.31	22	SS
1918	TB	240	14.7	1.96	5.0	21.38	25	SS
1919	28947	295	13.2	1.56	5.0	20.82	95	NS
1920	LC	335	16.6	1.92	5.0	19.68	62	MS

HULL: Hulling(%) MILL: Milling(%) HRR: Head Rice Recovery KL: Kernal length (mm) KB: Kernal Breadth(mm) L/B : Length and Breadth(mm) Grain chalk: Grain Chalkiness VOC Very Occasionally Chalky OC: Occasionally Chalky P: Present A: Absent KLAC: Kernal length after cooking WU: Water uptake ER: Elongation ratio AC: Amylose content (%) ASV: Alkali Spreading Value AC: Amylose Content ELS: Extra Long Slender LS: Long Slender MS: Medium Slender SS: Strongly Scented MS: Mild Scented NS: Non Scented.

**Table 13.19: Summary of the grain quality characteristics of entries in IVT-BT conducted at ICAR-IARI, New Delhi and analyzed at ICAR-NRRI, Cuttack Kharif 2020**

Entry No	IET No.	Hull %	Mill %	HRR	KL (mm)	KB (mm)	L/B	Grain Type	Grain Chalk	VER
1901	28935	73.00	62.50	52.00	8.62	1.54	5.62	ELS	No	4.00
1902	28936	73.50	64.00	56.50	8.32	1.58	5.28	ELS	yes	4.25
1903	28937	66.00	59.50	50.00	7.21	1.43	5.05	LS	No	3.75
1904	28938	74.00	60.50	51.50	6.42	1.59	4.03	MS	yes	4.25
1905	28948	70.00	61.00	54.50	8.14	1.50	5.42	ELS	No	4.13
1906	28939	73.00	61.50	54.50	8.21	1.54	5.35	ELS	yes	4.13
1907	PRH 10 (HC)	78.50	62.00	48.50	7.75	1.53	5.07	ELS	yes	4.25
1908	28940	71.00	60.50	46.00	8.29	1.55	5.35	ELS	No	4.25
1909	28941	70.50	61.50	54.00	7.90	1.67	4.75	ELS	yes	4.00
1910	PB1121 (Y&QC)	71.00	60.50	51.50	7.86	1.65	4.76	ELS	yes	4.13
1911	28942	73.50	60.50	47.50	7.41	1.70	4.37	LS	yes	3.75
1912	28949	74.50	64.00	47.50	7.52	1.55	4.86	ELS	No	3.75
1913	28943	73.00	60.50	50.00	7.34	1.60	4.61	LS	No	4.00
1914	28944	74.50	63.00	52.50	8.25	1.43	5.78	ELS	yes	4.25
1915	PB1 (YC)	71.00	60.50	52.00	6.86	1.41	4.88	LS	yes	4.00
1916	28945	75.00	61.50	54.50	7.31	1.63	4.48	LS	yes	4.00
1917	28946	76.00	60.00	53.00	7.37	1.53	4.79	LS	yes	3.75
1918	TB	74.50	58.00	50.50	8.22	1.72	4.95	ELS	yes	4.00
1919	28947	74.00	62.50	55.50	7.53	1.51	5.00	ELS	No	4.25
1920	LC	73.50	60.00	43.00	7.84	1.53	5.17	ELS	yes	4.00

**Table 13.19 (contd...): Summary of the grain quality characteristics of entries in IVT-BT conducted at ICAR-IARI, New Delhi and analyzed at ICAR-NRRI, Cuttack Kharif 2020**

Entry No	IET No.	WU (ml)@	KLAC (mm)	ER	ASV	AC (%)@	GC	Aroma
1901	28935	124.50	16.50	1.91	5.00	12.20	44.00	-
1902	28936	241.00	15.00	1.80	5.00	15.20	47.00	-
1903	28937	265.00	12.00	1.67	5.00	16.38	48.50	-
1904	28938	217.00	15.00	2.33	5.00	17.92	37.50	-
1905	28948	207.00	16.00	1.97	4.00	16.50	38.50	-
1906	28939	251.00	15.30	1.86	7.00	16.31	36.50	-
1907	PRH 10 (HC)	191.00	13.00	1.69	6.00	12.29	34.50	-
1908	28940	70.50	17.00	2.05	3.00	18.14	33.50	-
1909	28941	152.50	16.00	2.02	6.00	15.56	36.50	-
1910	PB1121 (Y&QC)	263.50	17.40	2.21	7.00	15.36	35.00	-
1911	28942	134.50	12.00	1.62	3.00	13.29	42.50	-
1912	28949	145.50	12.00	1.59	4.00	14.95	32.50	-
1913	28943	221.00	12.00	1.63	4.00	13.48	40.00	-
1914	28944	248.50	13.30	1.61	7.00	16.63	34.00	-
1915	PB1 (YC)	231.00	12.00	1.75	7.00	17.90	34.00	-
1916	28945	146.00	12.00	1.64	7.00	19.14	38.50	-
1917	28946	83.50	12.00	1.63	7.00	17.58	35.00	-
1918	TB	196.00	15.00	1.82	6.00	14.04	34.00	-
1919	28947	71.00	12.50	1.66	6.00	12.97	31.00	-
1920	LC	90.00	12.00	1.53	6.00	15.16	31.00	-

HULL: Hulling(%) MILL: Milling(%) HRR: Head Rice Recovery KL: Kernel length (mm) KB: Kernel Breadth(mm) L/B : Length and Breadth(mm) Grain chalk: Grain Chalkiness VOC Very Occasionally Chalky OC: Occasionally Chalky P: Present A: Absent KLAC: Kernel length after cooking WU: Water uptake ER: Elongation ratio AC: Amylose content (%) ASV: Alkali Spreading Value AC: Amylose Content ELS: Extra Long Slender LS: Long Slender MS: Medium Slender SS: Strongly Scented MS: Mild Scented NS: Non Scented @not included in the analysis.



**Table 13.20: Summary of the grain quality characteristics of entries in IVT BT conducted at ICAR-IARI, New Delhi and analyzed at BEDF, Modipuram Kharif 2020**

Entry No	IET No.	Hull %	Mill %	HRR	KL (mm)	KB (mm)	L/B	Grain Type	Grain Chalk	VER
1901	28935	79.64	75.00	58.26	9.51	1.91	4.98	ELS	VOC	4.80
1902	28936	77.91	72.47	53.87	8.87	1.91	4.64	ELS	OC	4.50
1903	28937	75.45	70.30	51.10	8.28	1.74	4.76	ELS	P	4.90
1904	28938	79.14	74.42	57.30	8.11	1.89	4.29	ELS	VOC	4.40
1905	28948	76.27	70.40	53.32	9.33	1.87	4.99	ELS	VOC	4.80
1906	28939	78.24	73.24	59.88	8.91	1.93	4.62	ELS	VOC	5.10
1907	PRH 10 (HC)	79.74	75.30	55.60	8.08	1.87	4.32	ELS	OC	4.30
1908	28940	77.10	71.20	53.59	9.40	1.81	5.19	ELS	VOC	5.00
1909	28941	77.83	72.24	58.88	9.20	1.94	4.74	ELS	VOC	4.50
1910	PB1121 (Y&QC)	76.43	72.09	52.96	9.32	1.91	4.88	ELS	OC	4.80
1911	28942	77.43	71.58	53.74	8.37	1.89	4.43	ELS	OC	4.90
1912	28949	77.33	72.81	51.15	8.27	1.82	4.54	ELS	VOC	4.80
1913	28943	78.27	70.19	53.20	8.07	1.85	4.36	ELS	VOC	4.30
1914	28944	78.64	73.05	53.26	8.90	1.78	5.00	ELS	OC	4.80
1915	PB1 (YC)	77.28	72.19	54.40	8.02	1.72	4.66	ELS	VOC	4.70
1916	28945	78.07	72.21	57.84	8.16	1.81	4.51	ELS	OC	4.30
1917	28946	78.56	73.38	61.79	8.24	1.84	4.48	ELS	OC	4.80
1918	TB	79.17	73.74	60.91	8.10	1.85	4.38	ELS	VOC	4.80
1919	28947	76.99	70.40	51.69	8.70	1.91	4.55	ELS	VOC	4.50
1920	LC	77.00	72.81	53.83	9.21	1.93	4.77	ELS	P	4.50

**Table 13.20 (contd...): Summary of the grain quality characteristics of entries in IVT BT conducted at ICAR-IARI, New Delhi and analyzed at BEDF, Modipuram Kharif 2020**

Entry No	IET No.	WU (ml)	KLAC (mm)	ER	ASV	AC (%)	GC	Aroma
1901	28935	325.00	18.95	1.99	6.00	24.30	55.50	SS
1902	28936	340.00	15.65	1.76	7.00	24.40	40.00	MS
1903	28937	380.00	14.45	1.74	7.00	24.60	48.50	MS
1904	28938	375.00	14.10	1.74	6.80	24.10	46.00	MS
1905	28948	270.00	18.60	1.99	7.00	24.20	56.00	SS
1906	28939	340.00	16.30	1.83	6.90	24.50	42.50	MS
1907	PRH 10 (HC)	370.00	14.20	1.76	6.10	23.00	55.00	SS
1908	28940	180.00	18.35	1.95	4.00	21.70	52.00	SS
1909	28941	310.00	17.65	1.92	6.50	24.50	42.50	MS
1910	PB1121 (Y&QC)	330.00	18.35	1.97	7.00	23.30	32.50	SS
1911	28942	230.00	14.30	1.71	6.20	24.20	60.00	MS
1912	28949	270.00	16.40	1.98	4.70	22.10	50.00	SS
1913	28943	355.00	13.85	1.72	5.00	23.20	57.50	SS
1914	28944	345.00	18.80	2.11	6.90	24.30	42.50	SS
1915	PB1 (YC)	370.00	15.05	1.88	7.00	24.50	43.50	SS
1916	28945	355.00	14.40	1.76	7.00	24.88	52.50	MS
1917	28946	170.00	14.55	1.77	5.50	23.80	60.00	SS
1918	TB	225.00	14.10	1.74	4.80	24.40	56.00	SS
1919	28947	315.00	16.00	1.84	6.00	24.20	55.00	MS
1920	LC	330.00	18.75	2.04	6.00	23.10	43.50	SS

HULL: Hulling(%) MILL: Milling(%) HRR: Head Rice Recovery KL: Kernel length (mm) KB: Kernel Breadth(mm) L/B : Length and Breadth(mm) Grain chalk: Grain Chalkiness VOC Very Occasionally Chalky OC: Occasionally Chalky P: Present A: Absent KLAC: Kernel length after cooking WU: Water uptake ER: Elongation ratio AC: Amylose content (%) ASV: Alkali Spreading Value AC: Amylose Content ELS: Extra Long Slender LS: Long Slender MS: Medium Slender SS: Strongly Scented MS: Mild Scented NS: Non Scented

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**Table 13.21: Panel Test Scores of entries in Initial Variety Trial- Basmati (IVT-BT), ICAR-IARI, New Delhi Kharif 2020**

Entry No	IET. No	Appearance	Cohesiveness	Tenderness on Touching	Tenderness on Chewing	Taste	Aroma	Elongation	Overall Acceptability	Total	Mean	Rank
1901	28935	4.5	3.5	4.5	4.5	3.5	3.5	4.5	4	32.5	4.06	2
1902	28936	3	3.5	4	4	3	3	2.5	2	25.0	3.13	11
1903	28937	2	3	4	4	3.5	3	1.5	1	22.0	2.75	18
1904	28938	3	3	4.5	3	2.5	3	2	1.5	22.5	2.81	16
1905	28948	4.5	3.5	4.5	4.5	3.5	3	4	4	31.5	3.94	4
1906	28939	4.5	3	4	4	2.5	3.5	2	1.5	25.0	3.13	12
1907	PRH 10 (HC)	4.5	2	3	2.5	2	3	1.5	1.5	20.0	2.50	19
1908	28940	3	3.5	4.5	4.5	3.5	3	3	2	27.0	3.38	10
1909	28941	4.5	4	5	4.5	4	3	2.5	2	29.5	3.69	9
1910	PB1121 (Y&QC)	2	3.5	4.5	5	4	3.5	5	4	31.5	3.94	5
1911	28942	3.5	3.5	4	4	3	3	1.5	1	23.5	2.94	15
1912	28949	4	4.5	4.5	5	4	4	4	4	34.0	4.25	1
1913	28943	4.5	2	2.5	2.5	2.5	3	1.5	1	19.5	2.44	20
1914	28944	3.5	4.5	4.5	4.5	4	3.5	3.5	4	32.0	4.00	3
1915	PB1 (YC)	4.5	4	4.5	4.5	4	3	3.5	3	31.0	3.88	6
1916	28945	4.5	4	3.5	4	2.5	3	1.5	1	24.0	3.00	13
1917	28946	2.0	3	4	4	2.5	4	1.5	1.5	22.5	2.81	17
1918	TB	3.0	4.5	4.5	4.5	3.5	3.5	3.5	3.5	30.5	3.81	8
1919	28947	5.0	3	4	3.5	3	2	2	1.5	24.0	3.00	14
1920	LC	3.0	3	4.5	4.5	4	3.5	4.5	4	31.0	3.88	7
		<b>4.0-4.9</b> Creamish White <b>3.0-3.9</b> Red streaks	<b>4.0-4.9</b> Partially separated <b>3.0-3.9</b> Slightly sticky	<b>4.0-4.9</b> Moderately soft <b>3.0-3.9</b> Moderately Hard	<b>4.0-4.9</b> Moderately soft <b>3.0-3.9</b> Moderately Hard	<b>3.0-3.9</b> Desirable 2.0-2.9 Taste less	<b>4</b> Strong 3.0-3.9 <b>Optimum</b> 2.0-2.9 <b>Mild</b> 1.0-1.9	<b>3.0-3.9</b> Good 2.0-2.9 Moderate	<b>4.0-4.9</b> Excellent 3.0-3.9 <b>Good</b> 2.0-2.9 Acceptable			

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**Table 13.22: Panel Test Scores of entries in Initial Variety Trial- Basmati (IVT-BT), BEDF, Modipuram during Kharif 2020**

Entry No	IET No	Appearance	Cohesiveness	Tenderness on Touching	Tenderness on Chewing	Taste	Aroma	Elongation	Overall Acceptability	Total	Mean	Rank
1901	28935	4.2	4.0	4.0	4.1	3.3	3.7	3.4	4.2	30.9	3.86	3
1902	28936	3.9	3.5	3.7	3.8	3.3	3.4	3.2	4.0	28.8	3.60	13
1903	28937	4.0	4.0	3.7	4.0	3.3	3.6	2.6	3.9	29.1	3.64	11
1904	28938	3.9	4.1	4.0	3.8	3.3	3.2	3.0	4.0	29.3	3.66	9
1905	28948	4.0	3.9	4.0	4.0	3.0	3.4	3.4	4.1	29.8	3.73	6
1906	28939	4.0	4.0	3.7	3.6	2.5	2.4	2.8	3.8	26.8	3.35	20
1907	PRH 10 (HC)	3.9	3.8	3.9	4.0	2.8	3.1	3.0	4.0	28.5	3.56	14
1908	28940	4.0	4.3	4.2	3.6	2.9	2.6	3.4	4.1	29.1	3.64	10
1909	28941	4.0	3.6	4.1	3.8	2.9	2.8	2.9	3.4	27.5	3.44	19
1910	PB1121 (Y&QC)	4.0	3.9	4.0	4.0	3.5	3.6	3.7	4.2	30.9	3.86	4
1911	28942	4.1	4.1	4.1	4.0	3.3	2.7	3.1	4.0	29.4	3.68	8
1912	28949	4.1	4.1	3.9	3.9	2.8	3.7	3.2	4.0	29.7	3.71	7
1913	28943	4.0	3.7	4.0	4.0	2.8	2.8	2.8	3.8	27.9	3.49	17
1914	28944	4.3	4.8	4.3	3.8	2.9	3.5	3.2	4.3	31.1	3.89	2
1915	PB1 (YC)	4.1	4.1	4.1	4.1	3.0	3.6	3.5	4.0	30.5	3.81	5
1916	28945	3.5	4.0	4.0	3.7	3.2	2.9	3.0	3.9	28.2	3.53	16
1917	28946	3.7	3.9	3.9	4.0	2.7	3.2	3.2	3.8	28.4	3.55	15
1918	TB	3.9	3.8	4.0	4.0	3.0	3.2	3.0	4.0	28.9	3.61	12
1919	28947	4.4	4.2	4.4	3.6	2.9	2.3	2.4	3.6	27.8	3.47	18
1920	LC	4.2	4.2	4.3	4.2	3.5	3.3	3.6	4.2	31.5	3.94	1
		<b>4.0-4.9</b> Creamish White <b>3.0-3.9</b> Red streaks	<b>4.0-4.9</b> Partially separated <b>3.0-3.9</b> Slightly sticky	<b>4.0-4.9</b> Moderately soft <b>3.0-3.9</b> Moderately Hard	<b>4.0-4.9</b> Moderately soft <b>3.0-3.9</b> Moderately Hard	<b>3.0-3.9</b> Desirable 2.0-2.9 Tasteless	<b>4</b> Strong 3.0-3.9 <b>Optimum</b> 2.0-2.9 <b>Mild</b> 1.0-1.9	<b>3.0-3.9</b> Good 2.0-2.9 Moderate	<b>4.0-4.9</b> Excellent 3.0-3.9 <b>Good</b> 2.0-2.9 Acceptable			

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Mr. Sadath Ali	Technical Officer	Mr. Manoj Patra	Technician
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**WEATHER DATA – KHARIF 2020**

ALMORA							
Latitude :	29° 36' N		Longitude:	79° 40' E		Elevation(m) :	1250
Soil type:	Clay loam		Soil pH :	6.5		Soil texture :	Clay
	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Total / Range</b>
No. of Rainy days	9	13	16	17	4	0	59
Total Rainfall (mm)	50.5	113.0	185.6	82	44.5	0	475.6
Avg. Max. Temp. (°C)	29.7	29.9	29.4	29.5	31.2	30.1	29.4-31.2
Avg. Mini. Temp. (°C)	12.7	18.2	20.3	20.8	18.2	6.6	6.6-20.8
Avg. Sunshine hours	8.48	5.79	4.21	5.36	7.28	8.62	6.62

BRAHMAVAR							
Latitude :	13° 25' N		Longitude:	75° 45' E:		Elevation (m):	10
Soil type:	Laterite		Soil pH :	5.5		Soil texture	Light Textured
	<b>JUNE</b>	<b>JULY</b>	<b>AUG</b>	<b>SEP</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
No. of rainy days	26	25	26	24	12	-	2
Total rainfall (mm)	968.1	1295.1	1080.8	1140.1	362.2	2.8	29.2
Avg. Max. Temp. (°C)	30.6	30.0	29.4	29.8	30.5	34.2	33.6
Avg. Min. Temp. (°C)	21.3	22.7	22.4	22.3	21.9	21.2	20.6
* Avg. Sunshine hours	1.9	2.1	2.0	3.4	5.2	7.9	8.7
* Avg. wind velocity	4.7	4.4	4.8	4.5	3.4	3.3	3.7
							<b>Total / Range</b>
							115
							4878.3
							29.4-34.2
							20.6-22.7
							4.45
							4.11

BAPATLA							
Latitude :			Longitude:			Elevation(m) :	
Soil type:			Soil pH :			Soil texture :	
	<b>JUNE</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct.</b>	<b>Nov</b>	<b>Total / Range</b>
No. of Rainy days	14	15	9	8	-	-	46
Total Rainfall (mm)	139.9	338.8	66.3	222.8	-	-	767.8
Avg. Max. Temp. (°C)	32.1	32.7	32	30.4	29.7	-	29.7-32.7
Avg. Mini. Temp. (°C)	25.3	25.5	25.0	22.0	18.7	-	18.7-25.5

CANNING							
Latitude	22° 15' N		Longitude	88° 40' E		Elevation (m)	3.0
Soil type	Coastal saline		Soil pH	6.5		Soil texture	Heavy
	<b>July</b>	<b>Aug</b>	<b>Sept</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Total / Range</b>
No. of rainy days	15	19	12	09	-	1	56
Total Rainfall (mm)	257.3	515.1	186.7	88.0	0.8	12.0	1059.9
Avg. Max. Temp. (°C)	33.1	42.3	33.0	32.9	30.5	25.3	30.5-42.3
Avg. Mini. Temp. (°C)	27.2	26.9	28.4	26.1	20.3	14.9	14.9-28.4
* Avg. Sunshine hours	5.1	3.7	4.7	6.2	4.7	6.6	5.16
* Avg. wind velocity (KMPH)	5.9	5.7	3.2	2.5	1.5	2.1	3.48

CHINSURAH							
Latitude :	22° 52' N		Longitude:	88° 24' E		Elevation (m) :	8.62
Soil type:	Clay Loam		Soil pH :	7.3		Soil texture :	Gangetic Alluvial
	<b>June</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Total / Range</b>
No. of Rainy days	21	19	23	18	11	1	93
Total Rainfall (mm)	228.9	278.6	346.2	132.9	88.9	0.3	1075.8
Avg. Max. Temp. (°C)	34.5	34.3	32.9	33.6	32.8	30.2	30.2-34.5
Avg. Mini. Temp. (°C)	27.08	27.03	26.7	26.2	24.4	18.3	18.3-27.08

COIMBATORE							
Latitude	11° N		Longitude:	77° E		Elevation (m):	426.72
Soil type	Clay		Soil pH	7.8		Soil Texture:	Heavy
	<b>June</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct.</b>	<b>Nov</b>	<b>Total / Range</b>
No. of Rainy days	10	11	11	15	-	-	47
Total Rainfall (mm)	83.5	49.5	140.5	36.0	-	-	309.5
Avg. Max. Temp. (°C)	31.6	31.1	30.3	30.8	-	-	30.3-31.6
Avg. Mini. Temp. (°C)	23.2	23.4	23.1	23.6	-	-	23.1-23.6
Solar radiation (CAL/CM <sup>2</sup> )	298.2	314.3	295.7	326.6	-	-	1234.8
Avg. Sunshine hours	5.0	5.2	4.9	6.4	-	-	5.38
Avg. wind velocity	7.6	10.2	7.6	5.9	-	-	7.83

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CHIPLIMA							
Latitude :	20°21'N		Longitude	80° 55'E		Elevation :	178.8
Soil type:	Mixed Red, Black & Lateritic		Soil pH :			Soil texture :	
	June	July	Aug	Sep	Oct	Nov	Total/Range
No. of Rainy days	17	18	14	9	2	1	61
Total Rainfall (mm)	261.0	208.8	383.7	100.3	16.4	10.0	980.2
Avg. Max. Temp. (°C)	37.1	34.8	34.5	29.5	32.8	31.7	29.5-37.1
Avg. Mini. Temp. (°C)	24.4	25.8	22.8	20.7	17.6	15.3	15.3-25.8

NRRRI - CUTTACK							
Latitude :	20.5° N		Longitude:	86.0° N		Elevation(m) :	23.8
Soil type:	Clayloam		Soil pH :	7.2		Soil Texture:	
	June	July	Aug	Sep	Oct	Nov	Total / Range
No. of Rainy days	13	15	17	12	13	0	70
Total Rainfall (mm)	156.4	100.7	449.7	93.2	142.0	0	942
Avg. Max. Temp. (°C)	33.4	33.6	32.0	32.9	31.1	30.2	30.2-33.6
Avg. Mini. Temp. (°C)	27.8	27.9	27.0	26.3	25.2	20.6	20.6-27.9
Avg. Sunshine hours	3.9	3.6	3.2	4.0	3.2	3.2	3.51
Avg. wind velocity	4.7	4.5	2.7	5.0	4.9	6.6	4.73

DEROL							
Latitude:	22° 36'		Longitude:	73° 27'		Elevation (m):	83.14
Soil type:	Sandy Loam		Soil pH:	7.3		Soil texture:	
	July	Aug	Sep	Oct	Nov	Total / Range	
No. of Rainy days	9	23	7	0	0	39	
Total Rainfall (mm)	89.2	584.2	98.8	0	0	772.2	
Avg. Max. Temp. (°C)	34.2	30.1	31.1	31.8	31.1	30.1-34.2	
Avg. Mini. Temp. (°C)	25.1	24.4	23.5	21.6	18.4	18.4-25.1	
Avg. Sunshine hours	4.1	2.5	3.0	6.4	6.7	4.54	
Avg. Wind Velocity	6.2	3.1	2.7	5.3	5.1	4.48	

GANGAVATI							
Latitude :	15° 15' N		Longitude:	76° 31' E		Elevation (m) :	419
Soil type:	Medium Black		Soil pH/EC	6.5-7.5		Soil texture :	Fine
	July	Aug	Sep	Oct	Nov	Dec	Total / Range
No. of Rainy days	11	7	11	6	1	0	36
Total Rainfall (mm)	140.10	74.20	141.40	67.3	11.0	-	434
Avg. Max. Temp. (°C)	31.23	29.94	30.47	31.12	29.93	29.52	29.52-31.23
Avg. Mini. Temp. (°C)	23.29	23.10	22.77	21.77	18.57	15.65	15.65-23.29

HATHWARA										
Latitude :	23° 20' N			Longitude:	86° 25' E			Elevation (m) :	255	
Soil type:	Light			Soil pH :	5.8			Soil texture :	Sandy Loamy	
	June	July	Aug	Sep	Oct.	Nov	Dec	Total / Range		
No. of Rainy days	11	15	15	07	04	01	0	53		
Total Rainfall (mm)	146.1	223.9	351.8	171.0	35.7	9.2	1.0	938.7		
Avg. Max. Temp. (°C)	33.2	33.0	32.4	33.4	32.6	30.0	26.3	26.3-33.4		
Avg. Mini. Temp. (°C)	24.2	24.3	24.2	24.1	21.5	14.7	10.4	10.4-24.3		
Avg. Sunshine hours	1.2	1.1	1.0	0.5	0.1	0.2	0.2	0.614		
Avg. wind velocity (Km/h)	86	89	92	89	85	76	80	85.28		

HAZARIBAG										
Latitude :	23° 95'91" N			Longitude:	85° 37'20" E			Elevation :	614	
Soil type:	Sandy-loam			Soil pH :	5.7			Soil texture :	35% clay, 53% silt, 15% sand	
	JUNE	July	Aug	Sep	Oct	Nov	Total / Range			
No. of Rainy days	11	17	15	11	5	1	60			
Total Rainfall (mm)	215.2	345.8	340.6	130.2	55.2	10.9	1097.9			
Avg. Max. Temp. (°C)	32.1	30.97	30.45	27.72	29.59	26.7	26.7-32.1			
Avg. Mini. Temp. (°C)	20.5	20.69	20.55	18.1	16.67	8.75	8.75-20.69			
* Avg. Sunshine hours	4.2	3.28	3.53	4.53	6.8	8.02	5.06			
* Avg. wind velocity	4.9	4.7	5.5	4.1	2.4	2.2	3.96			

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JAGDALPUR							
Latitude :	19.05°N		Longitude:	82.02°		Elevation(m) :	552
Soil type:	Alfisol		Soil pH :	6.5		Soil texture :	Sandy loam
	June	July	Aug	Sep	Oct.	Nov	Total / Range
No. of rainy days	15	12	17	14	9	2	69
Total Rainfall (mm)	250.4	261.3	437.4	277.1	150.3	33.2	1409.7
Avg. Max. Temp. (°C)	32.3	30.6	28.3	30.9	30.3	29.4	28.3-32.3
Avg. Mini. Temp. (°C)	23.2	22.9	22.6	22.4	20.2	14.9	14.9-23.2
Avg. Sunshine hours	4.5	3.9	2.3	5.0	4.9	6.0	4.43
Avg. wind velocity (km/h)	4.4	3.6	4.5	1.8	1.6	0.4	2.71

JABALPUR							
Latitude :	23.9° N		Longitude:	79.58° E		Elevation (m) :	411.78
Soil type:	Medium black		Soil pH :	7.5		Soil texture :	clayey
	JUNE	July	Aug	Sep	Oct	Nov	Total / Range
No. of Rainy days	5	12	24	9	0	1	51
Total Rainfall (mm)	75.3	289.4	698.4	149.8	0.0	6.6	1219.5
Avg. Max. Temp. (°C)	34.8	32.8	29.9	32.7	32.5	29.3	29.3-34.8
Avg. Mini. Temp. (°C)	24.7	24.8	24.0	23.8	19.8	11.2	11.2-24.8
* Avg. Sunshine hours	4.4	6.5	2.5	5.5	7.6	7.7	5.7
* Avg. wind velocity	5.2	3.7	4.0	1.7	2.2	2.2	3.16

JEYPORE									
Latitude:	18.60° N	Longitude:	82.44° E			Elevation (m):		553	
Soil type:	Acidic	Soil pH :	6.6			Soil texture :		Sandy Loam	
	June	July	Aug	Sep	Oct	Nov	Dec	Total / Range	
No. of Rainy days	17	15	25	18	17	2	0	94	
Total Rainfall (mm)	193.10	184.20	690.40	239.10	148.60	3.00	0.00	1458.4	
Avg. Max. Temp. (°C)	37	34	33	33	32	33	31	31-37	
Avg. Mini. Temp. (°C)	20	21	21	21	19	12	7	7-21	

KARJAT							
Latitude :	18° 55' N		Longitude:	73° 18' E		Elevation (m) :	51
Soil type:	Medium black		Soil pH :	6.2		Soil texture :	Clay loam
	June	July	Aug	Sep	Oct	Nov	Total / Range
No. of Rainy days	17	26	28	18	06	0	95
Total Rainfall (mm)	407.00	660.70	1433.40	356.10	225.20	0.00	3082.4
Avg. Max. Temp (°C)	34.16	30.61	28.96	31.59	32.81	34.55	28.96-34.55
Avg. Mini Temp (°C)	25.69	24.44	23.93	23.19	22.46	17.82	17.82-25.69
Avg. Sunshine hours	2.47	1.64	1.23	3.51	4.90	7.80	3.59
Avg. wind velocity	4.76	4.69	5.16	1.98	1.84	1.51	3.32

KAUL							
Latitude :	29° 51' N		Longitude	76° 39' E		Elevation (m) :	230.7
Soil type:	Clay loam		Soil pH :	7.8		Soil texture :	Clay
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	5	11	6	11	0	1	24
Total Rainfall (mm)	289.2	428.2	110.0	12.0	0.0	10.5	849.9
Avg. Max. Temp. (°C)	-	-	-	-	-	-	-
Avg. Mini. Temp. (°C)	24.8	22.6	26.2	23.6	15.5	9.5	9.5-26.2
Avg. Sunshine hours	8.5	6.5	5.6	7.7	7.8	7.3	7.23
Avg. wind velocity (Km/h)	9.5	5.6	3.9	3.3	2.8	3.1	4.7

KHUDWANI								
Latitude :	34 °N		Longitude:	73 °E		Elevation(m) :	1560	
Soil type:	Clay loam		Soil pH :	Neutral		Soil texture :	Silty Clay loam	
	April	May	June	July	Aug	Sep	Oct	Total / Range
No. of rainy days	9	6	4	3	7	4	0	33
Total Rainfall (mm)	126	88	60.4	19.6	153.4	70	0	517.4
Avg. Max. Temp. (°C)	20.2	24.7	29.1	32.3	31.5	28.9	25.1	20.2-32.3
Avg. Mini. Temp. (°C)	6.4	9.2	12.5	15.6	17.5	10.7	2.5	2.5-17.5
Avg. Sunshine hours	5.7	6.4	9.35	8.5	7.3	8.1	7.3	7.52

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KURUMBAPET										
Latitude :	11° 45' N			Longitude:	79° 35' E			Elevation (m) :	26	
Soil type:	Clay loam			Soil pH :	6.2			Soil texture :	Clay loam	
	<b>June</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Total / Range</b>	
Total rainfall (mm)	41.6	74.8	56.7	78.6	370.7	471	396.2	174.1	1663.7	
Avg. Max. Temp. (°C)	37.22	32.833	34.62	33.67	32.61	30.56	28.25	28.92	28.25-37.22	
Avg. Mini Temp. (°C)	27.61	25.77	26.31	25.32	24.32	22.96	21.14	21.78	21.14-27.61	
Relative Humidity (%)	70.72	75.61	69.23	74.60	77.90	84.06	85.58	85.91	623.61	

LUCKNOW									
Latitude :	27.47			Longitude:	80.21			Elevation (m):	126
Soil type: -Typic Natrustalfs	Alkali			Soil pH :	9.7, 1.10 dS m <sup>-1</sup>			Soil texture :	Loam (sandy to clayey)
	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Total / Range</b>		
No. of Rainy days	3	4	-	-	-	-	7		
Total Rainfall (mm)	17.99	22.86	6.10	0.0	2.13	0.0	49.08		
Avg. Max. Temp. (°C)	34.29	34.06	35.33	34.84	28.20	23.35	23.35-35.33		
Avg. Mini .Temp. (°C)	26.65	26.71	26.67	20.97	13.43	9.52	9.52-26.71		

LUDHIANA										
Latitude :	30°54' N			Longitude:	75° 48' E			Elevation(m) :	247	
Soil type:	Loamy Sand			Soil pH :	7.7			Soil texture		
	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct.</b>	<b>Nov.</b>	<b>Dec</b>	<b>Total / Range</b>	
No. of Rainy Days	7	5	14	13	2	-	2	2	45	
Total rainfall (mm)	87.40	9.60	232.0	145.6	13.60	-	15.60	6.00	509.8	
Avg. Max. Temp. (°C)	36.91	37.58	34.42	33.56	34.46	32.64	25.31	19.43	19.43-37.58	
Avg. Mini Temp. (°C)	22.24	26.47	26.61	26.85	24.90	15.92	9.88	7.10	7.10-26.85	
Avg. Sunshine hours	9.51	9.33	7.27	6.35	8.66	8.22	5.98	5.06	7.54	
Avg. wind velocity	5.72	5.58	5.24	5.02	2.80	2.24	2.18	3.23	4.00	

LAMPHELPAT									
Latitude :	24° 45' N			Longitude:	93° 54' E			Elevation (m) :	774
Soil type:	Inceptisols			Soil pH:	5.5-6.0			Soil texture :	Clay loam
	<b>JUNE</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Total / Range</b>		
No. of rainy days	21	19	15	10	10	-	75		
Total rainfall (mm)	307.4	270.8	205.7	229.9	165.8	-	1179.6		
Avg. Max Temperature (°C)	30.0	29.7	30.0	30.3	37.1	-	29.7-37.1		
Avg. Min. Temperature (°C)	22.5	22.9	23.0	22.3	20.9	-	20.9-23.0		
* Avg. Sunshine hours	3.9	2.6	3.3	4.6	5.4	-	3.96		
* Avg. wind velocity (Km/h)	3.7	3.5	3.2	2.7	1.5	-	2.92		

MACHILIPATNAM									
Latitude :	8.15° E			Longitude:	16.17°N			Elevation (m) :	14
Soil type: Sandy Loams	Sandy clay loam			Soil pH :	7.98			Soil texture :	Sandy loam
	<b>June</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Total / Range</b>		
No. of Rainy days	19	8	6	7	4	1	45		
Total Rainfall (mm)	308.9	144.2	232.5	221.6	164.4	4.3	1075.9		
Avg. Max. Temp. (°C)	33.7	32.2	32.96	32.52	30.03	30.28	30.03-33.7		
Avg. Mini .Temp. (°C)	25.6	26.2	25.71	25.56	29.9	20.91	20.91-26.2		

MANDYA									
Latitude	12.45°- 13.57° N			Longitude	76.48°- 78.24° E			Elevation (m):	695
Soil type	Sandy Loam			Soil pH	6.5- 7.1			Soil texture:	Sandy loam
	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>DEC</b>	<b>Total / Range</b>		
No. of Rainy days	10	4	6	12	4	3	39		
Total Rainfall (mm)	84.3	67.1	149.2	222.5	64.6	9.0	596.7		
Avg. Max. Temp. (°C)	28.7	29.2	29.9	29.5	29.3	28.1	28.1-29.9		
Avg. Mini. Temp.(°C)	18.9	19.5	19.6	19.3	19.0	17.5	17.5-19.6		
Avg. Sunshine hours	2.8	2.6	3.6	4.8	4.8	3.5	3.68		
Avg. wind velocity (Km/h)	3.78	5.23	3.62	2.58	3.27	2.39	3.47		

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MALAN							
Latitude :	32° 1' N		Longitude:	76° 20' E		Elevation (m) :	950
Soil type:	Alfisol		Soil pH :	5.6- 5.8		Soil texture :	Silty clay loam
	<b>June</b>	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Total / Range</b>
No. of Rainy days	5	15	18	1	-	2	41
Total Rainfall (mm)	67.4	513.9	616.9	14.2	-	19.9	1232.3
Avg. Max. Temp. (°C)	33.1	32.6	31.5	31.5	30.5	26.3	26.3-33.1
Avg. Mini. Temp. (°C)	16.8	17.4	16.6	15.2	13.0	8.0	8.0-17.4

MARUTERU							
Latitude	16.38° N		Longitude:	81.44° E		Elevation (m)	13
Soil type	Black alluvial clay		Soil pH:	6.5- 7.5		Soil Texture:	Delta alluvial
	<b>July</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>DEC</b>	<b>Total / Range</b>
No. of Rainy days	12	13	9	12	7	0	53
Total Rainfall (mm)	427.2	169.6	301.0	374.9	240.4	0.0	1513.1
Avg. Max. Temp. (°C)	31.05	30.61	31.82	30.73	30.25	29.15	29.15-31.82
Avg. Mini. Temp. (°C)	25.58	26.72	26.83	26.03	23.47	20.23	20.23-26.83
Avg. Sunshine hours	3.82	0.74	3.87	0.00	0.00	0.00	2.81
Avg. wind velocity (Km/h)	5.92	6.07	3.48	1.96	4.09	2.93	4.075

MODIPURAM							
Latitude	29.088		Longitude:	77.702		Elevation(m)	232
Soil type	Black		Soil pH:	8.0		Soil Texture:	Clay Loam
	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Total / Range</b>
No. of Rainy days	2	10	10	2	-	-	24
Total Rainfall (mm)	17.8	228.8	148.2	9.4	-	2.7	406.9
Avg. Max. Temp. (°C)	35.8	34.0	33.2	35.0	33.8	27.17	27.17-35.8
Avg. Mini. Temp. (°C)	25.7	25.7	25.4	26.4	19.0	10.3	10.3-26.4
* Avg. Sunshine hours	9	6	4.8	8	8.2	7.2	7.2
* Avg. wind velocity	5.1	4.3	3.9	2.5	1.8	4.8	3.73

MUGAD							
Latitude :	15° 15' N		Longitude:	75° 40' E		Elevation(m) :	697
Soil type:	Laterite		Soil pH :	6.4		Soil texture :	Silty Clay Loam
	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov.</b>	<b>DEC</b>
No. of Rainy days	13	15	25	12	13	-	-
Total Rainfall (mm)	121.2	214.4	477.0	212.4	116.4	-	-
							<b>Total / Range</b>
							78
							1141.4

MALAGI							
Latitude :	14° 26'		Longitude:	74° 50' E		Elevation (m) :	619
Soil type:	Laterite		Soil pH :	5.4		Soil texture :	Sandy Loam
	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov</b>	<b>Dec.</b>	<b>Total / Range</b>
No. of Rainy days	25	29	4	7	1	1	67
Total Rainfall (mm)	435.6	375.8	57	100.6	7	12.6	988.6

MONCOMPU							
Latitude :	90-25'N		Longitude:	76027'E		Elevation (m) :	1-2.5
Soil type:	Alluvial clay		Soil pH :	4.5 to 6.5		Soil texture :	Silty Clay Loam
	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>JAN</b>	<b>Total / Range</b>	
No. of Rainy days	26	14	9	7	8	64	
Total Rainfall (mm)	676.5	289.8	75.3	62.5	68.5	1172.6	
Avg. Max. Temp. (°C)	30.66	32.3	33.75	33.18	32.93	30.66-33.75	
Avg. Mini. Temp. (°C)	24.23	24.67	24.75	24	23.3	23.3-24.75	



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NAVASARI								
Latitude :	20° 29'		Longitude:	73° 29'		Elevation (m) :		105
Soil type:	Clayey		Soil pH :	7.5		Soil texture :		Loamy
	June	July	Aug.	Sep.	Oct.	Nov.	Dec	Total / Range
No. of Rainy days	8.0	16.0	26.0	10.0	1.0	-	2.0	63
Total Rainfall (mm)	117.0	674.0	1265.0	210.0	5.0	-	39.0	2310
Avg. Max. Temp. (°C)	33.2	31.8	29.5	32.4	34.9	33.6	30.7	29.5-34.9
Avg. Mini .Temp . (°C)	25.6	25.2	24.5	24.7	22.5	16.7	14.8	14.8-25.6
Avg. Sunshine hours	4.9	5.2	2.0	4.5	7.2	7.9	7.1	5.54
Avg. wind velocity (Km/h)	5.4	5.7	5.8	2.4	1.8	2.3	2.5	3.7

NAWAGAM								
Latitude :	22 °48'		Longitude:	71 ° 3'		Elevation (m) :		32.4
Soil type:	Medium black		Soil pH :	7.8		Soil texture :		Sandy Clay Loam
	June	July	Aug.	Sep.	Oct.	Nov.		Total / Range
No. of Rainy days	07	10	15	07	02	-		41
Total Rainfall (mm)	94	121.2	533.8	51.2	31.2	-		831.4
Avg. Max. Temp. (°C)	36.8	34.3	32.3	33.4	35.2	32.4		32.3-36.8
Avg. Mini .Temp . (°C)	26.1	26.4	25.6	26.1	22.6	15.6		15.6-26.4
Avg. Sunshine hours	8.4	7.5	3.5	7.6	9.5	8.5		7.5
Avg. wind velocity (Km/h)	4.6	4.8	4.1	1.05	0.8	0.7		2.68

PALAMPUR								
Latitude :	32.1109		Longitude:	76.5363		Elevation(m) :		1267.79
Soil type:	Podzolic		Soil pH :	5.5		Soil texture :		Silty Clay loam
	June	July	Aug.	Sep.	Oct.	Nov.		Total / Range
Total Rainfall (mm)	136	710	738	324	72	-		1980
Avg. Max. Temp. (°C)	31.89	27.22	26.11	26.28	24.39	-		24.39-31.89
Avg. Mini .Temp . (°C)	22.28	20.28	20.72	18.89	15.28	-		15.28-22.28

PARBHANI								
Latitude :	19° 16' N		Longitude:	76°47' E		Elevation(m) :		409
Soil type:	Lack Cotton Soil		Soil pH :			Soil texture :		Heavy Soil
	June	July	Aug.	Sep.	Oct.	Nov.		Total / Range
Total Rainfall (mm)	199.5	256.0	132.0	318.4	115.0	0.0		1020.9
Avg. Max. Temp. (°C)	34.0	31.9	29.1	24.0	16.6	31.3		16.6-34.0
Avg. Mini .Temp . (°C)	23.5	23.1	22.1	22.1	20.6	14.6		14.6-23.5
Avg. Sunshine hours	5.8	5.7	3.6	5.4	6.4	8.4		5.88
Avg. wind velocity (Km/h)	5.5	3.8	3.6	3.1	3.1	3.2		3.71

PATNA -ICAR								
Latitude :	25.30°N		Longitude:	85.15° E		Elevation(m) :		52
Soil type:	Recent alluvial		Soil pH :	7.5		Soil texture :		Clay loam
	June	July	Aug.	Sep.	Oct.	Nov.		Total / Range
No. of Rainy days	14	14	12	11	03	-		54
Total Rainfall (mm)	327	351.9	117	189.2	124.3	-		1109.4
Avg. Max. Temp. (°C)	33.6	32.5	33.3	32.9	33.0	28.7		28.7-33.6
Avg. Mini .Temp . (°C)	26.6	26.8	27.3	26.6	23.6	14.9		14.9-27.3
Avg. Sunshine hours/day	2.97	2.22	4.60	3.00	4.04	5.10		3.65
Avg. wind velocity	6.83	5.60	7.97	4.52	1.94	2.19		4.84

PATTAMBI								
Latitude :	10.770388	Longitude:	76.37706			Elevation (m) :		63
Soil type:	LATERITE	Soil pH :			Soil texture :		-	
	July	August	Sep	Oct	Nov	Dec		Total / Range
No. of Rainy days	20	9	4	1	2	-		36
Total Rainfall (mm)	581.3mm	183.6mm	14.9 mm	8.7mm	19.9mm	-		808.4
Avg. Max. Temp. (°C)	29.5°C	30.9	32.8	31.6	32.2	-		29.5-32.8
Avg. Mini .Temp . (°C)	22.0°C	21.9	20.9	22.4	22.5	-		20.9-22.5
Avg. Sunshine hours/day	127.7/4.1	195/6.2	214.9/7.9	209.3/6.7	203.6/6.5	-		
Avg. Wind velocity	64.1/2.1	56.1/8	68	153.9/4.9	7197.4/3.1	-		

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PONNAMPET							
Latitude :	12° 29' N		Longitude:	75° 56' E		Elevation (m):	867
Soil type:	Red lateritic		Soil pH :	5-6		Soil texture :	Sandy loam to red Loam
	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov</b>	<b>Dec.</b>	<b>Total / Range</b>
No. of Rainy days	19	21	19	10	-	1	70
Total Rainfall (mm)	393.6	1232.1	387.2	113.1	-	4.4	2130.4

RANCHI							
Latitude :	27° 17' N		Longitude:	88° 19' E		Elevation (m):	625
Soil type:	Sandy Loam		Soil pH :			Soil texture :	
	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov.</b>	<b>Total / Range</b>
No. of Rainy days	8.0	14.0	16.0	7.0	2.0	2.0	49
Total Rainfall (mm)	278.2	396.7	396.6	177.2	14.2	10.0	1272.9
Avg. Max. Temp. (°C)	33.0	32.3	32.3	32.3	30.3	28.6	28.6-33.0
Avg. Mini. Temp. (°C)	22.9	23.2	23.2	23.0	20.5	16.3	16.3-23.2
Avg. Sunshine hours	130.8	135.4	127.1	207.8	231.0	232.0	177.3
Avg. wind velocity	2.7	2.7	3.0	2.9	2.3	2.4	2.66

RAJENDRANAGAR							
Latitude :	17.32510°		Longitude:	78.39912°		Elevation (m) :	586.60
Soil type:	Loamy		Soil pH :			Soil texture :	
	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov</b>	<b>Dec.</b>	<b>Total / Range</b>
No. of Rainy days	12.0	15.0	16.0	7.0	3.0	-	53
Total Rainfall (mm)	266.8	234.2	384.8	344.6	15.2	-	1245.6
Avg. Max. Temp. (°C)	30.5	29.1	30.6	30.0	29.4	28.5	28.5-30.6
Avg. Mini. Temp. (°C)	22.1	22.0	21.8	20.4	16.7	12.5	12.5-22.1
* Avg. Sunshine hours	4.6	3.6	4.8	5.2	7.3	8.6	5.68
* Avg. wind velocity	5.9	8.5	5.1	3.1	3.6	2.7	481

RAGOLU							
Latitude :	18.24° N		Longitude:	83.84°E		Elevation (m) :	27
Soil type:	Red sandy loam with clay base		Soil pH :			Soil texture	Low organic matter content
	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov</b>	<b>Dec.</b>	<b>Total / Range</b>
No. of Rainy days	9	6	6	14	5	-	40
Total Rainfall (mm)	94.2	57.6	110	257	99.8	-	618.6
Avg. Max. Temp. (°C)	32.9	31.7	32.3	31.1	30.1	29.50	29.50-32.9
Avg. Mini. Temp. (°C)	28.0	27.6	27.6	28.9	22.3	16.77	16.77-28.9
Avg. Sunshine hours	3.73	2.96	6.01	3.15	5.11	7.38	4.72
Avg. wind velocity	0.68	1.71	0.82	1.46	2.36	2.08	1.51

RAIPUR							
Latitude :	21.2514° N		Longitude:	81.6296° E		Elevation (m):	298
Soil type:	Red-yellow soil		Soil pH :	7.1-7.3		Soil texture :	Loamy clay
	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov.</b>	<b>Total / Range</b>
No. of Rainy days	12	13	15	6	2	-	48
Total Rainfall (mm)	298.2	245.5	441.2	89.4	19.8	0.4	1094.5
Avg. Max. Temp. (°C)	34.5	33.0	30.2	32.9	32.2	30.8	30.2-34.5
Avg. Mini. Temp. (°C)	25.4	25.8	25.3	25.7	23.2	15.9	15.9-25.8
Avg. Sunshine hours	4.2	3.9	2.0	5.0	5.5	7.8	4.73
Avg. wind velocity	7.1	6.1	10.5	3.6	3.1	3.0	5.56

SHIRGAON							
Latitude :	17° 50' N		Longitude	73° E		Elevation(m):	10
Soil type:	Laterite		Soil pH :	6.7		Soil Texture:	Porous
	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov.</b>	<b>Total / Range</b>
No. of Rainy days	19	26	25	17	10	-	97
Total Rainfall (mm)	793.7	1253.7	1174.0	574.6	239.8	-	4035.8
Avg. Max. Temp. (°C)	31.5	29.7	30.1	30.2	31.0	34.6	29.7-34.6
Avg. Mini. Temp. (°C)	24.0	24.2	24.3	23.8	24.1	26.2	23.8-26.2
Avg. Sunshine hours	4.5	2.1	1.9	3.5	4.3	8.3	4.1
Avg. wind velocity	4.0	3.4	6.1	2.0	2.0	2.0	3.25

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SAKOLI							
Latitude:	20°04'01 N		Longitude:	79°59'17 E		Elevation (m):	243
Soil type:	Lateritic		Soil pH :	6.57 - 7.02		Soil texture:	Clay loam
	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov.</b>	<b>Total / Range</b>
No. of Rainy days	17	12	20	8	2	2	61
Total Rainfall (mm)	240.2	290.6	870.8	78	17.20	22.60	1519.4

SIRSI								
Latitude :	14°26'			Longitude:	74° E		Elevation (m) :	619
Soil type:	Laterite			Soil pH :	5.5		Soil texture :	
	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov</b>	<b>Total / Range</b>
No. of Rainy days	5	22	19	23	17	9	-	95
Total Rainfall (mm)	77.8	456.6	503.4	971.4	282.6	225.4	-	2517.2
Avg. Max. Temp. (°C)	33.52	28.53	27.23	26.45	28.20	29.10	30.08	26.45-33.52
Avg. Mini. Temp. (°C)	21.37	21.07	21.22	20.98	21.13	20.34	17.42	17.42-21.37
Avg. wind velocity	5.60	5.37	5.15	7.07	4.83	3.80	4.65	5.21

TITABAR								
Latitude :				Longitude:			Elevation :	
Soil type:				Soil pH :			Soil texture :	
	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov</b>	<b>Dec.</b>	<b>Total / Range</b>	
No. of Rainy days	21	16	17	5	3	-	62	
Total Rainfall (mm)	336.4	296	242.2	134.4	28.4	-	1037.4	
Avg. Max. Temp. (°C)	32.2	33.78	32.92	32.94	28.81	25.89	25.89-33.78	
Avg. Mini. Temp. (°C)	24.1	24.44	23.67	22.32	14.55	9.32	9.32-24.44	
Avg. Sunshine hours	2.2	4.6	3.58	4.61	6.27	6.54	4.63	

VARANASI						
Latitude	25° 20' N	Longitude	23° 03'E		Elevation (m)	75.7
Soil type	Medium	Soil pH	7.2		Soil texture	Sandy loam
	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov.</b>	<b>Total / Range</b>
No. of Rainy days	11	09	09	02	01	32
Total Rainfall (mm)	263.2	214.7	111.20	42.20	09.8	641.1
Avg. Max. Temp. (°C)	33.86	34.04	34.01	34.23	29.14	29.14-34.23
Avg. Mini. Temp. (°C)	27.33	27.26	26.53	22.82	14.65	14.65-27.33
Avg. Sunshine hours	2.81	5.53	4.60	9.85	2.67	5.09

VYARA							
Latitude :	20° -10'		Longitude:	73° 20'		Elevation (m) :	69
Soil type:	Medium Black		Soil pH :	7.5		Soil texture :	Clayey
	<b>JUNE</b>	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov</b>	<b>Total / Range</b>
No. of Rainy days	06	15	23	09	01	-	56
Total Rainfall (mm)	123.5	305.5	1293.0	169.0	46.0	-	1984
Avg. Max. Temp. (°C)	36.3	35.2	31.3	35.5	37.1	35.5	31.3-37.1
Avg. Mini. Temp. (°C)	24.3	24.6	23.8	25.5	23.3	18.6	16.6-25.5
Avg. Sunshine hours	5.2	5.5	5.1	5.1	7.9		4.11

WARASEONI							
Latitude :	21°45'N		Longitude:	80°50' E		Elevation (m) :	301.5
Soil type:	Sandy loam		Soil pH :	7.5		Soil texture :	
	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov</b>	<b>Total / Range.</b>
No. of rainy days	8	13	21	9	3	1	55
Total rainfall (mm)	231.2	137.6	765.3	92.5	85.7	7.4	1319.7

WANGBAL							
Latitude :	24.8° N		Longitude:	94° E		Elevation(m) :	781
Soil type:	Clay Loam		Soil pH :	5.5		Soil texture	fine
	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov.</b>	<b>Total / Range</b>
No. of Rainy days	11	15	9	5	6	1	47
Total Rainfall (mm)	134.0	236.4	191.0	93.1	131.2	23.5	809.2
Avg. Max. Temp. (°C)	33	33	35	33	28	26	26-35
Avg. Mini. Temp. (°C)	24	25	26	25	19	12	12-26

## Trials Sent and Data Receipt

### Funded Locations - 2020

Region	State	Location	Trials Sent	Data receipt	Failed/late receipt
Zone I-Hills	Himachal Pradesh	Malan	7	7	
	Jammu Kashmir	Khudwani	5	4	
	Meghalaya	Upper Shillong	6	0	
	Manipur	Wangbal	6	5	
Zone II-Northern	Uttarakhand	Pantnagar	6	4	2
	Punjab	Ludhiana	13	7	6
	Haryana	Kaul	11	4	
	Uttar Pradesh	Nagina	1	0	
		Kanpur	5	3	
Rajasthan	Kota	5	2		
Zone III-Eastern	Odisha	Jeypore	15	15	
		Chiplima	8	7	
	Bihar	Bikramganj (Patna)	15	15	
		Pusa	7	2	
	Jharkhand	Ranchi	13	5	5
	West Bengal	Chinsurah	20	6	1
		Bankura	1	0	
	Uttar Pradesh	Masodha	19	10	
Varanasi		15	8		
Zone IV-North Eastern	Assam	Titabar	11	9	
	Tripura	Arundhutinagar	13	3	
Zone V- Central	Madhya Pradesh	Rewa	5	3	
	Chhattisgarh	Raipur	17	15	
		Jagadapur	13	11	
	Maharashtra	Sakoli	14	14	
Zone VI- Western	Maharashtra	Karjat	15	14	
	Gujarat	Nawagam	15	13	
		Navsari	14	14	
Zone VII-Southern	Andhra Pradesh	Maruteru	14	14	
	Telangana	Rajendranagar	10	9	1
		Warangal	14	14	
	Tamil Nadu	Aduthurai	14	14	
		Coimbatore	16	16	
	Kerala	Moncompu	9	9	
		Pattambi	11	11	
	Karnataka	Mandya	14	14	
		Mugad	6	3	
		Brahmavar	11	11	
		Ponnampet	4	4	
		Gangavati	17	14	
	Puducherry	Kurumbapet	7	6	
		<b>Total</b>	<b>442</b>	<b>339</b>	15

### Voluntary Locations-2020

Region	State	Location	Trials Sent	Data receipt	Failed/late receipt	
Zone I-Hills	Jammu & Kashmir	Rajouri	4	0		
		Pombay (Khudwani)	4	0		
			Wadura (Khudwani)	4	0	
	Himachal Pradesh		Dhaulakaun	4	0	
			Palampur	2	2	
			Sundernagar	4	2	
			Bajaura	4	2	
	Uttarakhand		Almora-ICAR	7	7	
			Bageswar (Almora)	2	2	
	Meghalaya		Umiam-ICAR	4	4	
		Umiam-CAU	5	5		
Manipur		Lamphelpat-ICAR	4	3		
		Imphal-CAU	5	0		
Sikkim		Gangtok	2	0		
West Bengal		Kalimpong	2	0		
Zone II-North Western	Haryana	Karnal (CSSRI)	4	4		
		Kurukshetra (CSSRI)	2	2		
		Panipat (CSSRI)	2	2		
		Rohtak	2	0		
		Jind	2	0		
Zone III-Eastern	Odisha	Bhubaneswar	15	2		
		NRRI (Cuttack)	22	18		
		Ranital	2	2		
	Bihar		Patna-ICAR	12	6	
			Sabour	12	8	
	Jharkhand		Hazaribagh	4	3	1
	West Bengal		Pundhibari	5	2	
			Canning-ICAR	3	1	
			Hathwara	3	2	
			Chakdaha	2	0	
			Kalimpong	2	0	
	Uttar Pradesh		Lucknow-ICAR	2	2	
			Gautam Budha Nagar	2	0	
Zone IV- North Eastern	Assam	Shillongani	2	0		
		Gerua-ICAR	11	2	9	
	Tripura	Lembucherra	15	8		
Zone V- Central	Madhya Pradesh	Waraseoni	8	4		
		Jabalpur	9	5		
	Chhattisgarh		Bilaspur	10	4	
			Ambikapur	3	1	
	Maharashtra		Sindewahi	11	11	
Zone VI- Western	Maharashtra	Panvel	2	0		
		Shirgaon	8	8		
		Vadagaon	1	1		
		Phondaghat	2	0		
			Parbhani	2	2	
	Gujarat		Danti	5	5	

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Region	State	Location	Trials Sent	Data receipt	Failed/late receipt
		Derol	2	1	1
		Dabhoi	11	2	
		Vyara	7	7	
	Goa	Goa	3	0	
Zone VII-Southern	Andaman & Nicobar	Port Blair	3	0	
	Andhra Pradesh	Machilipatnam	3	3	
		Ragolu	5	5	
		Bapatla	6	5	
		Nellore	2	1	
	Telangana	Kunaram	9	4	
		Jagital	14	5	
		Rudrur	5	2	
		Kampasagar	7	6	
	Tamil Nadu	Trichy	2	2	
		Annamalainagar	2	2	
	Kerala	Vytilla	5	0	
	Karnataka	Sirsi	7	7	
		Kumta	3	0	
		Malagi	1	1	
	Puducherry	Karaikal	10	9	
		<b>Total</b>	<b>351</b>	<b>194</b>	<b>11</b>

**Hybrid Rice (IHRT) Kharif-2020 Trials Sent and Data Received**

Zone	State	Location	No. of Trials allotted	No. of Trials conducted as per Data received	No. & Reasons for the failure of the experiment
<b>Funded Locations</b>					
Zone I Hilly Areas	Himachal Pradesh	Malan	1	1	0
Zone II Northern	Haryana	Kaul	3	3	0
	Punjab	Ludhiana	3	3	0
	Uttaranchal	Pantnagar	3	3	0
Zone III Eastern	West Bengal	Chinsurah	4	4	0
	Odisha	Chiplima	1	1	0
	Uttar Pradesh	Masodha	4	4	0
		Varanasi	1	1	0
		Nagina	3	3	0
	Bihar	Pusa	4	4	0
	Jharkhand	Ranchi	4	4	0
Zone IV North Eastern	Tripura	Arundhatinagar	4	3	1 (IHRT-MS trial damaged due to Floods and submergence)
	Assam	Titabar	4	4	0
Zone V Central	Chhattisgarh	Raipur	4	4	0
	Maharashtra	Sakoli	2	2	0
Zone VI Western	Maharashtra	Karjat	4	4	0
	Gujarat	Navsari	4	4	0
		Nawagam	4	4	0
Zone VII Southern	Andhra Pradesh	Maruteru	4	4	0
	Telangana	Warangal	4	4	0
	Karnataka	Brahmavar	4	4	0
		Mandya	4	4	0
		Mugad	3	3	0
	Tamilnadu	Aduthurai	2	2	0
		Coimbatore	4	4	0
<b>Total</b>			<b>82</b>	<b>81</b>	<b>1</b>
<b>Voluntary Locations</b>					
Zone II Northern	Delhi	IARI-New Delhi	2	2	0
Zone III Eastern	Uttar Pradesh	Allahabad	2	2	0
	Odisha	Cuttack (NRRI)	4	4	0
Zone V Central	Madhya Pradesh	Jabalpur	4	4	0
		Waraseoni	2	2	0
	Maharashtra	Sindewahi	4	4	0
Zone VI Western	Gujarat	Dabhoi	4	4	0
	Maharashtra	Radhanagari	2	2	0
		Shirgaon	2	2	0
		Vadgaon	1	1	0
		Pondaghat	2	2	0
Zone-VII Southern	Andhra Pradesh	Bapatla	1	1	0
	Telangana	IIRR (DRR)	4	4	0
	Puducherry	Karaikal	2	2	0
	Karnataka	Malagi	1	1	0
		Sirsi	2	2	0
<b>Total</b>			<b>39</b>	<b>39</b>	<b>0</b>

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Zone	State	Location	No. of Trials allotted	No. of Trials conducted as per Data received	No. & Reasons for the failure of the experiment	
<i>Private Sector Locations</i>						
Zone III Eastern	Uttar Pradesh	Barabanki	JK. Agri Genetics Ltd.	2	2	0
		Faizabad	Rasi Seeds Pvt. Ltd.	2	2	0
		Lucknow	Nuziveedu Seeds Pvt. Ltd.	3	3	0
		Ayodhya	Seed Works Pvt. Ltd.	4	4	0
	Bihar	Bihar Sharif	Syngenta India Ltd.	4	4	0
	Jharkhand	Ranchi	Trimurthi Plant Sciences Pvt. Ltd	2	2	0
Zone V Central	Chhattisgarh	Durg	VNR Seeds Pvt. Ltd.	4	4	0
		Raipur	Rasi Seeds Pvt. Ltd.	2	2	0
	Maharashtra	Dighori, Nagpur	Ankur Seeds Pvt. Ltd	4	4	0
Zone VII Southern	Andhra Pradesh	Rajahmundry	Bayer Bio-Science Pvt. Ltd.	4	4	0
<b>Total</b>				<b>31</b>	<b>31</b>	<b>0</b>



## Centre wise Breeder Seed Production kharif 2020

S. No	Name of the centre	Name of variety	Allocation as per BSP-1	Production	Surplus (+) Deficit (-)
<b>Andhra Pradesh</b>					
1	ANGRAU, Guntur	AMARA (MTU-1064)	6.60	51.00	44.40
		BHARANI (NLR 30491)	4.00	0.00	-4.00
		BPT 5204	43.50	0.00	-43.50
		BPT-3291 (SONAMASURI)	4.00	0.00	-4.00
		CHANDRA(IET 23409) (MTU-1153)	26.50	70.00	43.50
		COTTONDORA SANNALU (MTU-1010)	201.20	2.80	-198.40
		MARUTERU SANNALU (MTU-1006, IET-14348)	1.00	0.00	-1.00
		MTU 1001 (VIJETHA)	86.20	55.00	-31.20
		MTU 1075 (IET 18482)	14.00	23.00	9.00
		MTU 1078	3.00	0.00	-3.00
		MTU 1140 (BHEEMA)	8.30	15.00	6.70
		MTU 1156	87.90	5.80	-82.10
		MTU 2116	3.00	0.00	-3.00
		MTU-1061	7.20	25.00	17.80
		MTU-1081	0.10	0.00	-0.10
		MTU-1121(SRI DHRUTHI)	30.60	40.00	9.40
		MTU-1155	3.00	0.80	-2.20
		MTU-1172	1.00	7.20	6.20
		MTU-1187	0.60	0.00	-0.60
		MTU-1194	0.60	0.00	-0.60
		MTU-1210	3.00	1.20	-1.80
		MTU-3626	1.50	3.00	1.50
		MTU-7029	119.30	96.00	-23.30
		NDLR-7	60.00	0.00	-60.00
		NELLORE MAHSURI (NLR-34449)	4.00	0.00	-4.00
		NLR34449	4.00	0.00	-4.00
PARDHIVA (NLR - 33892)	5.00	0.00	-5.00		
PRABHAT	1.00	0.00	-1.00		
RGL 2537	10.50	0.00	-10.50		
<b>Total</b>		<b>740.60</b>	<b>395.80</b>	<b>-344.80</b>	
<b>Assam</b>					
2	RARS, Titabar (AAU, Jorhat)	BAHADUR SUB-1	51.50	28.29	-23.21
		GITESH	25.00	48.20	23.20
		INGLONGKHERI	30.00	0.00	-30.00
		JALASHRI (TTB 202-3)	30.00	0.00	-30.00
		JALKUNWARI (TTB 202-4)	30.00	0.00	-30.00
		KANAKLATA	25.65	0.00	-25.65
		RANJEET (IET - 12554)	1.50	144.80	143.30
		RANJIT SUB -1	54.80	170.00	115.20
		RONGKHANG	30.00	0.00	-30.00
		<b>Total</b>		<b>278.45</b>	<b>391.29</b>
<b>Bihar</b>					
3	RAU, Pusa	RAJENDRA BHAGVATI	36.50	44.50	8.00
		RAJENDRA KASTURI	0.30	6.00	5.70
		RAJENDRA MAHSURI-1	54.80	81.00	26.20
		RAJENDRA SWETA	20.55	29.00	8.45
		R Neelam	0.30	45.00	44.70
<b>Total</b>		<b>112.45</b>	<b>205.50</b>	<b>93.05</b>	

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S. No	Name of the centre	Name of variety	Allocation as per BSP-1	Production	Surplus (+) Deficit (-)
4	BAU, Sabour	SABOUR SHREE (RAU 724-48-33) (IET 18878)	50.20	173.50	123.30
		SETHA	0.60	5.00	4.40
		<b>Total</b>	<b>50.80</b>	<b>178.50</b>	<b>127.70</b>
<b>Chhattisgarh</b>					
5	IGKV, Raipur	BADSHABHHOG SELECTION-1	16.00	9.30	-6.70
		BAMLESHWARI (IET NO.14444, R 738-1-64-2-2)	10.00	11.70	1.70
		C.G. SUGHANDIH BHOG	20.00	20.10	0.10
		CG MADHURAJ DHAN-55	15.30	15.50	0.20
		CHANDRAHASINI (IET - 16800)	10.00	13.50	3.50
		CHHATTISGARH DEVBHOG	10.00	18.00	8.00
		CHHATTISGARH ZINC RICE-1	22.20	22.50	0.30
		CHHATTISGARH ZINC RICE-2	30.00	30.80	0.80
		DANTESHWARI (IET NO. 15450, R 302-111)	10.00	18.90	8.90
		DUBRAJ SELECTION-1	20.50	24.00	3.50
		IGKVR-1 (IET 19569)	0.30	0.00	-0.30
		IGKVR-2 (IET 19795)	15.00	16.50	1.50
		INDIRA AEROBIC- 1 (R1570-2649-1-1546-1) (IET 21686)	30.50	47.70	17.20
		INDIRA BARANI DHAN-1 (RF-17-38-70)(IET 21205)	22.00	26.70	4.70
		IR-36	10.00	15.30	5.30
		IR-64	44.00	51.00	7.00
		JALDBI (IET - 17153)	2.00	2.00	0.00
		MAHAMAYA (IET-10749)	85.00	85.80	0.80
		MAHESWARI (IGRKVR-1244)	20.00	20.10	0.10
		POORNIMA (IET-12284,R-281-PP-31-1)	1.50	2.55	1.05
		RAJESWARI (IGKVR-1)	45.10	73.50	28.40
		TARUN BHOG SELECTION-1	10.00	7.50	-2.50
		TROMBEY CHATTISGARH DUBRAJ MUTENT-1	10.00	24.00	14.00
VISHNUBHOG SELECTION-1	15.00	19.80	4.80		
ZINCO RICE MS	51.00	52.20	1.20		
<b>Total</b>	<b>525.40</b>	<b>628.95</b>	<b>103.55</b>		
<b>Gujarat</b>					
6	GAU, Nawagam	GAR-14	0.60	2.25	1.65
		GNR-3	0.50	15.00	14.50
		MAHISAGAR	0.50	5.50	5.00
		<b>Total</b>	<b>1.60</b>	<b>22.75</b>	<b>21.15</b>
<b>Haryana</b>					
7	CSSRI, Karnal	CSR 56 (IET 24537)	1.25	4.80	3.55
		CSR 60 (IET 25378)	0.25	5.20	4.95
		CSR 30	0.10	7.95	7.85
		CSR 36 (NAINA) (IET17340)	8.80	9.00	0.20
		CSR 43	1.00	5.40	4.40
		CSR 46 (CSR 2K-262)	1.50	5.40	3.90
		CSR 52 (CSR 12 B 23)	0.60	2.00	1.40
		<b>Total</b>	<b>13.50</b>	<b>39.75</b>	<b>26.25</b>
8	RRS, Kaul	BASMATI-370	10.00	5.00	-5.00
		HKR-127 (HKR-95-222)	2.70	3.00	0.30
		HKR-128	0.25	1.00	0.75

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S. No	Name of the centre	Name of variety	Allocation as per BSP-1	Production	Surplus (+) Deficit (-)
		HKR-47	7.00	5.00	-2.00
		HKR-48	0.50	1.00	0.50
		<b>Total</b>	<b>20.45</b>	<b>15.00</b>	<b>-5.45</b>
<b>Himachal Pradesh</b>					
9	CSKHPKV V, Malan	HIM PALAM DHAN-1	5.10	5.25	0.15
		HPR 2143	10.00	10.20	0.20
		HPR-1068	5.00	7.18	2.18
		HPR-2720	5.00	3.06	-1.94
		<b>Total</b>	<b>25.10</b>	<b>25.69</b>	<b>0.59</b>
<b>Jharkhand</b>					
10	CRURRS, Hazaribagh	ABHISHEK (IET - 17868)(RR-272-829)	3.22	9.20	<b>5.98</b>
		ANJALI (IET-16430, RR-347-166)	0.50	9.20	<b>8.70</b>
		SAHBHAGI (SAHBHAGI DHAN IET-19576)	76.44	164.00	<b>87.56</b>
		<b>Total</b>	<b>80.16</b>	<b>182.40</b>	<b>102.24</b>
11	BAU, Ranchi	BIRSA MATI	1.65	2.00	0.35
		BIRSA VIKAS DHAN - 111 (IET 19848) (PY - 84)	1.65	1.70	0.05
		BIRSA VIKAS DHAN - 203	2.10	2.20	0.10
		BIRSA VIKAS DHAN-109	1.65	1.70	0.05
		BIRSA VIKAS DHAN-110	1.65	1.75	0.10
		BIRSA VIKAS SUGANDHA - 1 (IET 18941)	1.65	2.20	0.55
		<b>Total</b>	<b>10.35</b>	<b>11.55</b>	<b>1.20</b>
<b>Jammu &amp; Kashmir</b>					
12	SKUAT, Khudwani	K 39	2.00	2.10	0.10
		K-448	2.00	2.20	0.20
		<b>Total</b>	<b>4.00</b>	<b>4.30</b>	<b>0.30</b>
13	SKUAST, Chatha	BASMATI-564	0.10	0.10	0.00
		GIZA-14	4.00	8.00	4.00
		JAMMU BASMATI-129 (SJR-129-2-2) (IET 24597)	1.10	0.37	-0.73
		SJR-5(IET-19972)	15.00	0.25	-14.75
		<b>Total</b>	<b>20.20</b>	<b>8.72</b>	<b>-11.48</b>
<b>Karnataka</b>					
14	UAS, Bengaluru	BR-2655	2.50	6.00	3.50
		THANU	2.90	3.00	0.10
		TUNGA (IET-13901)	4.75	5.00	0.25
		<b>Total</b>	<b>10.15</b>	<b>14.00</b>	<b>3.85</b>
15	ARS, Mugad	INTAN	1.50	2.50	1.00
		KMD-2 (ABHILASH)	1.50	2.50	1.00
		<b>Total</b>	<b>3.00</b>	<b>5.00</b>	<b>2.00</b>
<b>Kerala</b>					
16	RRS, Monocomp u	BHADRA (MO-4)	3.50	0.50	-3.00
		MO 21 (PRATIKSHA)	0.75	2.50	1.75
		UMA (MO-16)	18.75	16.00	-2.75
		Sreyas	0.60	0.00	-0.60
		<b>Total</b>	<b>23.60</b>	<b>19.00</b>	<b>-4.60</b>
17	KAU, Pattambi	ATHIRA (PBT-51)	0.50	2.00	1.50
		JYOTHI	13.40	14.00	0.60
		<b>Total</b>	<b>13.90</b>	<b>16.00</b>	<b>2.10</b>

## IIRR Annual Progress Report 2020 Volume I - Varietal Improvement

S. No	Name of the centre	Name of variety	Allocation as per BSP-1	Production	Surplus (+) Deficit (-)
<b>Madhya Pradesh</b>					
18	JNKVV, Jabalpur	IMPROVED CHINNOR	10.30	13.85	3.55
		IMPROVED JEERA SHANKAR	10.30	10.32	0.02
		JR 767	11.80	12.00	0.20
		JR-81	10.90	905.34	894.44
		JRB-1	23.00	40.50	17.50
		JRH-19	5.00	5.00	0.00
		KRANTI (R-2022)	0.50	2761.29	2760.79
		RASHMI(JR-201)	10.00	10.80	0.80
	<b>Total</b>	<b>81.80</b>	<b>3759.10</b>	<b>3677.30</b>	
<b>Maharashtra</b>					
19	RARS, Karjat	KARJAT-3	2.50	4.95	2.45
		KARJAT-5	0.60	3.60	3.00
		KARJAT-7	1.50	8.10	6.60
		KARJAT-8	1.60	3.78	2.18
		KARJAT-9	0.60	5.40	4.80
		<b>Total</b>	<b>6.80</b>	<b>25.83</b>	<b>19.03</b>
20	ARS, Ratanagiri	RATNAGIRI-9	0.60	6.62	6.02
		RATNAGIRI-7	0.30	4.59	4.29
		RTN-5	3.00	14.40	11.40
		RTN-8	0.30	9.00	8.70
		<b>Total</b>	<b>4.20</b>	<b>34.61</b>	<b>30.41</b>
21	ARS, Vadagaon (MPKV, Rahuri)	INDRAYANI (IET - 12897)	15.40	50.00	34.60
		PHULE SAMRUDDHI (VDN-99-29)	1.00	10.00	9.00
		<b>Total</b>	<b>16.40</b>	<b>60.00</b>	<b>43.60</b>
22	ARS, Radhanagiri	Bhogavati	0.60	5.50	4.90
		<b>Total</b>	<b>0.60</b>	<b>5.50</b>	<b>4.90</b>
23	ARS, Sakoli	SAKOLI-9	0.60	1.00	0.40
		<b>Total</b>	<b>0.60</b>	<b>1.00</b>	<b>0.40</b>
24	ARS, Sindewahi	PDKV TILAK (SYE-503-78-34-2)	1.50	5.00	3.50
		PKV HMT	30.60	45.00	14.40
		PKV KISAN	1.00	2.00	1.00
		<b>Total</b>	<b>33.10</b>	<b>52.00</b>	<b>18.90</b>
<b>New Delhi</b>					
25	BEDF, New Delhi	PUSA - 1121 (PUSA SUGANDH-4)	20.00	20.00	0.00
		PUSA BASMATI-1509 (IET 21960) (PUSA 1509-03-3-9-5)	29.00	0.00	-29.00
		<b>Total</b>	<b>49.00</b>	<b>20.00</b>	<b>-29.00</b>
26	DSST & IARI, New Delhi	PUSA 1592	0.58	2.50	1.92
		PUSA Sugandh-2(IET-16310,PUSA-204-1-126)	0.40	0.00	-0.40
		PUSA-6 (IET22290) (PUSA 1612-7-6-5)	0.60	4.50	3.90
		PUSA Sugandh-3(IET-16313,PUSA-2504-1-3-1)	20.50	0.00	-20.50
		PUSA Sugandh-5(IET-17021)	66.71	69.50	2.79
		<b>Total</b>	<b>88.79</b>	<b>76.50</b>	<b>-12.29</b>
27	ICAR- IARI, Regional Station, Karnal	IMPRIoved PUSA BASMATI-1 (IET - 18990) (PUSA 1460-01-32-6-7-67)	1.90	1.90	0.00
		PB-1638	0.50	0.00	-0.50
		PUSA - 1121 (PUSA SUGANDH-4)	90.00	52.00	-38.00
		PUSA 1592	1.60	2.50	0.90

## IIRR Annual Progress Report 2020 Volume I - Varietal Improvement

S. No	Name of the centre	Name of variety	Allocation as per BSP-1	Production	Surplus (+) Deficit (-)
		PUSA -6 (IET 22290) (PUSA 1612-7-6-5)	3.50	4.50	1.00
		PUSA BASMATI 1637 (IET 24570)	43.40	0.00	-43.40
		PUSA BASMATI 1728	13.45	0.00	-13.45
		PUSA BASMATI-1509 (IET 21960) (PUSA 1509-03-3-9-5)	100.00	50.00	-50.00
		PUSA BASMATI-1609	1.70	1.70	0.00
		PUSA BASMATI-1718 (IET 24565)	82.55	52.00	-30.55
		PUSA BASMATI-6 (PUSA 1401) (IET 18005)	29.20	29.20	0.00
		PUSA SUGANDH-5(IET-17021)	57.85		-57.85
		PUSA-44	0.10	10.00	9.90
		PUSASAMBA 1850	3.00	3.00	0.00
		<b>Total</b>	<b>428.75</b>	<b>206.80</b>	<b>-221.95</b>
<b>Odisha</b>					
28	<b>NRRI-CUTTACK</b>	ANNADA	1.50	1.00	-0.50
		CR BORO DHAN-2 (IET 17612)	0.30	0.50	0.20
		CR DHAN 201 (IET 21924)	1.20	1.00	-0.20
		CR DHAN 202 (IET 21917)	2.50	2.50	0.00
		CR DHAN 300 (CR2301-5) (IET 19816)	0.90	0.80	-0.10
		CR DHAN 303 (CR 2649-7)(IET 21589)	2.00	2.50	0.50
		CR DHAN 304 (IET 22117)	3.60	5.00	1.40
		CR DHAN 305 (IET 21287)	3.80	4.00	0.20
		CR DHAN 311 (MUKUL)	11.10	10.00	-1.10
		CR DHAN 401(REETA)(IET 19969)	1.50	0.00	-1.50
		CR DHAN 500 (IET 20220)	0.30	0.50	0.20
		CR DHAN 505 (IET 21719)	3.10	1.50	-1.60
		CR DHAN 511	0.60	0.80	0.20
		CR DHAN 701 (IET 20852)(CRHR32)	0.10	0.00	-0.10
		CR DHAN 800 (SWARNA-MAS)	19.80	27.00	7.20
		CR DHAN 801 (IET-25667)	1.50	4.00	2.50
		CR DHAN 910	0.60	0.00	-0.60
		CR DHAN-10 (IET 18312)	1.00	1.00	0.00
		CR DHAN-100	6.35	0.00	-6.35
		CR DHAN-101	12.35	12.00	-0.35
		CR 1018 (Gayatri) IET 8022	1.60	5.00	3.40
		CR DHAN-203	11.80	10.00	-1.80
		CR DHAN-204 (IET 21692)	3.00	2.50	-0.50
		CR DHAN-207	0.30	1.00	0.70
		CR DHAN-209	1.00	1.00	0.00
		CR DHAN-301	17.50	10.00	-7.50
		CR DHAN-307	9.90	10.00	0.10
		CR DHAN-310	23.40	25.00	1.60
		CR DHAN-405	1.00	1.00	0.00
		CR DHAN-407	0.20	0.00	-0.20
		CR DHAN-409	15.10	10.00	-5.10
		CR DHAN-506	0.30	0.80	0.50
		CR DHAN-508	25.40	20.00	-5.40
		CR DHAN-601	31.45	25.00	-6.45
		CR DHAN-909	30.00	0.00	-30.00
		CR SUGANDH DHAN 907 (IET 21044) (CR 2616- 3- 3-3-1))	10.00	0.00	-10.00
		CR SUGANDH DHAN 998	0.30	0.00	-0.30

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S. No	Name of the centre	Name of variety	Allocation as per BSP-1	Production	Surplus (+) Deficit (-)
		CR-1009	0.70	0.80	0.10
		CR-1009 SUB-1	23.50	19.00	-4.50
		GEETANJALI (CRM-2007-1) (IET-17276)	1.00	1.00	0.00
		LUNASAMPAD (IET 19470)	1.30	0.40	-0.90
		LUNASUWARNA (IET 18697)	1.00	0.40	-0.60
		LUNISREE	0.50	0.00	-0.50
		NAVEEN (CR-749-20-2) (IET-14461)	5.50	5.00	-0.50
		NRRI SUPER RICE	0.20	0.00	-0.20
		PHALGUNI (IET 18720) CRAC 2224-1041)	0.50	1.00	0.50
		POOJA (IET-12241)	30.20	32.50	2.30
		SAMBA SUB-1 (IET 21248)	14.30	4.00	-10.30
		SARALA CR-260-77 (IET-10279)	3.00	5.50	2.50
		SATYABHAMA	6.00	5.00	-1.00
		SUGANDH DHAN-908	0.40	0.00	-0.40
		SWARANA-SUB 1 (CR 2539-1) IET-20266	106.70	75.00	-31.70
		VARSHADHAN (CRLC-899)(IET-16481)	2.50	1.40	-1.10
		GOPINATH (CR DHAN 206)	3.00	2.50	-0.50
		<b>Total</b>	<b>456.65</b>	<b>348.90</b>	<b>-107.75</b>
29	OUAT, Bhubaneshwar*	ASHUTHOSH	2.00	2.00	0.00
		HASANTA	3.00	20.00	17.00
		IMPROVED LALAT	10.10	0.00	-10.10
		KHANDAGIRI	3.00	4.00	1.00
		LALAT (IET-9947)	15.50	15.50	0.00
		MANDAKINI (OR 2077-4)(IET 17847)	0.50	0.50	0.00
		PARIJAT (IET-2684)	1.00	1.00	0.00
		PRATIBHA	5.00	5.00	0.00
		PRATIKSHYA (ORS 201-5)(IET-15191)	24.50	27.00	2.50
		RANI DHAN (IET-19148)	8.10	9.10	1.00
		<b>Total</b>	<b>72.70</b>	<b>84.10</b>	<b>11.40</b>
30	SSTL, BBSR, Govt of Odisha	KALACHAMPA	26.20	96.10	69.90
		<b>Total</b>	<b>26.20</b>	<b>96.10</b>	<b>69.90</b>
<b>Punjab</b>					
31	PAU, Ludhiana	PAU-201	7.75	0.00	-7.75
		PR 121	28.80	38.00	9.20
		PR 122	10.35	16.00	5.65
		PR 127	7.00	13.00	6.00
		PR-113	0.50	5.00	4.50
		PR-114	0.40	4.00	3.60
		PR-118	9.40	12.70	3.30
		PR-123	0.50	1.00	0.50
		PR-124	7.15	14.00	6.85
		PR-125	0.40	0.00	-0.40
		PR-126	19.60	20.00	0.40
		PR-128	8.00	10.00	2.00
		PR-129	4.35	6.00	1.65
		PR-130	0.60	0.00	-0.60
		PR-30	0.60	0.00	-0.60
		PUNJAB BASMATI 4	0.05	1.00	0.95
		PUNJAB BASMATI 5	0.05	1.00	0.95
		<b>Total</b>	<b>105.50</b>	<b>141.70</b>	<b>36.20</b>

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S. No	Name of the centre	Name of variety	Allocation as per BSP-1	Production	Surplus (+) Deficit (-)
<b>Rajasthan</b>					
32	MPUAT, Kota	PRATAP -1 (RSK - 1091 - 10 -1-1)	0.10	0.10	0.00
		<b>Total</b>	<b>0.10</b>	<b>0.10</b>	<b>0.00</b>
<b>Tamil Nadu</b>					
33	TNAU, Coimbatore	CO 51	30.80	141.75	110.95
		CO-43 SUB-1	0.50	0.50	0.00
		<b>Total</b>	<b>31.30</b>	<b>142.25</b>	<b>110.95</b>
<b>Telangana</b>					
34	ICAR- IIRR, Hyderabad.	BINA DHAN-10	1.10	1.00	-0.10
		BINADHAN-12	0.30	0.30	0.00
		BINADHAN-17	25.50	25.00	-0.50
		BINADHAN-69	0.10	0.10	0.00
		BINADHAN-75	0.10	0.10	0.00
		CIHERANG SUB-1	16.00	28.00	12.00
		DHANARANI	0.20	1.00	0.80
		DRR DHAN 50 (IET 25671) (DRT TOLERENT)	28.80	7.60	-21.20
		DRR DHAN-45 (IET 23832)	14.80	15.00	0.20
		DRR-39	6.00	2.50	-3.50
		DRR-41	0.25	0.25	0.00
		DRR-43	10.65	2.50	-8.15
		DRR-44	44.40	50.00	5.60
		DRR-45	0.10	2.00	1.90
		DRR-46	2.60	2.00	-0.60
		DRR-48	2.10	3.00	0.90
		DRR-49	0.10	1.20	1.10
		DRR-51	4.10	18.00	13.90
		IET-5656	1.30	1.50	0.20
		IMPROVED SAMBA MAHSURI	1.60	200.00	198.40
		IR-64 DRT-1 (DRR DHAN-42)	115.00	160.00	45.00
		JAYA	9.50	4.00	-5.50
		RASI (IET- 1444)	0.50	0.50	0.00
		SAMPADA (IET 19424)	30.90	1.80	-29.10
<b>Total</b>	<b>316.00</b>	<b>527.35</b>	<b>211.35</b>		
35	PJ TSAU, Hyderabad	ERRA MALLELU (WGL-20471)	1.00	30.00	29.00
		JGL 11470 (JAGTIAL MAHSURI)	50.00	56.00	6.00
		JGL-1798	0.50	71.00	70.50
		JGL-18047 (BATHUKAMMA)	73.90	101.00	27.10
		JGL-24423	3.00	153.00	150.00
		KNM 733	1.50	27.60	26.10
		KNM-118	93.50	152.75	59.25
		KUNARAM SANNALU	0.30	152.75	152.45
		RNR-1446	0.30	5.00	4.70
		RNR-15048 (TELANGANA SONA)	103.00	349.80	246.80
		SHOBHINI (RNR-2354) (IET- 21260)	2.00	3.00	1.00
		SUGANDHA SAMBA (RNR-2465)	0.10	3.00	2.90
		TELLAHAMSA	2.00	20.00	18.00
		WGL-915	1.50	7.00	5.50
		<b>Total</b>	<b>332.60</b>	<b>1131.90</b>	<b>799.30</b>
<b>Uttarakhand</b>					
36	GBPUAT, Pantnagar	GOVIND	2.00	5.46	3.46
		PANT BASMATI-2	0.10	0.10	0.00

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S. No	Name of the centre	Name of variety	Allocation as per BSP-1	Production	Surplus (+) Deficit (-)
		PANT DHAN-18 (IET 17920) (UPRI 99-1)	1.20	10.74	9.54
		PANT DHAN-24	10.45	42.97	32.52
		PANT DHAN-26	0.30	4.28	3.98
		PANT-4	0.15	9.87	9.72
		<b>Total</b>	<b>14.20</b>	<b>73.42</b>	<b>59.22</b>
37	VIHA, Almora	VL DHAN 157 (VL 31611) (IET 22292)	2.50	1.30	-1.20
		VL DHAN 158	2.30	5.30	3.00
		VL DHAN 68 (VL 31611) (IET 22283)	8.00	10.50	2.50
		VL.DHAN 85 (IET-16455) (VL-3613)	0.60	0.60	0.00
		<b>Total</b>	<b>13.40</b>	<b>17.70</b>	<b>4.30</b>
<b>Uttar Pradesh</b>					
38	NDUAT, Faizabad / NDUAT Ayodhya	MUKTASHREE (IET 21845)	1.00	0.00	-1.00
		NARENDRA-8002 (IET-15848)	5.00	0.00	-5.00
		NDR 2064 (IET 17475)	0.30	0.00	-0.30
		NDR-3112	0.60	0.00	-0.60
		SARJOO-52	0.30	0.00	-0.30
		<b>Total</b>	<b>7.20</b>	<b>0.00</b>	<b>-7.20</b>
39	BHU, Varanasi	HUR 1304 (MALVIYA DHAAN 1304)	1.50	10.70	9.20
		HUR 1309 (MALVIYA SUGANDH DHAN-1309)	1.50	10.50	9.00
		HUR-917	5.00	22.10	17.10
		<b>Total</b>	<b>8.00</b>	<b>43.30</b>	<b>35.30</b>
40	SVBAUA& T Meerut	VALLABH BASMATI-24	0.30	11.45	11.15
		<b>Total</b>	<b>0.30</b>	<b>11.45</b>	<b>11.15</b>
41	SHUATS, Prayagraj, UP	SHIATS DHAN -1 (AAIR 2) (IET 20928)	7.10	7.10	0.00
		SHIATS DHAN 2 (AAIR 203)	3.50	3.50	0.00
		SHIATS DHAN 3 (AAIR 205) (IET 22522)	5.00	5.00	0.00
		<b>Total</b>	<b>15.60</b>	<b>15.60</b>	<b>0.00</b>
<b>West Bengal</b>					
42	RRS, Chinsurah	AJIT	8.50	8.50	0.00
		BIDHAN SURUCHI (IET 25701)	1.00	0.00	-1.00
		BNKR-1 (DHIREN) IET 20760)	4.25	5.00	0.75
		CHINSURAH NONA - 2 (GOSABA- 6) (IET-21943)	1.00	1.50	0.50
		CHINSURAH RICE (IET 19140)(CNI 383-5-11)	1.60	1.60	0.00
		CN1272-55-105 (IET-19886)	0.50	2.50	2.00
		CNR-2 (IET 20235)	1.50	1.50	0.00
		KHITISH (IET-4094)	3.00	3.10	0.10
		MANISHA (IET-23770)	0.20	0.25	0.05
		SABITA (IET-8970)	2.50	3.00	0.50
		SHATABDI (IET-4786)	28.10	57.70	29.60
		<b>Total</b>	<b>52.15</b>	<b>84.65</b>	<b>32.50</b>
43	RRS, Bankura	DHRUBA (IET-20761)	3.00	3.20	0.20
		PUSPA (IET 17509)	2.00	2.00	0.00
		SAMPRIITI (BNKR-B12) (IET-21987)	2.05	2.10	0.05
		DHIREN (IET 20760)	3.00	5.00	2.00
		UTTAR SONA (UBKVR-1) (IET-24171)	1.00	1.00	0.00
		<b>Total</b>	<b>11.05</b>	<b>13.30</b>	<b>2.25</b>
44	BCKVV, Nadia	GONTRA BIDHAN-1 (IET 17430)	39.50	41.00	1.50
		GONTRA BINDHAN-3 (IET 22752)	18.70	36.00	17.30
		GONTRA BINDHAN-4	0.30	0.00	-0.30



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S. No	Name of the centre	Name of variety	Allocation as per BSP-1	Production	Surplus (+) Deficit (-)
		<b>Total</b>	<b>58.50</b>	<b>77.00</b>	<b>18.50</b>
<b>Total (A)</b>			<b>4165.20</b>	<b>9214.36</b>	<b>5049.16</b>

**Crop: Paddy Hybrids**

S. No	Name of the centre	Name of variety	Allocation as per BSP-1	Production	Surplus (+) Deficit (-)
<b>1</b>	BSKVV, Dapoli	Sahayadri 5 (A line)	0.15	0.15	0.00
		Sahayadri 5 (B line)	0.05	0.45	0.40
		Sahayadri 5 (R line)	0.05	0.50	0.45
		<b>Total</b>	<b>0.25</b>	<b>1.10</b>	<b>0.85</b>
<b>2</b>	UAS, Bangalore	KRH 4 (A-line)	0.05	0.55	0.50
		KRH 4 (B-line)	0.02	0.02	0.00
		KRH 4 (R-line)	0.02	1.00	0.98
		<b>Total</b>	<b>0.09</b>	<b>1.57</b>	<b>1.48</b>
<b>3</b>	ICAR-IIRR, Hyderabad	DRRH 2 (A line)	0.10	0.10	0.00
		DRRH 2 (B line)	0.10	0.10	0.00
		DRRH 2 (R line)	0.10	0.10	0.00
		<b>Total</b>	<b>0.30</b>	<b>0.30</b>	<b>0.00</b>
<b>4</b>	ICAR-NRRI, Cuttack	CRMS 32 A	0.18	0.00	-0.18
		CRMS 32 B	0.09	0.00	-0.09
		<b>Total</b>	<b>0.27</b>	<b>0.00</b>	<b>-0.27</b>
<b>Total (B)</b>			<b>0.91</b>	<b>2.97</b>	<b>2.06</b>
<b>Total (A+B)</b>			<b>4166.11</b>	<b>9217.33</b>	<b>5051.22</b>

## MONITORING OF AICRIP TRIALS 2020

The visit of monitoring teams from IIRR to different AICRIP centres during *kharif* 2020 was greatly restricted due to pandemic COVID-19 situation. However, the scientists at the respective AICRIP centres have supported the assessment of entries of trials by nominating self-monitoring teams from their organizations. A series of zone wise virtual field monitoring has also been conducted from ICAR-IIRR and ICAR-NRRI and interacted with scientists about the conduct of the trial, performance of entries, information about the mixtures and segregating lines and shifts based on flowering. The online virtual platform, helped participation of most of the centres including voluntary centres in the AICRIP field trial monitoring meetings. The information received from research stations from field monitoring, self-monitoring reports and proceedings of the virtual monitoring is compiled as zone wise and are presented below

### Summary of Monitoring Team Report

Zone	AICRIP Centres	Monitoring Team	Date	Remarks
<b>Zone I</b>	Khudwani, Malan, Rajouri, Almora, Bageswar, CAU-Barapani, Sirsi, Ponnampet, Sundarnagar, Bajura, Lamphelpat and Wangbal	Dr. L.V. SubbaRao, Dr. Jyothi Badri, (IIRR), Dr. BC Patra (NRRI)	31-10-2020	<ul style="list-style-type: none"> <li>• Landraces and wild accessions are utilized in these centres for breeding programmes &amp; occurrence of wild rice at both farmer's &amp; research field is a major problem in Malan</li> <li>• Blast resistance, earliness and grain quality are the major target traits</li> <li>• Few trials were not conducted due to late receipt of seeds &amp; constraints due to Covid19</li> </ul>
<b>Zone II</b>	Kaul, Chatha, Kota, Pant Nagar, Ludhiana, Jammu, Modipuram, Kanpur, ICAR-CSSRI, ICAR-IARI and Nagina	Dr. L.V. Subba Rao, Dr AVSR Swamy, Dr. G Padmavathi, (IIRR), Dr. BC Patra (NRRI)	06-11-2020	<ul style="list-style-type: none"> <li>• Kaul experienced poor germination of seeds material in most of the trials</li> <li>• At Chatha, Basmati trials were conducted as per the recommendation</li> <li>• At Kota among the five trials only the performance of the entries in AVT-IME, IVT-IME reported to be good.</li> <li>• Incidence of BLB, WBPH, leaf folder and stem borer were reported in this zone</li> </ul>
<b>Zone III</b>	Caning Town, Bhubaneswar, Bankura, Bikramganj, Chinsurah,	Dr. BC Patra, Dr. Krishnendu Chattopadhyaya (NRRI), Dr. A.S. Hari Prasad, Dr. K. Suneetha, Dr. P Senguttuvel (IIRR)	18-11-2020	<ul style="list-style-type: none"> <li>• Incidence of stem borer, gundhi bug, leaf folder, sheath blight, stem borer, false smut and BLB were reported.</li> </ul>

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	Modipuram, Varanasi			<ul style="list-style-type: none"> <li>• Entries which are segregating, offtypes and non-uniform in the trials were reported.</li> </ul>
<b>Zone IV</b>	Lamphelpet, Titabar	Dr. BC Patra, Dr. Krishnendu Chattopadhyaya (NRRI), Dr. A.S. Hari Prasad, Dr. P Senguttuvel (IIRR)	19-11-2020	<ul style="list-style-type: none"> <li>• Infestation of gundhi bug, glume discoloration, neck blast, stem borer incidence was reported by Lamphelpet.</li> <li>• Partial damage by bird/insect was observed across the trials due to late transplantation by Titabar.</li> </ul>
<b>Zone V</b>	Jabalpur, Raipur, Rewa, Jagdarpur, Sakoli, Waraseoni, Sindewahi,	Dr. L.V. SubbaRao, Dr. Jyothi Badri, Dr. Divya Balakrishnan (IIRR) Dr. Krishnendu Chattopadhyaya (NRRI)	26-11-2020	<ul style="list-style-type: none"> <li>• Late receipt of seeds, poor germination, shift of entries based on DFF was major constraints</li> <li>• Incidence of stem borer, blast, gall midge and brown spot were observed</li> <li>• PI AICRIP discussed with the breeders this zone about rice breeding programmes on developing speciality rice varieties for Poha/ puffed rice (value added rice)</li> <li>• Breeders from Raipur, Jabalpur explained about varieties Mahamaya, Rajeswari, Safri and Vijay for Poha making and the breeding programmes to develop coarse grain, long bold rice with more chalkiness &amp; head rice recovery</li> </ul>
<b>Zone VI</b>	Radhanagari, Nawagam, Navsari, Shirgaon, Vyra, Karjat, Goa, Danti	Dr. L.V. SubbaRao, Dr. Aravind J, Dr. Jyothi Badri (IIRR), Dr. BC Patra (NRRI)	24-11-2020	<ul style="list-style-type: none"> <li>• Radhanagari and Nawagam experienced heavy rainfall &amp; flood during I week of august resulted in non conductance of few trials</li> <li>• Sheath blight, false smut, leaf folder and gundhi bug incidence was observed</li> <li>• Medium slender grain type varieties with different duration, Biofortification Rice (Red Kernel Rice), semi-dwarf varieties rich in Zn, Fe, Proteins and other vitamins and disease resistance are the major breeding targets of this zone</li> </ul>

<p><b>Zone VII-1</b></p>	<p>Maruteru, Nellore Machilipatnam, Ragolu, Mandya Warangal, Rajendranagar Brahmavar, Jagatial, Gangavathi, Mugad, Sirsi, Ponnampet, Malagi, KunaramRudrur, Kampasagar, Bapla,</p>	<p>Dr. L.V. SubbaRao, Dr. C. Gireesh, Dr. Abdul Fiyaz, Dr. Divya Balakrishnan(IIRR),Dr.Sushantha Dash, Dr.Krishnendu Chattopadhyaya (NRRI)</p>	<p>03-12-2020</p>	<ul style="list-style-type: none"> <li>• Incidence of BPH, BLB, blast, stem borer, leaf folder, gall midge, grain discolouration, brown spot, Panicle mite, Sheath blight, false smut was noticed among the entries in different centres</li> <li>• Segregation and shifts based on flowering were identified and reported in many trials. Heavy rains and late sowing resulted in poor crop stand in some of the trials in the zone</li> <li>• Lodging of the entries due to heavy rains in November, 2020 and Seedling mortality due to salt injury was reported from Machlipatnam</li> <li>• At Brahmavar, sea water inundation at the salinity trial plot was reported</li> <li>• PI, AICRIP suggested breeders to initiate programmes on false smut/ submergence/ salinity/cold tolerant varieties with a special focus on location specific needs and also focus on speciality rice varieties for red rice /value added / nutrition rich rice as there is a growing demand in this region</li> </ul>
<p><b>Zone VII-2</b></p>	<p>Aduthurai, Coimbtore, Trichy, Pondicherry, Karaikkal, Tirur, Monkombu, Pattambi</p>	<p>Dr. L.V. SubbaRao, Dr. M.S. Anantha, Dr. Abdul Fiyaz, Dr. Divya Balakrishnan (IIRR),Dr.Sushantha Dash (NRRI)</p>	<p>19-12-2020</p>	<ul style="list-style-type: none"> <li>• Reduced plot size/ missing entries / mixtures/ poor germination/ submergence due to heavy rainfall were observed as constraint in many trials</li> <li>• BLB, LF, stemborer, and false smut was observed in different centres</li> <li>• Breeding varieties suitable for direct seeding with focus on seedling traits /root traits specifically on early seedling vigour is reported from Coimbatore</li> <li>• Traits for wet system/ dry system cultivation with focus on non-lodging, high culm strength, 30-40 days of dormancy to overcome the problem of vivipary is also focus area for varietal development in this zone.</li> </ul>

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				<ul style="list-style-type: none"> <li>Varieties for short duration/ fine grain/ salinity tolerance / flood tolerance/ red bold rice/ aerobic conditions/ low GI lines are under development</li> <li>Monitoring team suggested for focused breeding for speciality rice / coloured rice/ pigmented rice and landraces and also registration of entries at NBPGR</li> </ul>
<ul style="list-style-type: none"> <li>Field Monitoring tour</li> </ul>				
<b>I</b>	RARS, Maruteru, ANGRAU, Andhra Pradesh	Dr AVSR Swamy (IIRR)	31-08-2020	<ul style="list-style-type: none"> <li>All the 18 (14 breeding &amp; 4 hybrid rice) allotted trials were conducted as per the technical programme.</li> <li>Mixtures are observed. Moderate to severe incidence of BLB was observed in almost trials. At this location, sheath blight and BLB and loose smut observed during kharif in farmers' fields.</li> <li>Due to delay in sowing, Cresec phase of BLB was observed in some entries resulting in death of the nursery</li> <li>Most of the entries in all the trials were lodged due to cyclonic rains and winds of NIVAR cyclone</li> </ul>
<b>II</b>	ARI, Rajendranagar, PJ TSAU, Telangana	Dr. L.V. SubbaRao, Dr AVSR Swamy, Dr. Divya Balakrishnan (IIRR)	31-12-2020	<ul style="list-style-type: none"> <li>Two trials IVT Biofortification and IVT ASG were at field in harvesting stage at the time of monitoring</li> <li>In IVT Bio fortification, there were 35 entries with a plot size of 6.75m<sup>2</sup></li> <li>High diversity of phenotypic traits were observed that there were entries with kernel colour, plant height, panicle type and yield levels</li> <li>There was low incidence of false smut in few entries and moderate incidence of brown spot observed in all entries</li> </ul>

## Zone I

### Hills (Zone 1): Virtual field monitoring of AICRIP Plant Breeding

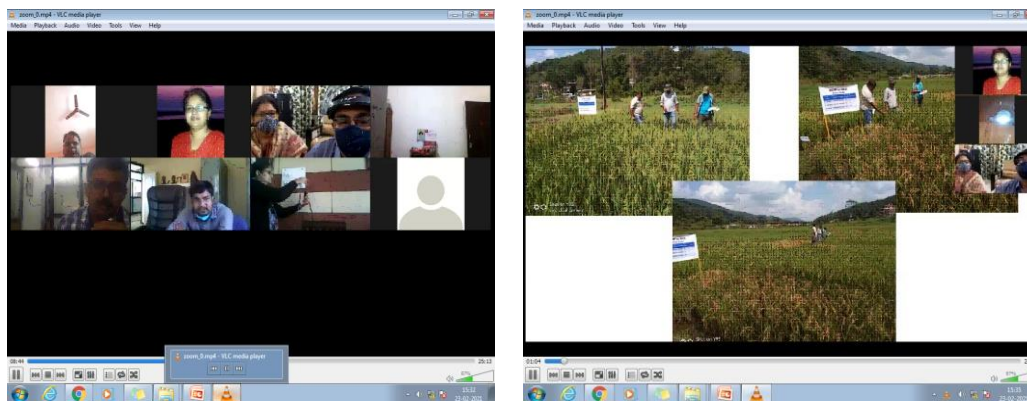
**Khudwani :** Dr NR Sofi, Professor presented the status of trial conduct at Khudwani. Only 4 trials were conducted out of the 5 allotted trials as IVT-LR (H) was received on 18<sup>th</sup> June 2020. Trials at associated voluntary centres-Pombay and Wadura could not be taken up due to COVID 19 related movement restrictions. Blast resistance, high yield, threshability and high biomass are the target traits for this centre. Breeder seed production of 9 varieties viz., Shalimar 1 to 5, K 332, Chenab, K 39 and Jhelum was taken up as per the indent.

**Barapani:** Dr Mayank Rai, briefed that all the allotted trials were conducted at CAU, Barapani and Drs Mayank Rai and Amit Kumar did self-monitoring of the AICRIP trials on 21<sup>st</sup> October 2020 and scored the entries based on PACP. Major breeding targets are blast resistance, grain quality, aroma, nutrient use efficiency. In the station yield trial, 25 entries were evaluated. More than 150 landraces are maintained here and three biparental populations were grown during kharif 2020. Following the half-diallel crossing plan, promising lines were crossed with landraces.

**Palampur:** Dr Daisy explained about the trial conduct at Palampur. The major target of this centre is to breed for earliness and blast resistance in red and basmati rice types. They have a germplasm collection of red, wild (*O. meridionalis*, *O. officinalis*, *O. nivara*, *O. barthii* and *O. glaberrima*) and basmati rice types. As the main objective of the state is Zero Budget Natural Farming (ZBNF), station trials during 2020 included red, normal and advance breeding lines under ZBNF. The promising entries from this state HP4 2774 (IET 23539) and HPR 2922 (IET 26579) were released as varieties in Sikkim.

**Malan:** Drs Neelam Bhardwaj and DP Pandey presented the status of trial conduct at Malan. A total of 9 (5-irrigated, 2-upland and 2 basmati) trials were conducted. Problem of wild rice was observed in upland trials which is also a problem in farmer's fields in this region. The major objective of this centre is to breed for cold tolerance and early maturity. Three major station trials were conducted on red rice genotypes, basmati and white rice genotypes. Breeder seed was produced for the indented varieties. However, trials and breeder seed production were affected due to irrigation problem at Malan centre.





## Zone II

### Northern (Zone 2): Compilation of self-monitoring team reports

**Kaul:** Drs. Rakesh Kumar, Mahaveer Singh, Mangat Ram, RRS, Kaul conducted the trials. Seven trials including AVT1-IME, AVT 2-IM, AVT1-IM, AVT2-E-TP, AVT1-E-TP, AVT1-Biofort, AVT1-Aerobic were conducted at RRS, Kaul. Most of the entries in different trials exhibited poor growth and development due to late receipt of the trial seed, suggested that the data may not be suitable for analysis.

**Chatha:** Drs. Bupesh Kumar, V.B. Singh, Anuradha Saha, Rajan Salalia, and Rajeev Bharat, Chatha, Jammu conducted the trials. Basmati trials AVT1-BT and IVT-BT were conducted at this centre. The crop stand of the experiments was reported to good with following management practices as per recommendation.

**Kota:** Drs. N.R. Koli, J.P. Tiwari, and D.L. Yadav, ARS, Kota conducted the trials and submitted the report. Five plant breeding and six agronomy trials were allotted and conducted. AVT2-IM, AVT1-IM, IVT-IM, AVT-IME, IVT-IME were conducted. The performance of the entries in AVT-IME, IVT-IME reported to be good and found to be suitable for analysis. Rest of the trials were suggested not suitable for analysis. Minor incidence of BLB, WBPH, leaf folder and stem borer was reported. The centre also submitted information on the crosses attempted and segregating material grown at the station.

## Zone III

### Eastern (Zone 3): Compilation of self-monitoring team reports

**Caning Town:** Drs. S.K. Sarang, T.D. Lama, K.K. Mahanta, S. Raut and Mr. Nitish Ranjan Prakash, RRS, Caning Town conducted the trials and submitted the report. The information about the performance of entries in AVT1-CSTVT and AVT2-CSTVT- NIL was reported from this centre. Incidence of stem borer, gundhi bug and leaf folder damage in few test entries observed. Entries which are segregating, offtypes and non-uniform in the AVT1-CSTVT were reported.

**Bhubaneswar:** Drs. D.N. Bastia, Tapas Mishra, B. Pradhan conducted the trials and submitted the report. Among the 14 trials allotted, four trials were conducted due to late receipt of trial, inadequate funds and very less scientific and supporting staff.

**Bankura:** Drs. Goutam Kumar Mallick and Partha Protim Ghosh, RRS, Bankura conducted the trials and submitted the report. The trials IVT-SDW, AVT1-SDW, IVT-RSL, AVT-1-EDS, IVT-E-DS were conducted at this centre. Information about the breeder seed production of varieties Puspa, Dhiren, Sampriiti, and Dhruva was reported.

**Bikramganj:** Drs. Prakash Singh and Ashok Singh, BRU, Bikramganj conducted the trials and submitted the report. IVT-L, AVT2-ETP, AVT-2- IM, AVT1-ETP, AVT-1- IME, AVT1-IM, AVT1-RSL, AVT-1Aerobic, AVT1-NIL, AVT1-L, AVT1-Biofort, IVT-IME, IVT-IM, IVT-ASG, IVT-RSL, IVT-Aerobic, IVT-Biofort and IVT-E-TP trials were conducted. Incidence of sheath blight, stem borer and BLB were reported.

**Chinsurah:** Drs. Suparna Gupta, Mitali Chatterjee, S. Debnath, R. Das and Mr. Sumit Murmu, RRS, Chinsurah conducted the trials and submitted the report. AVT1-E-TP, AVT2-E-TP, IVT-SDW, AVT1-SDW, AVT2-IM, IVT-DW, IHRT-EIHRT-ME, IHRT-M AND IHRT-MS were conducted at this centre. Incidence of BLB in few test entries was reported.

**Modipuram:** Drs. Ritesh Sharma, P.K. Tomar, Mr. Netrapal Sharma and Mr. Pawan Bansod, BEDF, Modipuram conducted the trials and submitted the report. AVT1-BT and IVT- BT trials were conducted at this centre. Incidence of stem borer, leaf folder, sheath blight and false smut was observed.

**Varanasi:** Prof. R.K. Singh, Prof. S.K. Singh, Dr. R.K. Singh and Dr. Jayasudha conducted the trials, BHU, Varanasi and submitted the report. Among the 16 trials, AVT1-Aerobic, AVT1-Biofort, AVT1-IM, AVT1-MS, AVT1-SDW, AVT2-IM, AVT1-IME, IVT-IME and IVT-SDW were conducted.

#### **Zone IV**

##### **North eastern (Zone 4): Compilation of self monitoring team reports**

**Lamphelpet:** Dr. S. Bhuvaneshwari, Dr. Konsam Sarika, Susheel Kumar Sharma and Romila Akoijam, ICAR RC NEH region, Lamphelpet, Manipur conducted the trials and submitted the report. Among the four trials allotted, three trials AVT1-U(H), AVT1-M(H), IVT-M(H) were conducted. Infestation of gundhi bug, glume discoloration, neck blast, stem borer incidence was reported.

**Titabar:** Drs. T.J. Ghose, B.C. Das, P.C. Dey, S.K. Chetia, Mrs. M. Baruah, Mr. M.J. Konwar and Mr. Janardan Das, RARS, Titabar conducted the trials and submitted the report. Thirteen among the 14 trials allotted were conducted including AVT-1E-TP, AVT1-MS, AVT1-SDW, AVT1-L, IVT-SDW, AVT1-IM, AVT1-IME, AVT2-IM, IVT-RSL, IVT-IM, AVT2-E-TP, IVT-IME and AVT1-RSL. Partial damage by bird/insect was observed across the trials due to late transplantation.

#### **Zone V**

##### **Central (Zone 5) : Virtual field monitoring of AICRIP Plant Breeding**

Dr. Jyothi Badri (IIRR), Dr. Divya Balakrishnan (IIRR), Dr. Krishnendu Chattopadhyaya (NRRI) and Dr. L.V. SubbaRao (PI, AICRIP) (26.11.2020) conducted virtual field monitoring. Dr. LV Subbarao, PI & Head, AICRIP Plant breeding gave brief introduction and instructions on monitoring field trials. It was asked to present the observations on AICRIP monitoring team constituted from the centres. The details AICRIP staff position and filling up of the vacant posts were asked to consider as urgent. UC SOE from the voluntary centres were asked to provide to IIRR by the scientists involved. 1 page report on rice production status for this year (2019-2020) for respective states was asked to submit.

**Jabalpur:** Dr. Sanjay Kumar Singh, JNKVV, Jabalpur presented the observations of locally constituted monitoring team. A total of 13 breeding trials were conducted. Significant achievements and other activities of centres especially on hybrid rice development and MOUs were presented. Same Local check was used in 4 trials in this centre.

**Raipur:** Dr. Sunil K Nair, Senior Scientist, IGKV, Raipur presented the field trial data. Drs. S.K. Nair, A. Sao and D. Gauraha submitted self monitoring report of the trials. A total of 24 trials (AVT2-E(TP), AVT1-E(TP), AVT1-AEROB, IVT-AEROB, IVT-E (DS), AVT1-E (DS), AVT1-NIL(Drt),



IVT-IM, IVT-IME, AVT2-IM, AVT1-IME, AVT1-IM, AVT1-L, AVT1-MS, IVT-ASG, IVT-L, IVT-MS) were carried out by this centre and the trials were conducted as per recommendations. The centre nominated 17 entries. Mixtures were noticed in AVT trials. Same Local check was used in 2 trials. Several mixtures were observed in AVT trials.

**Rewa:** Dr. P Perraju, Scientist, Rewa presented the results of this year AICRIP trials from the centre. There were eight breeding trials allotted (AVT1-E (DS), AVT1-AEROB, IVT-E (DS), IVT-E-TP, AVT-1E-TP, AVT-2E-TP, AVT1-NIL(Drt) ) and only 7 trials were carried out by this centre. Good field facility is available for upland trials in this centre. Due to late receipt of seeds and sowing, many entries under IVT-Aerobic trials did not germinate.

**Jagdapur:** Dr Sonali Kar, Scientist, SGCARS, Jagdalpurcentre presented the details on AICRIP trials. 15 breeding trials allotted (IVT EDS,AVT1-Aerob, AVT1ETP, AVT2ETP, IVT-ASG, IVT-IM, AVT1-IM, AVT2-IM, IVT-IME, AVT1-IME, IVTL, AVT1-L) and only 13 were conducted. Two trials were not carried out as the seeds were received late. Low to Moderate incidence of stem borer, blast, gall midge and brown spot were observed. There were many entries suggested for shifting as not fitting into the DFF duration. Bastar dhan1 from this centre got released through SVRC. Nine agronomy, 13 entomology and 9 plant pathology trials were also conducted. The centre also evaluated breeding material and conducted station trials.

**Sakoli:** Dr Shamkuwar, PDKV, Akola explained about the trials conducted under AICRIP this year. A total of 16 breeding trials were carried out as per recommendations. Due to heavy rainfall immediately after sowing, and subsequent submergence; only 12 entries germinated and established in IVT-Biofort. The most prevalent pest was stem borers followed by BPH. Gall midge incidence was observed in eastern Vidarbha. PDKV Sakoli Red rice 1(SKLRR1) was released with high nutrient content of Fe and Zn from this centre.

**Waraseoni:** Dr. Uttam Singh, explained the details of 6 trials conducted in the centre during Kharif 2020.

**Sindewahi:** Dr. M. R. Wandhware, presented the details of trials conducted in the centre during Kharif 2020. A total of 15 breeding trials were carried out at this centre. All the trials were handled as per recommendations. A few of the entries were missing in the trials. Case worm and BPH caused pest infestation. Dr LV Subbarao discussed with the breeders from centres of central zone about rice breeding programmes on developing speciality rice varieties for Poha/ puffed rice (value added rice) especially at central zone. Breeders from Raipur, Jabalpur explained about varieties Mahamaya, Rajeswari, Safri and Vijay for Poha making.

## **Zone VI**

### **Western (Zone 6): Compilation of self monitoring team reports**

**Radhanagari:** Prof. C.D. Sarawate and Dr. S.D. Kumbhar, ARS, Radhanagari, conducted the trials and submitted the report. Two among four breeding trials were conducted. The crop experienced flood during first week of August, 2020. The centre has generated and evaluated breeding material as well as conducted station trial.

**Nawagam:** Drs.M.B.Parmar, D.B. Prajapati and Mr. A.G. Pampaniya, AAU, Nawagam: conducted the trials and submitted the report. Seventeen among the 19 allotted plant breeding trials were conducted. In addition, all the allotted trials of agronomy (3), plant pathology (20), entomology (9), were also conducted. The crop experienced heavy rainfall during the second fortnight of August, 2020. In addition, the breeding material from F<sub>2</sub> to F<sub>6</sub> was also evaluated, and about 152 crosses were attempted.

**Navsari:** Mr. K.S. Mungra, Drs. P.B. Patel, V.A.Patil and P.D. Ghoghari conducted the trials and submitted the report. The centre has conducted 20 plant breeding trials including IVT-ASG, AVT1-IM, IVT-Aerobic, IVT-L, AVT1-MS, AVT1-Biofort, AVT1-L, IVT-IM, IVT-Biofort, IVT-IME, IVT-MS, AVT1-Aerobic, AVT1-CSTVT, AVT1 AL&ISTVT, IVT-CSTVT and IVT AL&ISTVT, reported good crop stand.

**Shirgaon:** Dr.B.D. Waghmode,ARS, Shirgaon conducted the trials and submitted the report. Ten AICRIP breeding trials including hybrid rice were conducted at this centre. Sheath blight, false smut, leaf folder and gundhi bug was observed. Medium slender grain type varieties with different duration, Biofortification Rice (Red Kernel Rice) semi-dwarf varieties rich in Zn, Fe, Proteins and other vitamins, Green Super Rice, Low Land Rice, Blast Resistant Rice, Bacterial Leaf Blight Resistant Rice, Processing Purpose Rice, MAGIC Rice (Multiparent Advanced Generation Inter Crosses) and Medium Slender were the target traits for which breeding material has been generated and being evaluated.

**Vyra:** Dr. Vipul P.Patel,RARS, Vyra conducted the trials and submitted the report. All the allotted 12 AICRIP trials including hybrid rice trials were conducted at this centre. The crop stand was reported and overall conduct of the trials reported to be good.

### **Zone VII-1**

#### **Southern (Zone 7) Part I Virtual field monitoring of AICRIP Plant Breeding**

**Maruteru:** Dr. Ravi Kumar, presented the observations of locally constituted monitoring team. A total of 23 breeding trials were conducted. All the trials were conducted as per recommendations with excellently laid out plots. The details of self-monitoring team and photographs of the trial plots were presented. Mixtures and pest's incidence like stem borer, BLB and SB in the trials are reported. Significant achievements and other activities of centre were presented. Dr.LV Subbarao discussed about local checks, plot size and pests incidence in the trial plots and these information were asked to include in the final trial reports. It is noted that number of crosses generated in the season was comparatively low and was asked to increase the number of crosses in coming seasons. Dr Ravi informed that due to huge demand in breeder seed production and land constraints, the raising of breeding material is restricted in Maruteru. Monitoring team suggested to generate new crosses for BPH tolerance and also to use biotechnological tools for the same. The water level maintenance on semi deep-water trials and plot size maintenance of biofortification trials were also discussed.

**Nellore:** Dr.Srilakshmi, presented the field trial data. Dr. Ch. Sreelakshmi and Dr. P. Madhusudhan conducted the trials and submitted the data. Only 2 trials on AVT1L and IVTL were carried out by this centre and the trials were conducted as per recommendations. Due to heavy rains and late sowing crop was only at maximum tillering stage during virtual monitoring. Incidence of stem borer, leaf folder was noticed among all the entries of the trial. Segregating, and shifts based on flowering were identified and reported. The centre has also generated breeding material suitable for early kharif, late kharif and rabi season along with evaluation advanced lines in the station trials. Scientist expressed constraints in developing crosses and maintaining trials due to the unfilled vacancies of breeder post in the centre.

**Machilipatnam:** Dr Girijarani, presented about 3 trials on salinity and conducted the trials ISTVT, AVT1CSTVT, CSTVT. Problems in the maintenance of salinity levels were faced due to excessive rainfall. Salt injury scores, EC and pH were noted at various crop stages using Fisiometer(Philippines). Lodging of some of the entries due to heavy rain in November, 2020 was reported. Seedling mortality was mainly due to salt injury and not due to submergence. Incidence of BLB and leaf folder was observed. The overall performance of entries was reported to be good with few entries which are segregating and late entries. Contingencies were not released for this centre and were asked to submit the UC s again for the release of the funds. The details on NIL trials were also discussed.

**Ragolu:** Dr P.V. Satyanarayana presented the details on AICRIP trials. 15 breeding trials were allotted and only 13 were conducted. Dr.PV. Satyanarayana, explained about the importance of the centre especially for generating varieties tolerant to biotic stresses like gall midge, BPH, BLB and blast. Breeder seed production, new crosses and breeding materials development were carried out with a focus to biotic stress tolerance. The centre requested for more trials including ME trials and MS trials. They also requested for a breeder and plant protection scientist post considering the potential of the centre. A 15% reduction in plots size was observed for the trials due to constraints in land availability.

**Mandya:**Dr.C A. Deepak, presented the results of this year AICRIP trials from the centre. There were 14 breeding trials allotted (IVT-IM, AVT1- IM, AVT2- IM, IVT-IME, AVT1-IME, IVT-E-TP, AVT-1E-TP, AVT-2E-TP, IVT-MS, AVT1-MS IVT-BIOFORT, AVT1-BIOFORT, IVT AEROB). Several entries were having mixtures upto 50% and many entries require shift to different duration crops. Severe BLB incidence was observed. The crop stand across trials was reported to be good. Incidence of brown spot, neck blast, leaf blast, narrow brown spot and grain discoloration was observed among the few test entries. The team has identified several segregating lines across the trials particularly in Initial varietal trials. Monitoring team suggested increasing the number of trials and breeding programs with a focus on BLB, Blast, cold & salt tolerance. Breeding programs based on red rice/ coloured rice improvement is also suggested. KMR3 derived improved lines were generated and Kalinga was used as an alternative source for cytoplasm in this centre. Several lines were nominated in the hybrid rice trials from the centres.

**Warangal:** Dr B Satish Chandra, Scientist, explained the details of 18 trials conducted in the centre during Kharif 2020. More than 50% of rainfall received during the season, caused submergence of trials and reduction of plant population in IM and TP trials. Gallmidge, BLB, sheath blight and grain discoloration were the major problems along with high percentage of mixtures in the entries. Due to late receipt of seeds, many entries were not flowered. Shift on entries from MS trials based on grain shape was observed. Incidence of Gall midge, BLB, Leaf folder, BPH, Panicle mite, grain discoloration, Sheath blight, false smut was reported. The test entries which are segregating, shifts based on flowering duration across the different trials were reported. In some of the experiments, zinc deficiency was noticed. Breeding programmes on false smut resistance is suggested for this centre.

**Rajendranagar:** Dr Chandramohan, explained about the trials conducted under AICRIP this year. A total of 11 breeding trials were carried out as per recommendations. Due to heavy rainfall immediately after sowing, and submergence only observed IVT IM, IVT IME and AVT1IME. The achievements of the centre were also explained.

**Brahmavar:** Dr. Sridevi A Jakkeral, presented the details of trials conducted in the centre during Kharif 2020. A total of 15 breeding trials out of 21 were carried out at this centre. Sea water inundation at farmer's fields where the salinity trials conducted was observed. Monitoring team suggested the conductance of field trials of ISTVT at inlands. Detailed information on submergence in the trials was asked to include in the final report. For all the trials, variety MO4, was used as check due to poor germination of other checks. As the number of centres are less in salinity trials, most of the locations for salinity trials are not suitable for AICRIP evaluations due to occurrence of multiple stress/ submergence/ water logging stress.

**Jagatial:** Dr Gonya Nayak, explained about the trials conducted under AICRIP this year. A total of 5 breeding trials conducted out of 8 trials allotted were carried out as per recommendations. There was a delay in transplanting due to several cases of covid 19 in the station. Severe incidence of BLB, gallmidge, and BPH was observed. No shifts based on flowering were observed in the conducted trials. Long bold grain varieties were released from this centre. Several crosses for yield improvement and biotic stresses were generated under breeding programmes.

**Gangavathi:** Dr Masthan Reddy presented about 15 trials conducted at Gangavathi. Delay in transplanting was mainly due to late receipt of seed materials. Severe gall midge and false smut incidence was observed. It was observed that yield levels of salinity trials are very high for past many years. Plots with uniform salinity/ gradient salinity levels are available in this centre. Late rains and labour problems affected the proper conductance of trials. Dr Krishnendu Chattopadhyay suggested measurement of EC levels on saturated soil during flowering stage.

**Mugad:** Dr. S.C.Talekar, presented about 13 trials allotted but only 9 trials were conducted. Many entries require shifts based on durations. Breeder seed production was conducted. False smut incidence was observed. 135 F3 progeny families grown and 9 station trials were conducted. It was observed that no data from Mugad is included for last two years in AICRIP evaluations and was asked to resolve the reasons.

**Sirsi:** Prof. Dr.PS Surendran, explained about 11 trials conducted at the centre. Trials under late and RSL were not evaluated as they are not at flowering stage at the time of monitoring. The plot size is reduced due to restricted land area. There was an observation on change in plant architecture of Chittymuthyalu which was used as check in ASG trials. The centre is also having Fe and Al toxicity.

**Ponnampet:** Dr.Seshaiah, presented about 6 trials conducted in this station and 14 plant pathology trials. About 15 crosses were attempted and breeding material of F2 to F5 populations were grown including the station trial to identify high yielding rice varieties for hill zone of Karnataka. Moderate to high incidence of leaf blast, neck blast and leaf folder damage was reported. It was observed that INGER and AICRIP materials were used in the varietal development and was asked to inform to the respective coordinators.

**Malagi:** Dr Bharathkumar, presented on two trials conducted at this centre Viz. IHRT MS, AVT1MS. Severe stem borer infestation was observed in the trial plots. Several crosses and breeding materials were generated at this centre with a major focus on varietal development for upland and better quality. Centre requested for more trials especially under MS trials.

**Kunaram:** Dr Sreedhar Sitti explained about the AICRIP trials conducted at this centre. Only 4 trials were conducted out of 12 trials received due to lack of irrigation facilities. Severe gall midge infestation up to 32% were also noticed. Breeder seed production of KNM118 is carried out this centre which is replacing MTU1010 in cultivation areas.

**Rudrur:** Dr. Ramya Rathod, explained about the 2 trials AVT1-IM & AVT2-IM conducted in the centre. Stemborer, panicle mite, grain discolouration along with false smut was the major problem in the centre. Off-types were observed in many entries. The centre is maintaining 276 germplasm and conducting breeding programmes to develop materials under early and medium duration. Resistance breeding against, BLB, blast, BPH and cold tolerance is also carried out at this centre. Incidence of – Blast, BLB and BPH were majorly observed during 2020. The centre is focussing on breeding material for development of early and medium duration rice varieties with multiple resistance (Blast, BLB & BPH) and developing rice varieties possessing cold tolerance.

**Kampasagar:** Dr Shivaprasad explained about 6 trials conducted out of 7 trials in this station. EC and PH of salinity trials were taken at planting, tillering and flowering stages. Plot size is strictly followed according to technical programme to conduct the trials. Breeding of BPH tolerant lines are under progress. BPH, alkalinity and salinity are the major stress found at the centre during crop growth.

**Baptla:** Dr Krishnaveni explained about conductance of 6 trials out of 7 trials allotted. All entries are in flowering to grain filling stage at the time of monitoring. Breeder seed production of 5 varieties also carried out this centre. The crop experienced cyclone and majority of the entries were lodged. In IVT-Biofort, AVT1-L, AVT1-MS, AVT1-Biofort trials and the trials were submerged. The centre has also generated several breeding material and are being evaluated in different trails.

Dr LV Subbarao and monitoring team interacted with the breeders from centres of southern zone. All the SVRC proposals were asked to submit to PI , AICRIP for compilation. Germplasm request and request on wild and weedy rice species may submitted to PI , AICRIP. Details on salinity/ submergence trials and identification of suitability of the trial in specific centres were requested. It was asked to identify new trials based on the available ecosystem and intend accordingly especially by funded centres. Selections and breeding using material from INGER/AICRIP may be informed to respective coordinators.

## **Zone VII-2**

### **Southern (Zone 7) Part II Virtual monitoring of AICRIP trials Plant Breeding**

**Aduthurai:** Dr. Suresh and Dr. Sasikumar, TRRI, Aduthurai presented the observations of locally constituted monitoring team. A total of 17 breeding trials were conducted as per recommendations. Severe rat damage was reported especially in biofortification trials. Pest's incidence like gall midge and grain discoloration in the few trials were reported. Shift of entries due to extreme flowering duration was suggested. For SVRC release, this centre nominated 13 entries, 7 entries promoted and also conducted a total of 29 station trails. 130 new crosses for yield, quality, pest, disease, drought, submerge were carried out. Significant achievements and other activities of centre were presented. Breeder seed production was carried out as per the indent.

**Coimbatore:** Dr. Saraswathi, Dr. Pushpam and Dr Ganeshmurthy; presented the field trial data. 23 breeding trials were allotted and all the trials were conducted as per recommendations. Many entries were not germinated in late trials and off types/ shift due to extreme flowering duration were observed. 4 hybrid trails were conducted. Seed of some entries were missing for late trials. Drought trials were conducted under rain out shelter. Centre maintains a germplasm collection of 2316 lines. Main mandate of the station was to produce nucleus seed for fine and superfine rice to substitute fine grain RNR lines/ BPT 5204. Breeder seed production also carried out for the varieties. For organic agriculture traditional varieties which are photo sensitive are used in breeding like Kouvuni (nutrient rich) x CO 50 (low GI) and Mappillai samba through pure line selection for photo insensitive trait. MOU is made between TNAU and "Mohan diabetes centre" for clinical trial of low GI lines.

**Trichy:** Dr T Thirumurugan, presented details of 2 trials. Salt injury scores, EC and pH were noted at various crop stages and found to be alkaline stress conditions.. Missing entries / mixtures/ germination were observed. Seedling mortality due to salt injury caused plot size reduction.

**Pondicherry:** Dr. R Narasimman. 7 trials were allotted and 6 trials were planted and 1 trial is in nursery stage at the time of monitoring and due to late sowing and unavailability of rain water for sowing. Most of the entries in trials are in flowering stage. Due to late receipt of trials and heavy rains the sowings were differed to second season from Oct-Nov, 2020 and reported good crop condition during the second season. Centre conducted 3 station trails. IVT IME entries were submerged due to heavy rain fall for 15 days.

**Karaikkal:** Dr Thirumeni, presented the details on AICRIP trials. 12 breeding trials allotted including hybrid rice, salinity and submergence trials. As the centre experienced Kharif salinity more than sodicity, entries are required by May month as irrigation is mainly from borewells, about 1-1.5 lakh ha is under this situation with bore well irrigation. Sea water inundation during NE monsoon in Rabi season occurs within 5-6 kms from sea shores. It was suggested to improve Submergence and Salt tolerant cultures using MAS introgression. Coastal salinity along with submergence is a complex trait. PI, AICRIP suggested Salt tolerant local cultures from Vanchai (NGO), from Nagapatnam may be used in breeding programmes.

**Tirur:** Dr S. Banumathy, discussed about 2 direct sown rice trials under purely rainfed condition with few life irrigations. Several off types/ segregation in the entries were observed. Centre developed



many high yielding cultures which are in the last stage of testing. Breeder seed production for TKM varieties were carried out at this centre.

**Moncombu:** Dr Ambily AK presented the 9 trials conducted at this centre. The trial was damaged due to submergence & floods in August. Trials were conducted as per layouts and followed recommended plot size. BLB, LF and false smut was observed in the variety Uma. The crop stand of the most of the experiments was reported to very good with no major pest and disease incidence. It was suggested to submit Coloured rice /pigmented rice/ Value addition rice to national gene bank.

**Pattambi:** Dr Biji, presented the results of this year AICRIP trials from the centre. There were 13 breeding trials. Several entries were showing stem borer damage and many entries require shift in trial due to different flowering duration. Along with AICRIP trials, INGR-IIRON and CGIL line including N22 mutants and Swarna/ *O.nivara* were conducted. Crossing and variety development was with a focus on early rice/ salinity/ drought tolerant genotypes. It was suggested to increase plot size. The variety Ponmani (CR10009) was used as Local Check in Irrigated Medium duration trials and expert members suggested to change this as it was having longer duration.

### Field monitoring of AICRIP Plant Breeding - RARS, Maruteru, ANGRAU (31.10.2020)

Dr. A.V.S.R.Swamy (IIRR) visited RARS, Maruteru, Andhrapradesh and monitored the AICRIP Trials on 31.10.2020. Of the 18 (14 breeding & 4 hybrid rice) trials sent, all the trials were conducted. Visited these trials viz., AVT 2; AVT 1 ETP; IVT ETP; AVT 1 IME; IVT IME; AVT 2 IM; AVT 1 IM; IVT IM, AVT 1 L; IVT L; AVT 1 Biofort.; IVT Biofort.; AVT 1 MS; IVT MS; IHRT-E; IHRT ME; IHRT M; and IHRT MS and these trials were conducted as per the technical programme. The experimental fields are well maintained. Especially hybrid trials have come up with full vigour during this season. Mixtures are observed in some of the entries in some trials. Moderate to severe incidence of BLB was observed in almost trials. At this location, sheath blight and BLB and loose smut observed during kharif in farmers' fields. Other important points informed by Scientists of the Research Station are given below:

- Due to COVID 19 pandemic all the trials were received very late owing to delay in transport.
- As a result, the nursery of some trials was taken very lately, which resulted in coincidence with heavy rainfall and germination failure of some entries.
- Due to delay in sowing, Cresec phase of BLB was observed in some entries resulting in death of the nursery.
- Most of the entries in all the trials were lodged due to cyclonic rains and winds of NIVAR cyclone.



### Field monitoring of AICRIP Plant Breeding - ARI, Rajendranagar, PJTSAU (31.12.2020)

Dr L.V Subbarao, Dr. AVSR Swamy, Dr. Divya Balakrishnan from IIRR visited ARI, Rajendranagar field. Dr Krishna and Dr Chandramohan, ARI, Rajendranagar, explained about the trials conducted under AICRIP this year. Only two trials IVT Biofortification and IVT ASG were at field in harvesting stage. Field monitoring for these two AICRIP trials were conducted on 31.12.2020. In IVT Bio fortification, there were 35 entries D/S 27.07.2020 and D/P 29.08.2020 with a plot size of 6.75m<sup>2</sup>. It was observed that entries 5502 is with black kernel, 5504 is having red kernel with very dwarf stature of <50cm, 5512 was having dense panicle and high yield levels. Entry 4916 Chitty chittymuthyalu/RNR15459 (with a TGW of 9 grams) was used as local check. For IVT MS entries, ARI has taken up planting of only two lines of all the entries. There was low incidence of false smut in few entries and moderate incidence of brown spot observed in all entries. Monitoring team also visited station trials, breeding experiments, rabi nursey, blast nursey and the crossing block.



**Brief summary of the monitoring report of AICRIP-Agronomy *kharif*, 2020**

There are 34 out of 39 funded centers and 5 voluntary centres conducted in-season monitoring of AICRIP-Agronomy trials and sent the monitoring report. Almost all the reports from the centers contain good quality pictures of the trials while many send videos of monitoring also. Most of the monitoring had been conducted by a multi-disciplinary team of experts of that station. Few locations conducted self-monitoring of the trials due to the COVID-19 implications.

**Details of monitoring report send by AICRIP agronomy centres as on 31-12-2020**

Name of Centre	Photo	Video	Number of trials conducted
<b>Funded</b>			
Aduthurai	✓	-	5
Chatha	✓	-	5
Chinsurah	✓	✓	5
Chiplima	✓	-	3
Coimbatore	✓	✓	7
Dhangain	✓	✓	4
Faizabad-Masodha	✓	-	5
Gangavathi	-	-	9
Ghaghrahat	✓	✓	2
Jagdapur	✓	✓	10
Kanpur (monitoring not conducted)	NA	NA	2
Karjat	✓	-	7
Kaul	✓	-	6
Khudwani	✓	✓	3
Kota	✓	-	6
Ludhiana	✓	✓	7
Malan	✓	✓	7
Mandya	✓	-	13
Maruteru	✓	✓	6
Moncompu (All trials were failed as the crop was submerged for 13 days due to floods of August 2020)	✓	-	3
Nagina	✓	-	4
Navsari	✓	✓	8
Nawagam	✓	-	7
Pantnagar	✓	✓	7
Pattambi	✓	✓	4
Puducherry	✓	✓	7
Pusa	✓	-	7
Raipur	✓	-	8
Rajendranagar	✓	✓	6
Ranchi	✓	-	8
Rewa	✓	-	5
Titabar	✓	✓	8
Varanasi	✓	-	6
Wangbal	✓	-	2
Warangal	✓	-	3



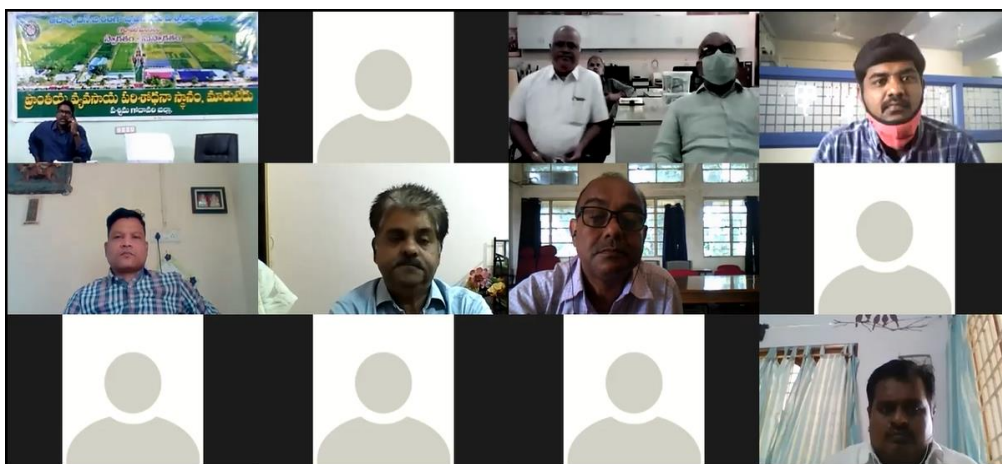
Name of Centre	Photo	Video	Number of trials conducted
<b>Voluntary</b>			
Almora	✓	-	3
Karaikal	✓	✓	5
Lucknow	✓	✓	1
Ragolu	✓	-	3
Vadgaon	✓	✓	7

**Monitoring report not received (Funded centers):**

S. No.	Location
1	Bankura
2	Kohima
3	Tuljapur
4	Upper Shillong

**PROCEEDINGS FOR VIRTUAL MONITORING OF PLANT PHYSIOLOGY  
AICRIP TRIALS ON 29<sup>TH</sup> October, 2020**

- Virtual monitoring of Plant Physiology AICRIP trials on 29<sup>th</sup> October, 2020 was organized under the chairmanship of Dr. D. Subrahmanyam, PI, AICRIP at 10-30 a.m. in Plant Physiology Laboratory. There were 14 participants from funded centers, voluntary centers and two ICAR institutes (IIRR coordinating unit and NRRI, Cuttack). Due to personal reasons and technical issues REWA funded center could not participate.
- All the centers conducted the allotted trials from the six trials that are being conducted in AICRIP Plant Physiology Programme. The presentations were made by Pantnagar, Pattambi, Maruturu, Titabar, Coimbatore, Raipur, Karjat and Karaikal, Chinsura, Ranchi and NRRI, Cuttack. The cooperators from each center made presentations showing their trials indented, conducted with good photographs from the fields. The cooperators also emphasized the shortage of labour due to Covid-19 situation. In some cooperating centers there was damage of field trials due to heavy rains and flooding.
- The PI, Dr. Subrahmanyam emphasized the need for correct conduct of trials as per the information sheet and trial indent. In case of Silicon trial he requested all the cooperators to collect data on for biotic stresses under stress tolerance studies as instructed by DDG, Crop Science. At the coordinating center along with PI Dr. Raghuveer Rao and Dr. Sanjeeva Rao participated in the discussion.



- The meeting ended with vote of thanks from the coordinating unit and felicitations were made to Dr. S.R. Voleti, Acting Director was remembered for his enormous contributions to the AICRIP Plant Physiology Programme when he was Head and PI of Plant Physiology.

**STAR CHART OF PLANT PHYSIOLOGY COORDINATED STUDIES FOR THE YEAR 2020**

S. No	Kharif 2020	CHN	CBT	NRRI	IIRR	FZB	KJT	KRK	MTU	PNR	PTB	REWA	TTB	RPUR	Ranchi	Total
1	Silicon	√	√	√	√		√	√	√	√	√	√	√		√	12
2	Heat Tolerance	√		√	√	√			√	√	√	√	√			9
3	Drought/ RFU		√	√							√	√	√ Ra bi	√	√	7
4	Multi Abiotic Stress		√	√		√	√	√	√		√	√	√		√	10
5	Low Light Stress			√	√		√		√	√			√	√		7
6	Submergence		√	√		√					√		√			5
	<b>Grand Total</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>5</b>	<b>4</b>	<b>6</b>	<b>2</b>	<b>3</b>	<b>50</b>

### **Monitoring of AICRP Entomology trials**

The monitoring of the AICRP trials was carried out in virtual mode on 27<sup>th</sup> September, 2020. During the interaction with co-operators, it was observed that despite the pandemic situation due to COVID-19, most of the centres have taken up the trials allotted in the research stations. Monitoring on the status of conduct of the trials revealed that most of the trials were in vegetative phase and laid out as per the technical programme. Nearly 14 trials from various centres have been vitiated due to heavy rains, floods and Covid-19 situation. Co-operators were instructed to carry out self-monitoring through teams at their research stations during the crop season. The status on the conduct of the trials sent by co-operators is as follows.

#### **Trials vitiated:**

#### **Floods:**

All the HPR trials from Maruteru concerning planthopper screening and NSN trials were informed to have been vitiated due to floods and incessant rains. (4 NSN trials and 2 planthopper trials). Two trials from Karjat (NSN 2 and LFST) and LFST trial at NRRI was also vitiated due to rains and floods.

#### **Covid 19**

Co-operators from Malan and Kaul observed that they could not take up NSN2 trials due to late receipt of the seed. The delay was however due to delay in the packing and dispatch of the seed as it was affected by frequent lockdowns due to COVID -19 situation. Trials involving inter-disciplinary personnel were affected at some locations due to lack of manpower.

Due to Covid-19 issues, three trials from Gangavathi, two trials from Chatha, one trial from Arundhatinagar have been vitiated. Despite this pandemic co-operators were able to take up trials in farmers' field but could not collect data as in Gangavathi.

GMS and GMSS at NRRI and GMPM at Moncompu could not be conducted due to low gall midge incidence. At Pantnagar, due to late planting of NSN2, there was no flowering among the entries.

#### **Pest incidence:**

Severe incidence of climbing cutworm at pattambi and Swarming caterpillar at Chattisgarh were reported during July to September. This year there was unusually high incidence of gall midge was observed at Chattisgarh, Authurial and Gangavathi. Incidence of case worm was observed at Malan and Titabar. Wide spread occurrence of panicle mite was observed in rice tillers at Raipur, Bilaspur, kawardha and Dhamtari districts.

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### **Monitoring report of AICRIP Plant Pathology Trials *Kharif 2020***

Monitoring of AICRIP Plant Pathology trials was conducted virtually on 22<sup>nd</sup> of October, 2020. Dr. M. S. Prasad, PI of the AICRIP Plant Pathology program welcomed the participants. Scientists Drs. G.S. Laha, D. Krishnaveni, C. Kannan, D. Ladhakshmi, V. Prakasam, K. Basavaraj and G. Jasudasu were also participated from IIRR. Dr. M.S Prasad, PI discussed and explained the reasons behind the delay in the seed dispatch due to COVID 19 pandemic situation. He briefly discussed about the AICRIP trials and about the interdisciplinary trials combined with Entomology and Agronomy. PI requested the co-operators to give brief presentation on the trials taken up by the respective centre. During discussion, Dr. Mahendrakumar, PS and PI of AICRIP Agronomy trials from IIRR interacted with Plant Pathology co-operators and insisted the importance of collaborative trials and requested the co-operators to record the disease dynamics along with agronomists. Dr. CH. Padmavathi PS also interacted with co-operators and explained about the data recordings of special IPM trail for the effective conclusion. During discussion, almost all the Cooperators presented the status of the trials conducted and informed about the trials which were not taken up them due to delay in receipt of the seeds. Many co-operators expressed that difficulty in the conduct of Production orientation survey due to COVID 19 pandemic situation. Dr. G. S. Laha discussed about the POS survey and requested the co-operators to take care during the survey and if possible they can collect the information through phone also. During discussion Dr. Kiran Babu informed about the severe incidence of neck blast, false smut and grain discolouration in Telangana due to heavy rain. Almost all the cooperates participated the virtual monitoring program. The PI informed the group about the seed dispatched from NRRI (Upland ecosystem) and IARI (Basmati trials) and he informed the co-operators that the data to be sent to NRRI and IARI for report writing. Dr. L. V. Subba Rao PS and PI of AICRIP breeding trials also interacted and explained the delay in the seed dispatch. The meeting was ended with the vote of thanks by Dr. D. Krishnaveni.

**ABBREVIATIONS**

ABP	Ambikapur	JBP	Jabalpur	PDG	Phondaghat
ADT	Aduthurai	JDP	Jagadapur	PLG	Palghar
ALG	Aligarh	JGL	Jagtial	PLM	Palampur
ALH	Allahabad	JND	Jind	PNB	Pundibhari
ALM	Allmora-ICAR	JRP	Jharanapani	PNP	Ponnampet
AML	Annamalainagar	JYP	Jeypore	PNT	Pantnagar
AMS	Ambasamudram	KBP	Kurumbapet	PNV	Panvel
ARD	Arundhutinagar	KHD	Khudwani	POB	Port Blair
BBN	Bhubaneswar	KJT	Karjat	PPT	Panipat
BDP	Bandipore	KLP	Kalimpong	PRK	Paramakudi
BGL	Bengaluru	KLS	Kolasib	PSA	Pusa
BGS	Bageshwar	KMP	Kampasagar	PTB	Pattambi
BJR	Bajaura	KNM	Kunaram	PTN	Patna
BKG	Bikramganj (Patna)	KNP	Kanpur	PTN	Patna-ICAR
BLP	Bilaspur	KOL	Kolkata	RCI	Ranchi
BNK	Bankura	KPT	Kapurthala	RDN	Radhanagari
BNS	Banswara	KRK	Karaikal	RDR	Rudrur
BPT	Bapatla	KRL	Karnal(CSSRI)	REW	Rewa
BRD	Bardoli	KTA	Kota	RGL	Ragolu
BRM	Brahmavar	KTG	Kathalgere	RHK	Rohtak
CBT	Coimbatore	KTR	Katrain	RJR	Rajouri
CHN	Chinsurah	KUK	Kurukshetra	RNG	Ranichouri
CHP	Chiplima	KUL	Kaul	RNR	Rajendranagar
CHT	Chatha	LCK	Lucknow	RPR	Raipur
CKD	Chakdha (Mohanpur)	LDN	Ludhiana	RUN	Rauni
CNG	Canning-ICAR	LGL	Langol	SBR	Sabour
CTK	NRRI-Cuttak (ICAR)	LMB	Lembucherra	SHL	Shalimar
CTP	Chintapalli	LPP	Lamphalpat	SHR	Shirgaon
DBI	Dabhoi	MDG	Mudigere	SKL	Sakoli
DNT	Danti	MDP	Modipuram	SND	Sindewahi
DRL	Derol	MGD	Mugad	SRS	Sirsi
DUK	Dhaulakhan	MJH	Majhera	SUN	Sundernagar
GBN	Gautam Buddha Nagar	MLN	Malan	TLJ	Tuljapur
GDL	Gudalur	MNC	Moncompu	TRR	Tirur
GDP	Gurdaspur	MND	Mandya	TRY	Trichy
GER	Gerua-ICAR	MPM	Machilipatnam	TTB	Titabar
GGT	Ghaghraghat	MSD	Masodha	UMM	Barapani (Umiam)
GNV	Gangavati	MTO	Motto	USG	Upper Shillong
GOA	Goa	MTU	Maruteru	VDG	Vadagaon
GRK	CRD-Gorakhpur	NGN	Nagina	VRN	Varanasi
GSB	Gosaba	NLP	North Lakhimpur	VTL	Vytilla
GTK	Gangtok	NLR	Nellore	VYR	Vyara
HTW	Hathwara	NND	Nandyal	WBL	Wangbal
HZB	Hazaribagh	NVS	Navsari	WDR	Wadura
IAR	IARI-New Delhi	NWG	Nawagam	WGL	Warangal
IGP	Igatpuri	PBN	Parbhani	WRS	Waraseoni
IMP	Imphal (CAU)	PBY	Pombay		

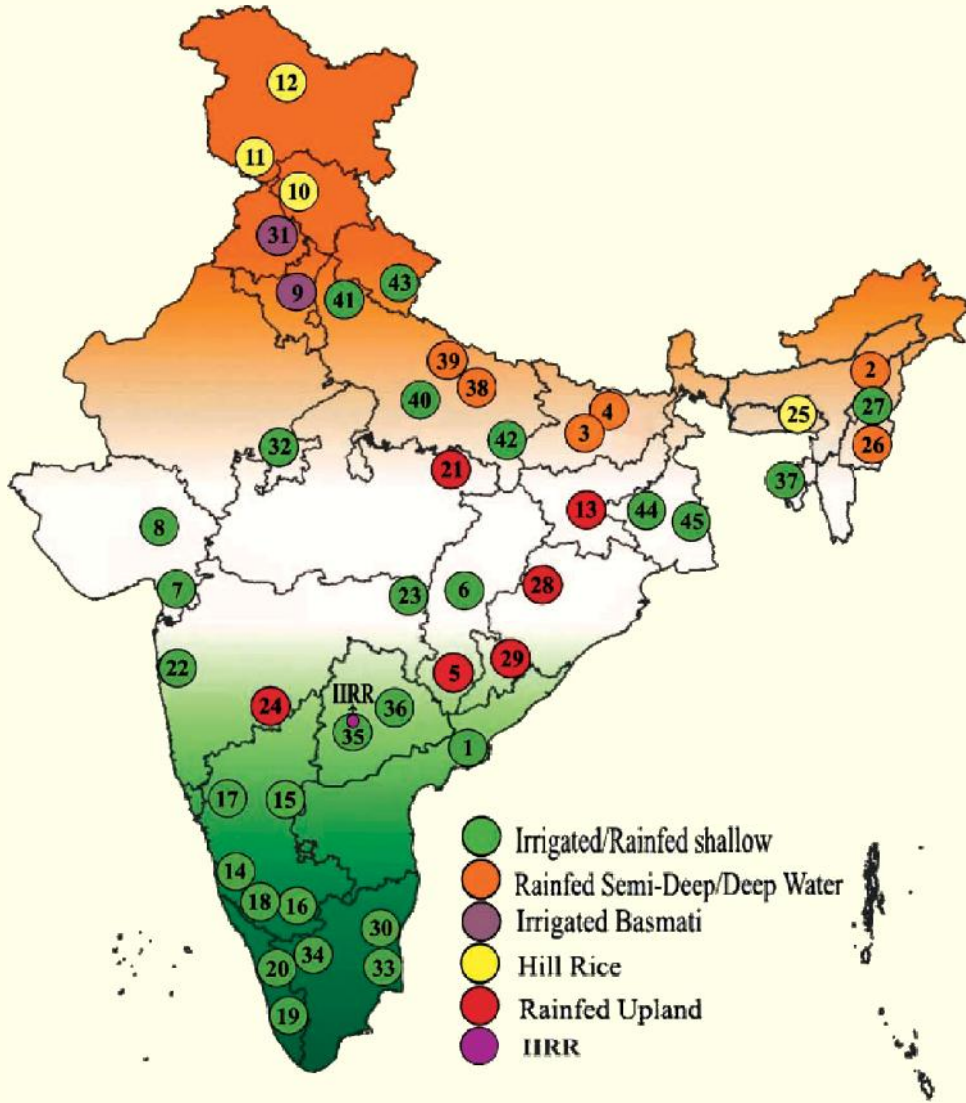
## Acknowledgements

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