AICRIP center at Varanasi was established as a sub center in 1976 at Institute of Agricultural Sciences, Department of Genetics & Plant Breeding, BHU with the objective of developing varieties suitable for rice-wheat cropping system keeping in view the constraints of high rainfall, poor drainage and poor soil fertility. Presently, emphasis is given to hybrid rice and boro rice.

**Major Contributions**

**Crop Improvement**

**Varieties Identified & Released**

**HUBR 2-1 (Malaviya Dhan-1)**  
SVRC release in 2005  
Parentage: HBR92/Pusa Basmati/Kasturi  
Duration: 130-135 days  
Grain yield: 45-50 q/ha  
Characters: medium duration, high yielding variety, having fine grain, and high aroma

**HUR-36 (Malviya Dhan 36)**  
SVRC release in 1997.  
Parentage: Mahsuri by mutation breeding  
Duration: 135-140 days  
Grain yield: 40-45 q/ha  
Characters: Semi tall, matures 10-15 days earlier to the parent

**HUR-3022 (Malaviya Dhan-2)**  
SVRC release in 2005  
Parentage: IR36/HR137  
Duration: 110-115 days  
Grain yield: 45-50 q/ha  
Characters: Early variety with fine grain quality

**HUR-105 (Malviya Sugandh-105)**  
CVRC release in 2009  
Parentage:  
Duration: 135-140 days  
Grain yield: 45-50 q/ha  
Characters: photo insensitive variety, high yielding variety, having long grain, and strong aroma
HUR-4-3 (Malviya Sugandh 4-3)  
CVRC release in 2009  
Parentage: Mutation breeding of Lanjhi, a tall aromatic land race  
Duration: 130-135 days  
Grain yield: 60-65 q/ha  
Characters: fine grain with mild aroma

HUBR 10-9 (Malviya Basmati Dhan 10-9)  
CVRC release in 2013  
Parentage: Taraori Basmati/Jaya  
Duration: 134-137 days  
Grain yield: 50-60 q/ha  
Characters: fine grain with moderate aroma for basmati areas, responsive to fertilizers. Suitable for rice-wheat cropping system.

HUR-917 (Malviya Sugandh Dhan-917)  
SVRC release in 2014  
Parentage: selection from Dehradoon Basmati  
Duration: 134-137 days  
Grain yield: 45-50 q/ha  
Characters: tall (110 cm) and does not lodge, high hulling and milling recovery, excellent cooking quality with good taste and mild aroma

Crop Production

Agronomy

- For double transplanting or locally known as “Sunda planting” of rice in flash flood areas, nursery period of seedling should not be extended beyond 7 weeks. It should be of 3 + 3 weeks or 3 + 4 weeks. All double transplanting (with tall Mahsuri variety) performed better as compared to single transplanting.
- Concerted efforts of AICRIP and State dept of agriculture resulted in increase in hybrid rice area.
- Rice seedling with 8-row drum seeder should be done 6 hours after puddling and should not be beyond 24 hours.
- Hybrids APHR-2, VRH-4, Pro Agro-6201, PHB-71, KRH-2 and Arize-6444 were found promising under agro climatic zones of Varanasi.
- Hybrid rice could be fertilized with 150 kg N, 20 kg Mg and 1.0 kg B along with basal application of 75 kg P2O5, 60kg K2O and 5.25 kg Zn per ha for increasing productivity as well as for improving quality.
- Among scented rice varieties, Haryana basmati, Pusa basmati-1 and GR-32 were found promising and yielded maximum at 60 kg N ha⁻¹.
- Application of Butachlor or Anilophos fb. 2, 4-D Na were found to be most effective in managing the weeds in direct sown rice.
- For managing weeds in transplanted rice, new herbicide molecules of Flucetosulfuron, Penoxulam + Cyhalofop- butyl, Bispyribac sodium as well as
sequential application of Flucetosulfuron followed by bispyribac sodium were found effective.

- Farmers were motivated to adopt SRI method of cultivation, especially with hybrid rice for increased productivity.

- Aerobic rice yield (Var. HUR-3022) increased significantly with increasing seed rate from 25 to 35 kg ha\(^{-1}\) whereas 20 cm row spacing recorded significantly higher yield as compared to wider row spacings (25 and 30 cm). Application of Pendimethalin + Bispyribac sodium for managing savior weed problem of weeds in aerobic rice proved as effective as need based hand weeding.

- Higher Zn and Fe content in aromatic rice grain (variety HUBR 2-1) can be achieved with the application of Zn EDTA @ 1 kg ha\(^{-1}\)through soil and Fe-EDTA @ 0.5 kg ha\(^{-1}\)through foliar spray separately.