TECHNOLOGIES DEVELOPED

Crop Protection

- Several new sources of resistance against major pests have been identified. These include Manoharsali, Ptb 33, ARC 6650 against BPH; Ptb 10, ARC 5984, Aganni against gall midge, MO1, Anaikomban against WBPH, ARC 11128, Ptb 12 against leaf folder.
- Utilizing some of the resistant donors, several disease resistant varieties have been developed. These include Swarnadhan, Rasi, Sasysreee, Kasturi for blast, Ajaya for bacterial blight, Vikramarya and Nidhi for rice tungro disease.
- Six distinct gall midge biotypes have been characterized and their distribution across the country has been mapped.
- Effective and eco-friendly insecticides for major pests and pest complexes have been identified. Seedling root dip treatment and nursery treatment methods were developed to enhance effectiveness of the chemical and cut down the cost.
- Environment friendly method to control yellow stem borer through use of sex pheromones has been developed and successfully demonstrated through frontline demonstrations.
- Effective fungicides for economic management of fungal disease have been identified. Seed treatment with tricyclazole against sheath blight and chlorothalonil against flase smut has been found to be most effective.
- Studies on population variability of blast and bacterial leaf blight (BLB) pathogens led to identification of three distinct races in blast (IC 17, IC 9 and ID1) and three pathotypes of BLB (Ia, Ib and II).

FLDs
Compact block frontline demonstrations were arranged on over 5,600 hectares in 16 States under both rainfed and irrigated ecologies. Elite cultivars suitable for these ecologies have been identified. An average yield advantage of 1 ton over the local popular traditional varieties has been demonstrated. Other production technologies like 8 row drum seeder and IPM package have also been demonstrated on the farmers fields.

Crop Production

- Developed agronomic packages for irrigated rice varieties including basmati rice and hybrids.
- Identified several modified N sources and innovative techniques for N management suitable for different ecosystems.
- Developed efficient integrated nutrient management strategies for irrigated rice.
- Ecosystem specific effective herbicides have been identified.
- An efficient 8 row drum seeder has been developed and demonstrated widely. Drum seeding not only saves labour costs by 35% but also enhanced grain yield and facilitated interculture operations.
- Pre-sowing hardening of rainfed upland rice genotypes was found to confer adequate tolerance to water stress during post flowering phase with 20-30% higher yields than control.
- Sri Suitability Model was developed and successfully evaluated for Nalgonda District Telangana

List of the Technologies Developed by the Institutes/NRCs/PDs which can be transferred to Private Section

S.No.

Name of Technology
<table>
<thead>
<tr>
<th>Year in which invention made or variety was developed</th>
<th>Name of the Industry in which demand exists/ may occur</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hybrid seed purity testing with molecular markers</td>
</tr>
<tr>
<td>2003</td>
<td>Hybrid seed production companies</td>
</tr>
<tr>
<td>2</td>
<td>Hybrid parental line purity testing using molecular markers</td>
</tr>
<tr>
<td>2004</td>
<td>Hybrid seed production companies</td>
</tr>
</tbody>
</table>
## Technologies Developed

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of Technology</th>
<th>Year in which invention made or variety was developed</th>
<th>Suitability to farmers group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rice hybrid-DDRH-2</td>
<td>2005</td>
<td>Haryana, Uttarakhand, West Bengal and Tamil Nadu Farmers</td>
</tr>
<tr>
<td>2</td>
<td>Naina (CSR 35)</td>
<td>2005</td>
<td></td>
</tr>
</tbody>
</table>
Technologies Developed

Saline areas of Haryana, Coastal salinity

3

Jarva

2005

Rainfed shallowlands

4

Sugandhmati

2004

Basmati belt of UP, Punjab, Haryana

5

CSR 23
2004

Saline areas of Haryana, Coastal salinity

6

Dhanrasi

2003

Rainfed shallowland

7

Sweta

2003

Kerala