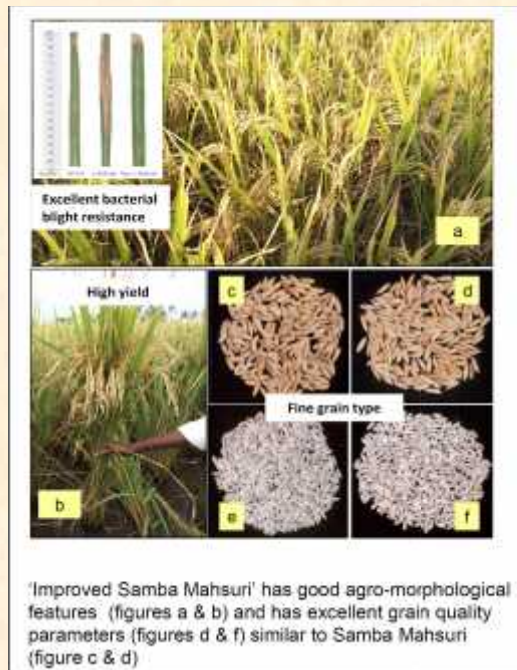


## Success Story 2: Improved Samba Mahsuri

Bacterial blight (BB) is a major disease of reducing rice yields significantly. Since chemical control of the disease is not possible, development and deployment of resistant varieties is the only economically feasible strategy available for managing the disease. Towards this objective a collaborative research team of scientists from DRR and CCMB have successfully introgressed three major BB resistance genes, *Xa21*, *xa13* and *xa5* into the genetic background of a very popular, high yielding, fine-grained but bacterial blight susceptible variety, Samba Mahsuri through marker-assisted backcross breeding. Through the research work, an improved version of Samba Mahsuri, aptly named **Improved Samba Mahsuri** was developed, notified and released for cultivation in the year 2008.

More than seven thousand farmers have enthusiastically taken up cultivation of Improved Samba Mahsuri and the variety has been cultivated to the extent of 60,000 ha in the in *Kharif* 2012 alone. The variety, due to its high yield along with excellent grain and cooking qualities is steadily replacing Samba Mahsuri not only in BB prone areas but also in other areas of the country. The variety has been registered and IPR enabled with the Protection of Plant varieties and Farmer's Rights Authority (PPVFRA) (Registration No.: REG/2009/240).

In addition, Improved Samba Mahsuri has been licensed to a Private Seed Company (M/s Sri Biotech, Hyderabad on non – exclusive basis) for a licensing fee of ` 6,00,000/-. Extensive cultivation of Improved Samba Mahsuri is limiting the losses caused by BB disease and is enhancing the rice production in the country.



# Press clippings on 'Improved Samba Mahsuri'

## Business Line

new hope for paddy farmers to fight leaf blight

V. Easwaram

Researchers of Rice Research introduce new Samba Mahsuri variety



Hyderabad, Dec. 31:

Two farmers - Mr Brahma Reddy of Veeramakalapati in Karapad district in Andhra Pradesh and Mr R. M. Dharmarajan of Ayilappeti near Tiruchchi in Tamil Nadu - have a common and powerful enemy: Bacterial leaf blight (BLB), the disease that reduces paddy yields by 30-70 per cent on prolonged rains and cloudy weather.

Millions of farmers like them in the country growing the most popular rice variety 'Samba Mahsuri' (or BPT 5204) virtually shiver on hearing the name of the disease. Till now, they did not have any cover to protect themselves from this virulent parasite. Losses due to BLB constitute 20 per cent of all losses caused by diseases in paddy. While other diseases such as locust and sheath blight cause bigger losses, BLB poses a tougher problem.

Now, there is hope on the horizon for them. Mr Brahma Reddy and Mr Dharmarajan are among a few hundreds of farmers in Andhra Pradesh, Tamil Nadu and Karnataka using an improved Samba Mahsuri variety that wards off the disease effectively.

### Gene implants

Scientists at the Directorate of Rice Research (DRR), an arm of the Indian Council of Agriculture Research (ICAR), in collaboration with Centre for Cellular and Molecular Biology (CCMB) have implanted three genes that give the plant resistance to BLB.

"After getting reports of losses farmers face, we started a research programme a few seasons ago in association with CCMB. We implanted three genes isolated from other varieties, using marker-assisted selection process. We gave this improved variety (RP Bio-226) to select farmers in Nandyal, Raider and Tiruchchi areas," Dr B C Viraktamath, Project Director of DRR, told Business Line.

### Each transfer pact

"We are getting enquiries for the seed. Since we do not do seed development on a large scale, we have tied up with 500 farmers for technology transfer," he said.

The new variety was put to test this year in Andhra Pradesh where three bouts of heavy downpours destroyed crops from the State. Mr Reddy said his crop could withstand the disease this season, while his peers in the area who sowed the traditional Samba Mahsuri suffered.

"I have just harvested 40 bags of paddy while the others ended up with 20 bags. They have approached me for the seed. I will spare some in the next season," he said.

Dr Dharmarajan, who grows paddy in 10 of his 25 acres, said acceptance by traders was good. "There is no change in the grain quality. Next year, I will give the seed to 7-8 friends in the village," he said.

Dr Meenakshi Sankaran and Dr Mohan Kumar, senior scientists at DRR, are sending teams in the areas that are doing to the new seed. They said about 600 farmers are using the seed in an extent of 30,000 hectares in the three States.

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