

# DRR Dhan 53 (IET 27294)

## A high-yielding, bacterial blight resistant, fine-grain type rice variety

**Introduction:** Bacterial blight (BB) of rice caused by *Xanthomonas oryzae* pv. *oryzae* is a major production constraint in irrigated and rainfed lowland ecosystem in India. It is primarily a disease of monsoon season of high yielding rice varieties grown under heavy nitrogen

fertilization resulting in yield loss up to 50%. **Indian Institute of Rice Research, Hyderabad** has released a high yielding fine-grain type rice variety named as **DRR Dhan 53 (IET 27294)** through marker assisted backcross breeding which is highly resistant to BB.



Severe BB infection at Khammam, Oct' 2021

### Characters and yield potential:

**Pedigree:** DRR Dhan 53 (Improved Samba Mahsuri\*3/PAU 3554) has inbuilt BB resistance with 4 major BB resistance genes, *Xa21+xa13+xa5+Xa38*

**Duration:** 130-135 days

**Average yield:** 5.50-6.0 t/ ha.

**Plant type:** Semi-dwarf and non-lodging, complete panicle exertion.

**Yield advantage:** Under conditions of BB incidence, the variety shows a significant yield advantage of 15-30% compared to bacterial blight susceptible variety like Samba Mahsuri.

**Grain and cooking quality:** DRR Dhan 53 possesses medium-slender grain type with very good HRR (78.7%), intermediate amylose content (22.2), optimum GC (22) and intermediate ASV (5.0) and is comparable to Samba Mahsuri in all the grain and cooking quality parameters.



DRR Dhan 53, a BB resistant rice variety



DRR Dhan 53 at maturity



Medium slender grains of DRR Dhan 53



DRR Dhan 53 in farmer's field at Nandyal, Nov'2021

**Package of Practices:** Similar to medium and late duration fine grain high yielding rice varieties which are cultivated in irrigated areas.

**The variety has been released for cultivation in irrigated and bacterial blight endemic areas of Andhra Pradesh, Telangana, Chhattisgarh, Karnataka, Tamil Nadu, Jharkhand, Odisha, Bihar, Gujarat and Maharashtra.**

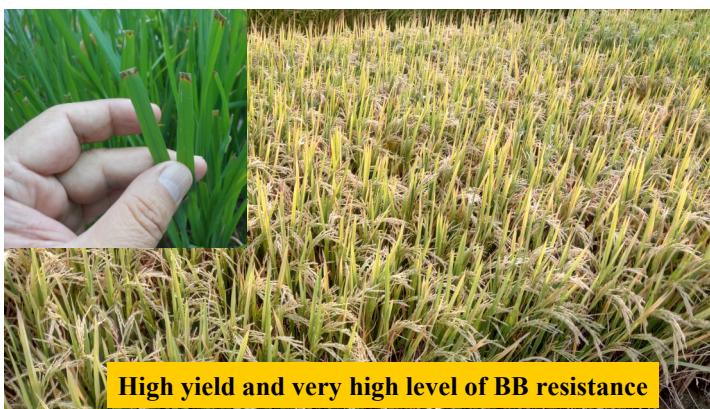
**DRR Dhan 53 (IET 27294)**

## A high-yielding, bacterial blight resistant, fine-grain type rice variety

Bacterial blight (BB) of rice caused by *Xanthomonas oryzae* pv. *oryzae* is one of the major production constraint especially in irrigated and rainfed lowland ecosystem in India. It is primarily a disease of monsoon season of high yielding rice varieties grown under heavy nitrogen fertilization resulting in yield loss up to 50%. Indian Institute of Rice Research, Hyderabad has released a high yielding fine-grain type rice variety named as DRR Dhan 53 (IET 27294) through marker assisted backcross breeding which is highly resistant to bacterial blight of rice.



**Characters and yield potential:** DRR Dhan 53 (Improved Samba Mahsuri\*3/PAU 3554) can be cultivated in areas with assured irrigation and has inbuilt bacterial blight resistance. It possesses the major bacterial blight resistance genes, *Xa21+xal3+xa5+Xa38* with seed to seed maturity of 130-135 days and average yield of 5.50-6.0 t/ha. The variety has semi-dwarf stature and non-lodging.



## High yield and very high level of BB resistance

habit, with long deflexed panicles which are completely exerted (100% exertion). The variety exhibited very high level of bacterial blight resistance and significantly increased yield (>7%) over the recurrent parent across different locations in All India Co-ordinated Rice Improvement Project (AICRIP). Under conditions of bacterial blight incidence, the variety shows a significant yield advantage of 15-30% compared to bacterial blight susceptible variety like Samba Mahsuri.

**Grain and cooking quality:** DRR Dhan 53 possesses medium-slender grain type with very good HRR (78.7%), intermediate amylose content (22.2), optimum GC (22) and intermediate ASV (5.0) and



is comparable to the recurrent parent, Improved Samba Mahsuri in all the grain and cooking quality parameters. On account of its grain quality, it gets premium price as Samba Mahsuri.

**Package of Practices:** Similar to medium and late duration fine grain high yielding rice varieties which are cultivated in irrigated areas. DRR Dhan 53 is highly suitable for bacterial blight endemic areas and can replace bacterial blight susceptible varieties like Samba Mahsuri, Sona Mahsuri, HMT Sona, PKV HMT and other bacterial blight susceptible fine grain rice varieties.

The variety has been released for cultivation in irrigated and bacterial blight endemic areas of Andhra Pradesh, Telangana, Chhattisgarh, Karnataka, Tamil Nadu, Jharkhand, Odisha, Bihar, Gujarat and Maharashtra.



**ICAR-Indian Institute of Rice Research  
Rajendranagar, Hyderabad-500 030, Telangana  
Email Id: director.iirr@icar.gov.in; Phone: +91-40-14591218**

