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# **Indian Institute of Rice Research**



# ABOUT

Indian Institute of <u>Rice Research</u> in Rajendranagar, Hyderabad, Telangana, India in year 1965 and All India Coordinate Rice Improvement Project journeys started in the year 1965, with its headquarters at Hyderabad. The pre AICRIP Indian Rice Research system was separated, in some research labs and universities. The main difference of idea regarding the trying of 1<sup>st</sup> <u>semi dwarf rice variety</u> TN (1), in every prime rice growing fields of India led to the formation of first nationally coordinated rice enhancement project with a fulltime coordinator. To initiate with, AICRIP work was executed at 22 network centers in 7 areas each under the responsibility of a Zonal coordinator. 12 regional stations are Palampur, Pantnagar, Kapurthala, Chinsurah, etc. were developed in the major rice growing states of the nation. IIPR assists as a centre for supervising and coordinating research on New Varieties and Hybrids released, Crop Improvement, Agronomy, Soil Science, Plant Physiology, Entomology, Plant Pathology, Transfer of Technology.

<b>Research Centre</b>	Indian Institute of Rice Research
Name	
Centre Type	Central
Governed By	Indian Council of Agricultural Research
Location	Rajendranagar, India
<b>Topic Cover</b>	New Varieties and Hybrids released, Crop Improvement, Agronomy, Soil Science,
	Plant Physiology, Entomology, Plant Pathology, Transfer of Technology
Application	Online & Offline
Mode	
Head	Dr. RM Sundaram
How to Reach	<u>Telangana, India</u>
Founded In	1965
Website Link	Click Here

# MISSION AND VISION

IIRR vision is welfare of the present and future generations of Indian <u>rice farmers</u> and customers by establishing food, nutritional and livelihood protection.

IIRR mission is to create technologies to increase rice productivity, reservoir and input utilize proficiency and profitability of <u>rice cultivation</u> without unfavourably affecting the surroundings.

# **DIFFERENT PUBLICATIONS FROM CENTRE**

Some of the funded research work of centre. Some of the titles are listed in below table.

#### 1) Institute Projects

1	Genetic Enhancement of Yield and Stress Tolerance.
2	Genetic enhancement of grain and nutritional quality for domestic and export purposes.
3	Application of biotechnology tools for rice improvement.
4	Host-plant resistance against insect pests and its management.

#### 2) International Publications

1	Swarna × Oryza nivara introgression lines: a resource for seedling vigour traits in rice.
2	Breeding lines of the Indian mega-rice variety, MTU 1010 possessing protein kinase OsPSTOL (Pup1),
	show better root system architecture and higher yield in soils with low phosphorus.
3	Marker-assisted pyramiding of two major, broad-spectrum bacterial blight resistance genes, Xa21 and
	Xa33 into an elite maintainer line of rice, DRR17B.
4	A Strain of an Emerging Indian Xanthomonas oryzae pv. oryzae Pathotype Defeats the Rice Bacterial
	Blight Resistance Gene xa13 Without inducing a Clade III SWEET Gene and Is Nearly Identical to a
	Recent Thai Isolate.
5	Molecular cross talk between key genes associated with defense against bacterial blight, blast and gall
	midge in rice.
6	Phenotypic and molecular characterization of rice germplasm lines and identification of novel source for
	low soil phosphorus tolerance in rice.
7	Allele specific analysis of single parent backcross population identifies HOX10 transcription factor as a
	candidate gene regulating rice root growth.

#### 3) National Publications

1	Genomics-assisted backcross breeding for infusing climate resilience in high-yielding green revolution
	varieties of rice.
2	Characterization of osmotolerant rhizobacteria for plant growth promoting activities in vitro and during
	plant-microbe association under osmotic stress.
3	Evaluation of culture media, light regimes and natural host segments on growth and sporulation of
	pyricularia oryzae cavara causing blast disease in rice
4	Intellectual Property Rights Protection for rice varieties-Status-emerging issues and challenges-new
	initiatives.
5	Insecticide resistance in rice brown planthopper Nilaparvata lugens Stal in Nalgonda District of
	Telangana State, India to different groups of insecticides.
6	Proteomic and transcriptomic approaches to identify resistance and susceptibility related proteins in
	contrasting rice genotypes infected with fungal pathogen Rhizoctonia solani.
7	Development of Activation-Tagged Mutants in Rice Cv BPT 5204 and Identification of the SUMO
	Protease Gene Associated with Early Flowering.

# 1) Rice Scenario

<u>Rice</u> is globally planted to about 160 million hactre and 685 million tonnes of originated harvested annually. From this, 90% of the production and consumption of rice is from Asian countries. Only about 35 million tonnes of rice are exchanged through International trade. Thailand, Vietnam, USA, India and Pakistan are the leading rice exporter in world. Thus, it is necessary that <u>rice production</u> and supply for domestic utilization is an entirely the national responsibility. In recent, past ban imposed on transport by some of the above countries led to food riots in importing countries like Haiti and Egypt.

#### 2) National Rice Research System

Rice research in the nation is being carried out by different organizations, labs and Institutes under the guidance of Indian Council of <u>Agricultural Research</u>, State Agricultural Universities, etc. Directorate of Rice Research (DRR), Hyderabad and Central Rice Research Institute (CRRI), Cuttack are the two different ICAR institutes

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completely involved in rice research for irrigated and <u>rainfed environments</u>. DRR also corelates rice research across the nation under All India Coordinated Research Project on Rice. This is the largest network in the world, has 47 particularly funded research stations integrated to state Agricultural Universities and Departments of Agriculture with over 350 scientific workforce.

# 3) Harnessing Science

Directorate of Research focuses to enhance the productivity of rice, increase potential yield, input use proficiency, decrease cost of cultivation and loss of yield, to minimize risks and upgrading quality through utilising the power of <u>science and knowledge</u>. In the present scenario, technological options with new tools and techniques, methods, and advancements which are available to meet the difficult challenges of enhancing demand for food under <u>dwindling measures</u>.

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