



**International Symposium**



**on**

**Management of Rice based agricultural system under stress prone environment**

**at**

**Rajendra Agricultural University, Pusa, Samastipur, Bihar (INDIA)**

**(17 to 19 March, 2016)**

### **Prologue**

Rice can be grown under diverse irrigated (lowland) or rainfed (upland or lowland) conditions. Globally, rainfed rice occupies about 45% of the total rice area and accounts for about 25% of the rice production. Above 75% of rice supply comes from 79 million ha of irrigated lowlands. Drought has been identified as one of the main constraints to improving yield, which presently averages 2.3 t ha<sup>-1</sup>. 50% of rainfed lowland and all rainfed uplands are drought prone. Severe and mild droughts often occur in predominantly rainfed rice areas such as Northeast Thailand, Laos, Central Myanmar, East and Northeast India. An estimated 450 million people depend on rainfed rice as their major sources of livelihood and 300 million farming households practicing rice based cropping systems are under poverty. Productive capacity of existing rice production systems is reasonably low and very vulnerable due to delayed monsoon and erratic rainfall. Farmers facing consequences of climate change have little choices of modern technologies. Resilience of farming as well as livelihood systems still draws its strength from indigenous knowledge and home grown technologies

In India, rice area stretches from 79<sup>0</sup> to 90<sup>0</sup> E longitude and 16<sup>0</sup> to 28<sup>0</sup> N latitude. It is cultivated as a purely rainfed upland crop in West Bengal, Bihar, Uttar Pradesh, etc., where the monsoon is precarious and its distribution is often erratic. Rainfed rice in India constitutes about 55% of the total rice area. Of this, 15% area is upland and 33% low land. The remaining 7% is flood prone. The upland, lowland, flood prone and irrigated areas contribute 5, 30, 4 and 61% to the total rice production. Thus low lands become the most important rainfed rice ecosystem in the productivity context. Flood prone areas are often characterized by different floods patterns – ranging from monthly flash floods each staying for a few hours duration to water submergence above crop height for more than fifteen days. There is a great challenge to increase rice production in such conditions. Now a days, micro and secondary

nutrient deficiencies are also big constraints in achieving higher crop yield. At many places multiple nutrient deficiencies - particularly of Zn, S, Fe and B are also observed.

It is essential to increase rice production in such environment through various means in order to feed a growing population. Integrated approach using genetics, breeding, and integrated resource management to increase rice yield under such environments can be vital tools to improve productivity. New approaches are being explored to increase water productivity without sacrificing yield. These include the incorporation of the C<sub>4</sub> photosynthetic pathway into rice to increase rice yield per unit water transpired; the use of molecular biotechnology to enhance drought or flood stress tolerance, and the development of aerobic rice, to achieve high and sustainable yields in non-flooded soil. These conditions have profound effect on water management, soil organic matter turnover, nutrient dynamics, carbon sequestration, soil productivity, weed ecology, disease and pest infestations and greenhouse gases emissions.

<b>Sub- Themes</b>	<b>Thematic Areas</b>
1. Genetic Intervention	Advances in conventional rice breeding
	Molecular and biotechnological approaches
2. Natural Resource Management	Soil Health
	Conservation Agriculture
	Nutrient Management
	Carbon Sequestration
	Problem Soil
	Water management
	Agroforestry
3. Abiotic and Biotic Stress	Integrated Pest Management
	Climate Resilience
	Weed Control
	Crop physiology

## Genesis



The foundation stone of the Agricultural Research Institute and college at Pusa was laid by Lord Curzon on the 1st of April, 1905 from the donation amount of \$30,000 by an American, Mr. Henry Phipps of Chicago. In his speech, the viceroy had expressed his vision that the seed he was planting would soon blossom out, making Pusa the nucleus of agricultural activities, research and education which would not only benefit Bihar and Bengal but the whole of the country and would attract the best of talents from India and abroad. At the site of present sugarcane research institute at Pusa, once stood a magnificent two-storeyed gigantic structure in ornate range with flat roof surmounted by a massive dome known as Phipps laboratory. This grained edifice called Phipps laboratory came up by 1907-08, housing the sections of botany, chemistry, mycology, entomology and one library. Rightfully, Pusa received an imperial status in 1918, being renamed as the Imperial Agricultural Research Institute (IARI). Devastation came with the great Bihar Earthquake in January, 1934. The ravages of destruction were badly felt at Pusa as well and the worst victim was the massive Phipp's laboratory. Bihar received a shock, when in the year 1935, the imperial Agricultural Research Institute was shifted to New Delhi.

## **Organizing Committee**

**Chief Patron:** Dr. R.C. Srivastava, Vice-Chancellor, RAU, Pusa

**Patron:** Dr. J.P. Upadhyay, Director Research, RAU, Pusa

**Convener:** Dr. S.K. Varshney, Dean, Faculty of Agriculture, RAU, Pusa

**Co-Convener:** Dr. R.C. Yadav, Chairman, Soil Science

**Organizing Secretary:** Dr. Ranjan Laik, Senior Scientist, Soil Science

## **Members**

1. Dr. A.K.P. Singh, Dean, College of Agricultural Engineering, RAU, Pusa
2. Dr. Madan Singh, Dean, Post Graduate Studies, RAU, Pusa
3. Dr. S.P. Singh, Dean, Faculty of Basic Sciences and Humanities, RAU, Pusa
4. Dr. S.R. Singh, Dean, Veterinary and Animal Science, RAU, Pusa
5. Dr. R.C. Yadav, Director Planning, RAU, Pusa
6. Dr. K.M. Singh, Director Extension Education, RAU, Pusa
7. Dr. A.K. Mishra, Director Student Welfare, RAU, Pusa
8. Dr. K.N. Pathak, Associate Dean –cum- Principal, TCA, Dholi
9. Dr. S.C. Rai, Associate Dean- cum Principal, COF, Dholi
10. Dr. Ravi Nandan, Registrar, RAU, Pusa
11. Dr. (Mrs.) Meera Singh, Dean Home Science, RAU, Pusa
12. Director, Administration, RAU, Pusa
13. Comptroller, RAU, Pusa

## **Scientific Advisory Committee**

1. Roland J. Buresh, IRRI, Philippines
2. Dr. U.S. Singh, IRRI, New Delhi
3. Dr. Raj K Gupta, CIMMYT, New Delhi
4. Dr. M.L. Jat, CIMMYT, New Delhi
5. Dr. Sudhanshu Singh, IRRI, New Delhi
6. Dr. Sheetal Sharma, IRRI, New Delhi
7. Dr. R.K. Malik, CIMMYT, New Delhi
8. Dr. Ravi Gopal, CIMMYT, Mexico
9. Dr. Mahesh Gathala, IRRI, Bangladesh
10. Dr. Virender Kumar, IRRI, Philippines
11. Dr. A.K. Sarkar, Former Director Research, BAU, Kanke, Ranchi
12. Dr. R.B. Sharma, Former Director Extension Education, IGKV, Raipur
13. Dr. S.S. Singh, Head, Crop Science, IIPR, Kanpur
14. Dr. Arvind Shukla, Project Coordinator, AICRP on Micronutrient, IISS, Bhopal
15. Dr. V.P. Singh, Former Vice Chancellor, RAU, Pusa
16. Dr. S. K. Chandra, Former Dean, Faculty of Agriculture, RAU, Pusa

## **Accommodation**

Participant will be housed in Guest Houses of RAU, Pusa and Hotels at Samastipur if needed on first come first serve basis. Those who are interested to stay in Hotels will have intimate

early. Please indicate in the registration form, your choice of stay, so that the necessary arrangements may be made and intimated to the concerned delegates.

### Official Language

The official language of the symposium will be English.

**Venue:** Symposium will be held in Rajendra Agricultural University, Pusa which is well connected by road with Patna (100 km), Muzaffarpur (45 km) and Samastipur (20 km). Nearest Airport is Patna.

**Climate:** The climate of Pusa during March is pleasant and is called spring season. The mean maximum and minimum temperature is 30°C and 18°C respectively.

### Call for Papers: Submission of Papers and Abstracts

Abstract are invited on any of the above theme areas. The abstracts should not exceed 500 words, should be typed in double space leaving 2.5 cm margin on all sides on A-4 paper. Three to five keywords should be given below the abstract in italics. The font should be times New Roman in 12 pt. size. The abstract should be sent through email ([rlaik2002@yahoo.co.in](mailto:rlaik2002@yahoo.co.in)/[mnsraupusa@gmail.com](mailto:mnsraupusa@gmail.com)) in MS word format. [A committee will review the abstracts and decide about the nature of presentation (oral/Poster). Author(s) will be intimated regarding the acceptance of papers].

**Poster Presentation:** Each author will be provided with space of 1.0 m x 1.0 m to display the posters. Font size should be such that it can be conveniently read from a distance of 2 m.

Awards will be given for the best poster presentation.

### Important Date

Last date of Abstract submission	28 <sup>th</sup> February, 2016
Intimation of acceptance of abstracts	2 <sup>nd</sup> March, 2016
Last date of Registration without late fee	10 <sup>th</sup> March, 2016

### Registration Fees

International Delegates	USD 100
National Delegates	
Scientists / Teachers / Entrepreneurs	Rs. 3000
Students	Rs. 1000

### On spot registration Fee

International Delegates	USD150
National Delegates	
Scientists / Teachers / Entrepreneurs	Rs. 3500
Students	Rs. 1500

Mode of payment – Bank draft in favour of ‘Director Research, RAU, Pusa’ payable at ‘Samastipur’.

Registration fees include the conference kit, access to conference session, daily conference lunches and specified dinner. The students are required to produce a valid card/certificate for availing the student discount.

### Registration Form

Name : .....

Designation .....

Affiliation/ Institute:.....

Mailing Address:.....

Tel. Official ..... Mobile... .....Fax.....

E-Mail:.....

Type of Registration: Delegate Registration / Participation Registration / Exhibitor/ Other

Title of the Abstract /Paper(s) .....

.....

Authors:

Sub-Theme .....

Presentation (Oral/Poster) .....

Choice of Accommodation .....

Do you require an invitation letter: Yes/ No?

Abstract submitted: Yes /No

Registration Type: Online / Email / on the spot

Mode of payment: Bank Draft

Place .....

Date .....

Signature

Symposium Conveners