## **About the Summer School**

Continuous use of chemical fertilizers (largely N. P and K alone or in combination) has resulted in decreased response in many farming situations and multi-nutrient deficiency jeopardizing crop and factor productivity. Thus, serious efforts are required to achieve higher nutrient use efficiencies through (i) development of low-cost indigenous nitrification inhibitors and coating materials; (ii) devising agroecosystems based plant and micro-organisms mediated nutrient management strategies; (iii) SSNM encouraging the development and promotion of secondary and micronutrient fortified customized fertilizers; (iv) use of water-soluble nutrients to increase the nutrient and water productivity under different agro-ecosystems; (v) promotion of organic manures (including bio-fertilizers, farmyard manure, compost/vermi-compost, green manure, and mechanized composting) and recovery of nutrients from urban refuse and market-yard refuse and (vi) exploring alternative sources of nutrients viz. rocks and minerals.

The basic objective of the course is to make acquaint the participants with the latest issues and advances on recent innovations for improving nutrient use efficiency through integrated nutrient management in major field crops and offer a balanced theory and practical oriented understanding of the technologies for improving nutrient useefficiencies. This will help the participants to understand better management strategies for their future planning of research, teaching and extension to improve nutrient use efficiency, crop productivity, environmental safety and social acceptability.

#### **Location and Climate**

Indian Agricultural Research Institute, popularly known as 'Pusa Institute', is the country's premier institution for research and higher education in the field of agricultural sciences. The primary mission of the Institute is to explore new frontiers of science and knowledge and develop human resources to provide leadership to the country in technology development and policy guidance. The Institute conducts basic and strategic research, serves as a centre for academic excellence, and provides national leadership in agricultural research, education and extension through development of new concepts, hypotheses and technologies.

The Division of Agronomy is one of the oldest Divisions of the IARI, and is engaged in teaching, research, extension and training activities since pre-independence times. It has contributed significantly in developing improved production technologies, which ushered green revolution in Indian agriculture. The Division is adequately equipped with modern infrastructure for carrying out high quality teaching and research leading to development of environmentally-sound and economically-viable agronomic technologies for sustainable productivity of cropping systems involving cereals, pulses, oilseeds and vegetables.

The IARI is located about 8 km west of New Delhi railway station and 10 km from the Inter-State Bus Terminal. The weather during proposed Summer School training duration is expected to be pleasant and comfortable with temperatures between  $24^{\circ}$ C and  $35^{\circ}$ C in Delhi.

#### **Course Contents**

The core topics of the training programme are:

- Nutrient use efficiency: An overview
- Integrated nutrient management: objectives, principles and practices for sustainable crop production
- Agronomic bio-fortification of zinc and iron in major crops
- Integrated nutrient management in cereal-based cropping systems
- Soil health/quality and its management
- Estimation of nutrient use-efficiencies viz. Partial factor productivity, agronomic useefficiency, recovery efficiency, physiological use efficiency, nutrient harvest index, nutrient mobilization index etc.
- Recent strategies for integrated nutrient management in rainfed crops
- INM and nutritional quality of farm produce

- Improving nutrient-use efficiency through sitespecific nutrient management (SSNM)
- INM in pulses for improved food and nutritional security
- INM in oilseed crops for enhanced soil health and productivity
- Recent approaches of INM in conservation agriculture
- New phosphatic fertilizer products for increased efficiency and higher productivity
- Lessons learnt and technologies generated from long term fertilizers experiments
- Recent practices of INM in commercial crops for enhanced profits and sustainability

#### Eligibility

This Summer School is meant for active researchers / teachers/ scientists in ICAR Institutes/ SAUs / Agricultural colleges in the rank of Scientists/ Asst. Prof. or above in the field of Agronomy/Soil Science/Agricultural Physics /Plant Physiology/ or any other related disciplines like Agroforestry. A maximum of 25 participants will be selected for the course by a screening committee as per ICAR guidelines. The decision of the selection committee will be final and no correspondence in this regard will be entertained for non-selected candidates.

#### **Travel, Boarding and Lodging**

Participants will be paid travel (to and fro) fare by rail (Restricted to AC-III tier) or by bus as per their entitlement. Actual TA for the shortest route will be paid on production of the tickets. Participants are requested not to bring their spouse or any family members as there is no scope for their accommodation. Participants are requested to make his/her own arrangement of transport to reach at IARI. Free shared accommodation in the Kaveri Trainees Hostel of the Institute and lodging will be provided to the selected candidates during the training programme. The local candidates are not eligible for boarding and lodging, however, they will be provided hospitality (lunch, tea, snacks etc.).

### Application form for Participation in Summer School

(To be sent to the Course Director/Coordinator of Summer School concerned and not to the Indian Council of Agricultural Research)

Institute \_\_\_\_\_

#### 1. Full name (in block letters):

- 2. Designation:
- 3. Present employer and address:
- 4. Address for correspondence (Give E-mail, Tel. / Mobile No.):

at

- 5. Permanent address:
- 6. Date of birth:
- 7. Sex: Male/Female
- 8. Marital status: Married/unmarried
- 9. (a) Teaching/research/professional experience (Mention posts held in last 5 years):

(b) Present area of research and no. of publications:

- 10. Mention if you have participated in any Summer/ Winter School/Short Course etc. during previous years under ICAR / any other organization (Give details of course, organizers, duration/dates/year etc.):
- 11. Registration fee of Rs. 50/- (DD/Postal Order No..... dated..... (in favour of Course Director, IARI, New Delhi) (Nonrefundable)
- 12. Academic record (Indicate in tabular form examinations passed from B.Sc. degree onwards, Main subjects, Year of passing, Class / rank / distinction, University / Institution, Other information):
- 13. Relevance of training to applicant's present academic and research activities:
- 14. Signature of applicant (indicate name of place and date):
- 15. Recommendation of the forwarding Institute (Signature with date, designation / address):

### CERTIFICATE

It is certified that the above information was furnished as per the office record and was found correct.

(Signature and Designation of the sponsoring authority)

### How to apply?

Application for participation in the Summer School may be made in the prescribed format as given herewith and forwarded by the competent authority of the SAU/ICAR Institute where the candidate is employed. Applicants may send an advance copy if they anticipate delay in forwarding through proper channel. However, the final selection will be made only if the application duly recommended by the competent authority is received, which must not be later than one week after the closing date. The closing date for receipt of applications is **10.07.2014.** The selected candidates will be intimated by **15.07.2014.** 

After the candidates are intimated of their selection, they should immediately reply with firm acceptance. Cancellation at the last moment for casual reasons after acceptance will be regarded as a serious breach of ethical conduct since it may deprive other eager candidates who could have availed of the opportunity.

#### For more information Contact

Dr. Dinesh Kumar	Dr. Y.S. Shivay	Dr. S.L. Meena
Course Coordinator	Course Director	Course
		Coordinator
dineshctt@yahoo.c	ysshivay@hotm	dr_slmeena@yaho
om	ail.com	o.co.in

#### Applications may be sent to:

Dr. Y.S. Shivay Course Director Division of Agronomy Indian Agricultural Research Institute New Delhi 110 012 Telephone No.: 011-25841488(O) Fax: 011-25482283 Mobile: 09868337578 ysshivay@hotmail.com

Detailed information is also available at: http://www.iari.org



# **ICAR Sponsored Summer School**

On

# Recent Innovations for Improving Nutrient Use Efficiency through Integrated Nutrient Management in Major Field Crops

(06-26 August, 2014)

# Organized by

Division of Agronomy Indian Agricultural Research Institute New Delhi 110 012

# Sponsored by

Education Division Indian Council of Agricultural Research KAB-II, New Delhi 110 012