

About the Winter School

There has been a remarkable adoption of conservation tillage practices (reduction in tillage intensity with an aim to conserve the soil, water and energy) in India, especially in the rice-wheat rotation in the Indo-Gangetic Plains with >2 Mha area under zero/reduced tillage. In this rotation, rice is generally sown in puddle soil, while succeeding wheat is sown without tillage. Conservation agriculture has been proved to be beneficial for soil in improving soil carbon and aggregation and possibly the infiltration rate, indicating an altogether modified soil hydro-physical regime. The basic objective of the course is to expose the participants to the issues and advances on tillage and residue management associated with conservation tillage practices and offer a balanced theory and practical based understanding of the processes in soil-plant-atmosphere continuum, which is yet to be understood properly. This will help in better management of soil for ensuring optimum soil physical environment for root growth and water-nutrient availability leading to sustainable agricultural production in conservation tillage practices.

Location and Climate

The Indian Agricultural Research Institute, the sheet of green revolution, is country's premier institute for research and higher education in agricultural sciences. The Division of Agricultural Physics, a constituent of School of Natural Resource Management of IARI conducts basic and strategic research on physical processes and properties affecting plant growth, serves as a centre for academic excellence, and provides national leadership through human resource development. The Division has four sub-disciplines: Soil Physics, Plant-Biophysics, Agricultural Meteorology and Remote Sensing-GIS, which form the major pillars of the edifice of Agricultural Physics as a Discipline.

The climate during November is moderately cold. It is warm (27 °C) and comfortable during day. The night will be cold and a light warm cloth may be required. The sky will be mostly clear and there is less chance of rains.

Course Content

The following topics are intended to be covered:

- Conservation tillage practice: Common standard and available equipments
- Plant available water: New concepts and measurement methods
- Soil compaction under zero tillage
- Preferential flow under no/reduced tillage: Role of macropores
- Residue as mulch: Modification of soil water and thermal regime
- Field and profile water balance under conservation agricultural practices
- Nutrient management under no tillage condition
- Modeling soil hydraulic properties and nutrient dynamics: Field scale simulation and distributed modeling with GIS
- Soil aggregation and organic C under conservation tillage and residue retention
- Modeling tillage effects on crop water use and yield
- Framework for evaluating physical quality of tropical and sub-tropical soils
- Optical, near-infrared and thermal remote sensing applications for crop growth monitoring

Approach and Methodology

The program will include lectures from specialists, field and laboratory oriented problem-solving sessions and case studies. Balanced emphasis will be given on the theory and hands on practical sessions. The participants are encouraged to bring information on NRM technologies developed by their institute for discussion.

Period

The period of the course is **21 days (November 5-25, 2014)**.

Eligibility

The Winter School is open for participants working at the rank of Asstt. Professor/Scientist or above in the National Agricultural Research System (NARS), with minimum qualification of M.Sc./M.Tech. degree from any recognized university in the field of Agricultural Physics/ Soil Physics/ Agronomy/ Soil Science & Agricultural Chemistry/ Soil and Water Conservation Engineering/ Environmental Sciences or other relevant subject. 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.

Boarding and Lodging

The participants will be provided free boarding and lodging in the Institute Trainees Hostel. The local candidates are not eligible for boarding and lodging, however, they will be provided hospitality (lunch, tea, snacks).

Travel

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. No DA will be provided by the organizers. Participants are requested not to bring their spouse or any family members as there is no scope for their accommodation at IARI. Participants are requested to make his/her own arrangement of transport to reach the **Kaveri Trainees Hostel** at IARI.

How to Apply

Application for participation in the Winter School may be sent in the following performa (through proper channel). The participants should submit their application online using CBP portal <http://iasri.res.in/cbp/> or under the link Capacity Building Program at <http://icar.org.in> After filling the online application, take a printout of application form, get it approved by your competent authority, and upload the approved form (scanned copy) on this portal.

The application in the given format should be duly forwarded by the competent authority and submitted to the Head or the Course Director at the address given below along with a sum of Rs. 50/- as registration fee (non-refundable) in the form of postal order drawn in favour of Course Director payable at IARI, Post office, New Delhi-110012. An advance copy may be sent to winterschool.ap.2014@gmail.com with copy to rsingh.iari@gmail.com/debashisiari@hotmail.com. However, the candidature for final selection will be considered only after receipt of the original copy. **(Last date for receipt of application is 31.07.2014).**

Maximum 25 participants will be selected for this program based on the availability of rooms in the Trainees Hostel and the laboratory space for conducting practicals. For speedy disbursement of selection letters, participants are requested to provide Email & Fax No. positively.

Important Dates

Last date for receipt of application: **31-07-2014**

Notification of selection: **01-09-2014**

Commencement of the course: **05-11-2014**

All correspondence may be addressed to:

Dr. Ravender Singh

Head

or

Dr. Debashis Chakraborty

Course Director

Division of Agricultural Physics

Indian Agricultural Research Institute

New Delhi-110 012

Phone no: 91-11-25841178

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Detailed information is also available at:

<http://www.iari.org>

Application form for participation in Winter School on Soil-Plant-Water Relations under Conservation Tillage Practices for Sustainable Agriculture (Typed forms may be used)

1. Full name (in block letters):
2. Designation:
3. Present employer and address:
4. Pay scale and basic pay:
5. Address for communication:
Telephone (O)(R)(Mobile)
Email Fax:
6. Permanent address:
7. Date of birth (DD/MM/YY):
8. Sex (Male/Female):
9. Academic record:

Examination passed	Subjects	Year	Class	Univ./ Institution

10. Teaching/research/professional experience (mention post held during last 5 years):

Sl. No.	Post held	Period with dates

11. Give details, if worked in remote areas/regional station:
12. Whether participated in any seminar/summer/winter school/short course etc. during last 3 years under ICAR/other organization:
13. Postal Order No. _____ Dated ____ of Rs. 50/- (non-refundable) for registration of application (in favour of Course Director, IARI, New Delhi).

Date:

Place:

(Signature of Applicant)

14. Recommendation of forwarding Institute:

(Signature, Designation and Address)

It is certified that information has been verified from the office records and is found correct.

(Signature of Sponsoring Authority)



Announcement



ICAR Sponsored Winter School

on

**Soil-Plant-Water Relations
under Conservation Tillage
Practices for Sustainable
Agriculture**

November 5-25, 2014

Organized by:

**Division of Agricultural Physics
Indian Agricultural Research Institute
New Delhi - 110 012**

Sponsored by:

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