There has been substantial increase in food demand as a result of population increase. In addition, increasing competition in demand for water for agriculture against those for industry and household sectors, ever diminishing agricultural land due to rapid urbanization and non-agricultural use, and mounting energy demand for maintaining a stable yet sustainable agricultural growth are more likely to be intensified further in near future. This would cause impediments to the overall favourable agrarian growth and Indian economy as a whole. In this context, our renewed emphasis is on selective yet sustainable intensification of viable and remunerative cropping/farming systems and development of matching and efficient technologies.

Water–a critical input for sustained crop production – is becoming limiting depending on its availability, competing factors, allocation to priority crop(s) and season of the year. It warrants all of us to use water more judiciously, sensibly and need-based in agriculture through modern technology, especially in presence of diverse constraints. Various need based and efficient approaches for effective on-farm management of allocated precious water include both water conservation and its judicious allocation/ utilization at the time of need. This calls for use of water that could sustain productive potential of crop through alleviation of moisture stress, in synergy with conservation agriculture (CA). Few efficient technological innovations could reinforce this through providing a sound backup for better water delivery and its usage. This includes precision land leveling, no-till systems, furrow-irrigated raised bed (FIRB) planting systems, crop diversification and its residue management which have shown incredible potential for lowering water use and/or increased water productivity and water-use efficiency.

In the era of deficit rainfall/dry or dryland farming amalgamated further with rapid and visible climate change (many a time accompanied with extreme climatic events), there is a greater need to apply the most critical input –water- at the point of interception (through microirrigation) to improve resource-use efficiency (RUE) along with higher productivity of crop(s).Hence, precision in tactical water management could play the significant role in sustainable intensification of now-a-days constrained food-production systems (upland systems) in India.

It is in this context, the summer school entitled "**Scaling Water Productivity and Resource Conservation in Upland Field Crops ensuring More Crop per Drop**" will offer a suitable platform for interaction/discussion among the scientists and researchers working on scaling WUE and WP through different agro-innovations. The deliberations by experts on the field will add to better understanding of efficient water use and its research in solving the emerging issues of global water deficit.

Objectives

- To sensitize and orient the participants in understanding the issues related to Water Productivity and Resource Conservation
- To enable the participants to acquire the knowledge on the latest techniques/strategies in upland field crops ensuring more crop per drop.

Course Content

- Approaches, limitations and challenges in water conservation and its utilization
- Factors associated with water availability and its allocation in upland crops
- Scaling water productivity and resource conservation in upland crops constrained with water stress
- Ensuring more crop per drop through strategic innovations under diverse agro-ecologies.
- Multidisciplinary strategies for judicious water use including improved agronomy
- Case studies for efficient water use

Eligibility

The candidates must possess at least Master's Degree in related branch of Agriculture & allied sciences. Participant should be working in a position not below the rank of Scientist/ Assistant Professor or equivalent and above from ICAR institutes/ State Agricultural University/CAU/Agricultural faculty of other universities recognized by ICAR.

Duration of course:

21 days: **06-26 September, 2017**

Venue

ICAR-Indian Institute of Pulses Research, Kanpur, Uttar Pradesh, INDIA-208 024

Number of participants: 25

Important dates

Last date for nomination : **02 July, 2017**
Information on selection : **05 July, 2017**

Travel

Participants will be paid for the journey, to and fro, restricted to the maximum of AC II- tier train fare or bus or any other means of transport in vogue, as the case may be, as per the norms & guidelines of Education Division, ICAR, New Delhi.

Boarding and lodging

Participants will be provided free boarding and lodging by IIPR, Kanpur in the Guest House, as per ICAR guidelines of winter/summer schools and short courses. Participants are requested not to bring their family/accompanying person with them.

How to Apply

Eligible and interested candidates may submit application form in prescribed proforma or apply online as per the steps given as under:

1. Visit the website http://www.iasri.res.in/cbp/ or Click on 'Capacity Building Program' link at http://www.icar.org.in
2. Login using your User Id and Password. To create User Id use "Create New Account" link.
3. After login, click on "Participate in Training" link and fill the Proforma. Take a printout

and send nomination duly forwarded by the competent authority in the prescribed format to **Dr Chandra Sekhar Praharaj, Course Director**, PS and Head (Acting), Division of Crop production, ICAR-Indian Institute of Pulses Research, Kanpur, Uttar Pradesh-208 024 along with Demand Draft of INR 50/ as registration fee (non refundable) in favour of **'ICAR Unit-IIPR Kanpur'** and payable at State bank of India, Kalyanpur, Kanpur (Branch code: 1962).

Location of IIPR, Kanpur

ICAR-Indian Institute of Pulses Research (*Bharatiya Dalhan Anusandhan Sansthan*), Kalyanpur, Kanpur is located 12 km away from Kanpur Central railway station and about 10 km from Jhakarkatti Bus Stand, Kanpur on the GT Road. It is well connected by rail/road to the rest of the country. Kanpur is situated on the bank of the Ganges River and is known as **Manchester of the East**. The climate of Kanpur is pleasant during the month of September. During September, average temperature ranges from 25-34°C with rainfall of 211mm.

APPLICATION FORM FOR PARTICIPATION IN SUMMER SCHOOL

On "**Scaling Water Productivity and Resource Conservation in Upland Field Crops ensuring More Crop per Drop**" at ICAR- Indian Institute of Pulses Research, Kanpur -208 024 (Uttar Pradesh).

1. Full name (in capital letters)----------
2. Designation----------
3. Present employer and address----------
4. Address to which reply should be sent (in capital letters) (Give telegraphic address also if available), Phone numbers, e-mail etc----------
5. Date of Birth----------
6. Gender (Male /Female)----------
7. Teaching/ research/ professional experience (mention post held during last 5 years and number of publications)----------
8. Marital status. (Married/Unmarried)----------
9. Mention if you have participated in any training during the previous years under ICAR/Other organization.----------
10. DD No. ----------Date ---------- forINR50/- payable to **ICAR Unit-IIPR Kanpur** (Not refundable) for registration of application.
11. **Academic record:**

Examination passed	Subjects (main/ subsidiary)	Year of passing	Class ranks, distinction , OGPA/%	University/ institution	Other information
Graduation					
Post graduation					
Ph. D.					
Others					

Place _____
Date_____ Signature of the applicant.

12. Recommendations of forwarding authority. The application of Mr. / Ms/ Dr. _____is hereby recommended and forwarded for attending Summer School On **"**Scaling Water Productivity and Resource Conservation in Upland Field Crops ensuring More Crop per Drop**"**, to be organized by Indian Institute of Pulses Research, Kanpur-208 024 (Uttar Pradesh) during 06-26 September, 2017.
It is certified that the information furnished by the candidate has been verified and found correct.

Signature _____
Designation _____
Address _____

N.B.: If more copies are required copies may be made locally for use of applicants.

Correspondence

Course Director
Dr Chandra Sekhar Praharaj ARS, FISA
PS and Head (Acting)
Division of Crop Production
ICAR-Indian Institute of Pulses Research
Kanpur-208 024 (Uttar Pradesh)
Phone: 2580994-95 (Ext. 3010),
Fax: 0512-2580992
Mobile: 86012 62840; 80044 51711
Email: cspraharaj@hotmail.com
cspraharaj@icar.org.in

Course Coordinators
Dr. Ummed Singh
Division of Crop Production
IIPR, Kanpur-208 024 (Uttar Pradesh)
Mobile: 8765860963; 8299837429

Dr. Prasoon Verma
Division of Crop Production
IIPR, Kanpur-208 024 (Uttar Pradesh)
Mobile: 8953609565

Announcement

Summer School

on

Scaling Water Productivity and Resource Conservation in Upland Field Crops ensuring More Crop per Drop

06-26 September, 2017

Sponsoring authority
Indian Council of Agricultural Research

Course Director
Dr Chandra Sekhar Praharaj

ICAR-Indian Institute of Pulses Research
(A 9001-2008 Certified Institution)
Kanpur-208 024 (Uttar Pradesh)
Web site : http://www.iipr.res.in