

Advanced Course – Asia & North Africa

CONSERVATION AGRICULTURE:

Gateway for Sustainable Intensification of Smallholder Systems



10th Batch
Commencing from
18 November 2019

Dates
November 18-
30, 2019

Venue
CIMMYT-BISA
Ludhiana/Karnal India



The Conservation Agriculture (CA) practices with increased acceptance across the globe are being considered as harbinger for sustainable intensification of smallholder production systems. Its positive impact on natural resources, and resilience to climate change effects are widely acknowledged. In developing world specially Asia and Africa, CA is a relatively new introduction and hence capacity development is vital for development, adaptation and scaling CA based technologies for impact at scale on smallholder farmers in these regions. Therefore, an advanced and practical course on conservation agriculture shall offer unique capacity development opportunity to the scientific community associated with natural resource management research for development (NRM4D). The advanced course on CA in Asia, was initiated during 2010 and 10th in the series with expanded geography (North Africa) is being organized by CIMMYT

and BISA under the aegis of CGIAR Research Programs on WHEAT, MAIZE, CCAFS in close collaboration with Indian NARS (ICAR, PAU etc).

This course links the advances and multidisciplinary approach for sustainable intensification of maize and wheat based system in particular and cereal & legume based systems in general. The technologies and strategies for restoration of natural resource and climate resilient production systems with vast expertise of CIMMYT researcher and partners across Asia, Africa and Americas. Keeping in view the high response, the course has become a regular flagship activity wherein selected young men and women researchers from NARS as well as international organizations and NGOs across Asia and North Africa involved in CA based sustainable intensification can be benefited.

Learning Objectives

Active participation in the course will allow the participants to:

- Develop enhanced understanding on the locally adapted conservation agriculture systems, application of new tools and techniques and scale appropriate CA machinery for diverse production systems, agro-ecologies and farm typologies
- Synthesize and apply the information and knowledge related to CA based sustainable intensification (SI) such as:
 - Basic understanding on CA research
 - Basic elements of CA adapted of range of situation
 - Scale appropriate CA machinery for different production environments
 - Component technologies for CA based SI viz. genotype adapted to CA, crop enhancement, precision water & nutrient management, weed management strategies, crop residue management using advanced tools and techniques including remote sensing, crop modelling
- Acquire skills to plan and manage long-term basic and strategic research trials on CA and monitor soil, plant and environmental parameters under contrasting scenarios
- Generate scientifically-sound hypotheses, data management strategies, and interpret data and summarize them into scientifically sound conclusions for linking to knowledge networks
- Learning farming systems analysis, typologies, innovation system, business models for targeting and scaling for impact

Desired Behavioral Outcomes

- At their respective organizations/countries/regions, the participants are expected to appreciate the imperative need of nurturing a new attitudinal approach in the working environment towards implementing farmer and environment-friendly technologies including CA based SI and CSA
- Initiate activities, and extend to farmers the location-specific CA based SI and CSA management solutions/technologies
- Deliver short-term ToT courses on CA based SI and CSA

Contents and Methodology

Conservation Agriculture (CA) based sustainable intensification (SI): principles and practices:

- ① Calibration, operation and maintenance of conservation agriculture machinery
- ① Component technologies for CA based SI systems
- ① Small holder precision agriculture: concepts and applications
- ① G x E x M interactions in maize and wheat systems
- ① Innovation systems and pathways: CA hubs and modules
- ① Climate Smart Agriculture (CSA) and Climate Smart Villages (CSVs)
- ① In-field hands-on for CA based crop management technologies for planting to harvest including decision support tools/sensors/crop modelling
- ① Crop-livestock interactions in relation to CA/SI
- ① Business models, impact assessment of CA/SI technologies.
- ① Farming Systems Analysis, targeting and typologies
- Remote sensing/GIS/UAVs/modelling approaches
- Interaction with farmers, stakeholders of public and private sector and CA machinery manufacturers.
- Exposure visit to experiment station/research platforms/innovations platforms.
- Slide presentations, video films, small group discussions, brainstorming, and exercises
- Individual mentoring and problem-solving approaches

Eligibility for Participation

- Minimum level of Master degree in Agricultural Sciences/Agricultural Engineering
- Women and youth are encouraged to participate.
- Good proficiency in English to allow full participation in the program and during discussions and interactions.
- Active involvement in conservation agriculture research for Development (CAR4D).
- Demonstrated professional experience and leadership potential.
- Good health, as the course includes hands-on field activities
- Participants health insurance is mandatory
- Maximum number of participants: Twenty (15).



Course Fee and Logistics

Course fee is US\$4300 per participant, which includes:

- Hotel accommodation & Food
- Field trips, training material and internet wi-fi facility
- Local travel/ transportation
- Cost of resource persons



Participants are responsible for their own international travel and the corresponding incidental expenses for to and fro New Delhi (India).

Medium of instruction: English.

About CIMMYT

The International Maize and Wheat Improvement Center, known by its Spanish acronym, CIMMYT (www.cimmyt.org), is one of the 15 CGIAR centers and a not-for-profit research and training organization with partners in over 100 countries. CIMMYT works with a mission of "Wheat and Maize Science for Improved Livelihoods."

About BISA

The Borlaug Institute for South Asia (BISA) (www.bisa.org) is a non-profit research institute through a collaborative effort between the ICAR, Government of India and CIMMYT to serve as a regional platform with a mission of "Food, Nutrition, Livelihood and Environmental Security in South Asia".

For application and other details contact

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**Nominations to reach Training Executive on or before
5 October, 2019
at
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