

Institute organized winter school on Recent Approaches for Doubling Farmers Income in Sugarcane Based Cropping System

A winter school was organized on “Recent Approaches for Doubling Farmers Income in Sugarcane Based Cropping System” at the ICAR-Indian Institute of Sugarcane Research, Lucknow (UP) during December 08-28, 2022. In the Inaugural Session the chief guest was Dr S. Solomon, Ex-Vice Chancellor, CSUAT, Kanpur. Dr Sudhir Kumar Shukla, Course Director of Winter School provided background information of winter school and emphasized on application of modern technologies in sugarcane agriculture has brought forth improvements in cane yield and sugar recovery. Varietal development is a regular phenomenon to sustain the crop productivity. Keeping in view the biotic, abiotic constraints in changing climatic scenarios viz., weather aberrations, global warming and freezing etc. improved varieties have been developed and tested at various locations. Sugarcane is a vegetative propagated crop and responds well to application of organics. In this series various technologies such as planting methods, nutrients management, (organic sources of nutrients, biofertilisers, recycling of crop residues and agro-industrial wastes), intercropping grain legumes with sugarcane, biological control of insect-pest et. contributed immensely in improving sugarcane yield and protected soil-water-environment relationship. Thus integration of these technologies played a good role in maximising cane yields on farmers’ fields. Various components of natural farming can be integrated with organic farming to arrest declining trend of soil organic carbon, minimising soil pollution and scaling up the response of other inputs to improve the sugarcane yield. However, in-depth knowledge is required to understand nutrient dynamics in soil and quantification of nutrient supply through various components of organic/natural farming system. In intensive agriculture, deficit nutrient balance cannot be sustained for longer period. Thus soil fertility and crop yields can be sustained through adoption of various practices of organic farming/natural farming system. However, knowledge on natural farming in different ecosystems should be transferred for effective dissemination of various technologies.

During valedictory session of winter school, Dr Sudhir Kumar Shukla, Course Director of winter school presented brief report of winter school to the chairman of the session. He summarized that twenty five participants from various universities, ICAR research institute, subject matter specialists from Krishi Vigyan Kendras etc. participated in Winter School. Representation from various states was as eighteen from Uttar Pradesh, three from Karnataka and one each from Bihar, Gujarat, Madhya Pradesh and Maharashtra. There were seventy three lectures and practical sessions besides outside field visits.

A visit on fields of progressive farmers in village Amethi, Block Gosainganj in Lucknow district was also organized for participants. Besides visit of KVK at Sitapur was also organized where participants could see various demonstrations and advanced techniques to be recommended and adopted by the farmers of the region. Besides participants also made a visit of the laboratories of IISR, Jaggery Unit, SWAPAM Lab, Biotechnology Lab, Machines/ Prototypes developed by the IISR, Integrated Farming System model, Technology Park and KVK at Lucknow.

Dr R K Singh, ADG (Commercial Crops), Dr Seema Jaggi, ADG (HRD) at ICAR, New Delhi, Dr J S Mishra, Director IIWS, Jabalpur, Dr R B Doule, Chief Cane Advisor, National Federation of Cooperative Sugar Factories Ltd., Dr A K Singh, Director SRI, Pusa Bihar, Dr N K Bajpai, Director Extension at Banda University of Agriculture and Technology were among a few faculty members who delivered lectures on various topics from ICAR and other organizations/ universities.

Dr. R. Viswanathan, Director, ICAR-Indian Institute of Sugarcane Research, Lucknow & Chairman of Valedictory Session of Winter School emphasized on new advancements in sugarcane production system and issues of vegetative propagation in sugarcane favours accumulation of pathogens inside the canes and carryover of pathogenic inoculum through planting materials. Disease-infected setts serve as a primary source for disease spread for most of the diseases in the crop, except foliar diseases. In case of fungal diseases, planting infected setts leads to disease builds up in plant crop and probably death of the affected clump. However, in case of non-fungal diseases continuous accumulation of pathogens systemically leads to loss of vigour in sugarcane varieties referred to as 'varietal degeneration' and this result in loss of yield potential in elite commercial varieties. Previous decades witnessed many such instances of degeneration in popular sugarcane varieties and their replacement with new ones. With the development of sensitive molecular diagnostic tools the associated pathogens are being precisely identified. Under Indian conditions, it was found that combined or separate infections of viruses causing mosaic and yellow leaf disease (YLD), phytoplasmas causing grassy shoot and leaf yellows and bacterium causing ratoon stunting disease (RSD) are associated with varietal degeneration. The degeneration was rapid and severe when all these pathogens infect sugarcane together as compared to their separate infections. However, among all these diseases, YLD contributes more towards degeneration of sugarcane varieties.

Dr Lalan Sharma, Senior Scientist (Plant Pathology) & Course Coordinator of Winter School proposed vote of thanks to Chairman, resource persons, all HoD/Incharges for providing input to conduct winter school at ICAR-IISR, Lucknow.



Dr S. Solomon, Ex-VC, CSUAT, Kanpur Inaugrating Winter School on 8th December, 2022



Dr A.D. Pathak, Ex-Director, ICAR-IISR, Lucknow giving introductory remark during Winter School on 8th December, 2022



Dr S.K. Shukla, Principal Scientist & Head, Crop Production and Course Director of Winter School welcome to participants of Winter School



Dr R.K. Singh, ADG(CC), ICAR, New Delhi delivering lecture to the participants of winter school



Dr (Mrs) Seema Jaggi , ADG(HRD), ICAR, New Delhi delivering lecture by virtual mode to the participants of winter school



Dr R. Viswanathan, Director, ICAR-IISR, Lucknow giving valedictory remark during Winter School on 28th December, 2022



Valedictory Function of Winter School on 28th December, 2022