

Winter School

Recent Approaches for Doubling Farmers Income in Sugarcane Based Cropping System

Period: 08.12.2022 to 28.12.2022

ICAR-Indian Institute of Sugarcane Research,
P.O. Dilkusha, Lucknow, 226002, UP, India



Course Director

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Background information

In India, sugarcane is grown in an area of >5 m ha with a production of >400 million tonnes cane at an average yield of >80 t ha⁻¹. Recent improvements in sugarcane productivity are evidences of technological advancements such as developing improved varieties, crop production and protection technologies and their dissemination and adoption on farmers' fields through effective linkages among various research and development agencies. In India, five sugarcane growing states (Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu & Bihar) occupy more than 82% area. of sugarcane crop and contributes about 85% sugarcane production in the country. Although, the difference in sugarcane productivity (up to 33 t ha⁻¹) among these states also exist and provides scope for further improvement. Two prominent sugarcane growing states viz., Uttar Pradesh and Maharashtra contribute more than 69% sugarcane production in the country and occupy about 56% sugarcane area at the national level.

The sugarcane cultivation and sugar industry plays a vital role towards socio-economic development in the rural areas by mobilizing rural resources and generating higher income and employment opportunities. It requires more nutrients and water because of production of higher biomass and nutrient removal. Sugarcane crop is attacked by large number of insect-pests and diseases. The application of chemical fertilizers for supplying nutrients and pesticide to control insect-pest in sugarcane is increasing day by day to harvest higher yields. The prolonged and over usage of chemicals has, however, resulted in

human and soil health hazards along with environmental pollution. Adoption of green technologies in sugarcane cultivation improved sugarcane yield and sugar recovery besides enhancing farmer's income and sustainability. In the present course, the various aspects of increasing sugarcane and sugar yields, reducing cost of production and increasing farmers' income through adoption of green technologies will also be discussed. Adoption of these technologies by sugarcane growers will certainly safeguard environment (soil, water and air) and improve sustainability.

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. contributes immensely in improving sugarcane yield and protecting soil-water-environment relationship. Thus integration of these technologies plays 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.

These crop management strategies play significant role in improving sugarcane yields. The performance of various technologies and benefits derived from each technology may be different due to physical, chemical and biological constraints faced by the crop and sugarcane growers at various places. Thus the performance could vary depending on constraints of the region, and the realizable potential yield could be obtained only by integration of these technologies in package of practices.

Thus knowledge based technological advancements are required to be disseminated on farmers fields. Thus keeping above points in view the current Winter School entitled “***Recent Approaches for Doubling Farmers***

Income in Sugarcane Based Cropping System” has been planned for three weeks duration. In this program, participants will be sensitized for various activities under approaches for doubling farmer's income. Hands on and presentations will also be focused on breeding for high yield, sugar recovery and tolerance to biotic and abiotic stresses, implication of agro-techniques for reducing cost of production and improving cane productivity, techniques and methods for post-harvest losses management and managing insect-pest and diseases of sugarcane diseases adopting eco-friendly approaches.

Eligibility qualification for the participants in the Winter school :

i) Master's Degree in Agriculture or Ph.D in any discipline of agricultural sciences and ii) Working not below the rank of Assistant Professor/Subject Matter Specialist and equivalent in the concerned subject in Agricultural University/Krishi Vigyan Kendras /ICAR Institute etc.

How to apply

Application may be submitted through online portal of ICAR and a copy may also be sent through proper channel to the Course Director as detailed below. The last date of submission of application is 7th November 2022. However, the applications will be processed as per the receiving date and the candidate's qualification and experience of working in the related field.

Winter School has been sponsored by the Indian Council of Agricultural Research, New Delhi. The guidelines of the Council will be followed in execution of various activities like providing accommodation to trainees, scheduling lecture/practical, no of participants, TA/DA reimbursements, honorarium to speakers etc.

Course Coordinators

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