

ICAR-IISR technological interventions for higher yield of sugarcane and sugar in Narsinghpur district of Madhya Pradesh

A team of Scientists namely, Dr. S. N. Singh, Dr. M. R. Singh and Dr. S.I. Anwar had visited Narsinghpur district of Madhya Pradesh on January 19-20, 2018 and conducted in depth interaction with sugarcane farmers while conducting field days at 4 villages (*Mugli, Mahmudpur, Dangidhana and Kartaj*) of the district. Sugarcane farmers of the district are really very innovative and cultivate the crop with scientific crop management practices with no cane trash burning excepting few in number.

Our observations and activities performed:

- (1) Narsinghpur is one of the 51 districts of Madhya Pradesh, mostly black cotton soils having clay content of 60-65 %, more water holding capacity and deficient in Mn and Fe, approximately 80% area is sprinkler irrigated and about 35 % cane acreage is under intercropping with September-October planted sugarcane. About 65% of the total sugarcane area of MP is in Narsinghpur district (approximately 75000 ha). It is termed as the sugar bowl of Madhya Pradesh and Haryana of India.
- (2) Narsinghpur district farmers are taking utmost care to improve their soil fertility by adopting principles of organic farming in sugarcane based cropping systems *viz.*, *dhaincha*/sunhemp green manuring, legume crops intercropping, application of decomposed organic manures, surface mulching of crops residues including sugarcane dry trash *etc.* They have successfully addressed the constraints related to operational difficulties coming after trash mulching in between ratoon cane rows particularly during intercultural operations and fertilizer applications. For this purpose, they have locally fabricated an implement which performs shredding of cane trash residues and interculturing operations along cane rows.
- (3) Some farmers have tasted the advantage of early planting sugarcane in September-October and taking other popular crops as intercrops, namely potato, gram, pea, coriander, garlic, onion *etc.* with cane for higher production potentials and economic returns.
- (4) To address the severe constraints of labour scarcity, they have started adopting mechanization in sugarcane agriculture and accordingly planting sugarcane in September/October at 4.5 to 5.0 feet apart to facilitate tractors running in between cane rows. The texture of black cotton soils is a problem for adopting mechanization in sugarcane cultivation.

- (5) Some innovative farmers feed their crop with balanced application of nutrients particularly micronutrients after getting analyzed their soil samples. Foliar application of urea and other micronutrients is done by some of the farmers. But, in general, they need technologies for better crop management practices and balanced fertilization.
- (6) In Narsinghpur district, there are 12-13 sugar mills having 2500-3000 TCD capacity and but are not taking sugarcane development activities. In this situation, farmers are now very much eager to develop jaggery production entrepreneurship and trying to install some improved plant for that. At present there are around 3000 jaggery units and two automated *khandsari* plants in the area.
- (7) Some sugarcane farmers have locally developed organic formulations involving *Dhatura*, *Neem* leaves *etc.* for the control of insect pests in field crops including sugarcane. They usually apply this formulation through sprinkler irrigation.
- (8) One sugarcane farmer, Shri Krishna Pal Singh Lodhi has developed a special type insects trap machine using exhaust fan on top of the machine for mechanical control of insect pests in sugarcane cultivation.
- (9) Sugarcane farmers are totally dependent on cane varieties developed from other states of India. Scientists did not see any sugarcane variety developed from research stations located in Madhya Pradesh. Sugarcane varieties *viz.*, Co 0238, Co 96032, Co VSI 3102, Co VSI 10005, Co VSI 8005, Co VSI 10001 and Co M 0265 are presently under cultivation, but with prevalence of various diseases. Farmers prefer sugarcane varieties namely Co VSI 3102 and Co VSI 10005 for good colour jaggery production.
- (10) Management of various sugarcane diseases is really a serious concern over there. Scientists saw cane varieties Co M 261 and Co VSI 8005 with heavy infestation of smut and grassy shoot diseases, respectively. Smut, Grassy Shoot Disease (GSD), Ratoon Stunting Disease (RSD), wilt, Pokkah Boeng and Yellow Leaf Disease (YLD) are most prominent ones. Smut is the severe problem in old varieties. After having interacted with many sugarcane farmers it came to their notice that they procure seed cane from unreliable sources and do not treat such planting material with Carbendazim. MHAT units at Sugar mills in the area are not in function. Dr. M. R. Singh advised the MHAT treatment of seed cane before planting and removal and destruction after infection in the crop. Farmers were also advised to remove and destroy the shoots infected with diseases like smut, and GSD and replacement of old

varieties with new ones. Dr. M. R. Singh also elaborated the symptoms of different insect pests of sugarcane and their management.

- (11) Although *gosthis* and farmers interactions were carried out in different villages of the district as indicated above, but a huge *Krishak Gosthi* was organized by the Dy. Director Agriculture at KVK, Narsinghpur on 20.01.2018, which was chaired by Dr. Sadhu Ram Sharma, Ex- Cane Commissioner, Govt. of Madhya Pradesh. All three scientists delivered their lectures on various aspects of sugarcane production technologies and quality jaggery preparation besides interacting with a large number of farmers on issues related to maximized cane production without impairing soil fertility. Package of practices for sugarcane crop management for higher cane and sugar yields besides quality jaggery production technologies were suggested by the scientists while delivering their lectures and on spot sugarcane fields and jaggery unit visit at various places in the district.
- (12) Prof. C. S. Tiwari of Narsinghpur district initiated sugarcane farming during the year 2000 when the acreage under crop was only 7000 ha, but now it is approximately 75000 ha which has increased by 10.41 times in 17 years. He is a key person for promotion and cultivation of sugarcane in the district and he motivates farmers for maximized sugarcane and other field crops production. He undoubtedly transformed the sugarcane production system in the district. Prof. Tiwari is an inspiring person to sugarcane farmers of the district who takes them to different states of India *viz.*, Maharashtra, Gujarat, U.P., Uttarakhand, Punjab, Haryana, Tamil Nadu *etc.* for training in sugarcane cultivation.
- (13) Scientists have suggested sugarcane farmers to develop sugarcane nursery using single bud sett (particularly cane node technology) in net houses in August and its transplantation in September as early autumn sugarcane crop, which will be useful in getting maximum survival of sugarcane plantlets in the field due to sufficient soil moisture. This will provide one month additional time for the growth of cane plants. This will also ensure maximum initial stand and number of millable canes for higher cane yield. Early establishment and growth with adequate root development help the cane crop to tolerate drought condition up to a certain extent. This practice of cane growing will offer an additional opportunity for intercropping of *rabi*/winter season crops.

- (14) Low tillering and getting optimum plant population in sugarcane are also some of the other problems. Scientists noticed these things over there during field visit at various places. Suitable technologies to overcome of these problems were suggested by us.
- (15) Faulty weed management practices were also being followed by the farmers. This checks the growth of cane plants even besides putting extra load on expenditure to be incurred on the purchase of various costly herbicides. Scientists then suggested to adopt integrated weed management practices for higher cane yield with better returns.
- (16) Scientists have also informed the farmers that the sugarcane requires more water and nutrients from soil to sustain higher productivity. There is a need to curtail the supply of irrigation water to sugarcane using micro-irrigation methods. Micro-irrigation saves at least 1/3rd of irrigation water (sustaining the same yield) and become more important in a situation of water scarcity or drought. Micro-irrigation system also helps in providing fertilizers direct to the root zone and thus also improves nutrient use efficiency. We have also told them that in drip irrigation/fertigation both water and fertilizers are delivered to crop simultaneously through a drip irrigation system. Fertigation ensures that essential nutrients are supplied precisely at the area of most intensive root activity and according to the specific requirements of sugarcane crop. It results in higher cane yields and sugar recovery.

Suggestions for scientific cultivation of sugarcane in the area:

- (1) Farmers were very much eager to have demonstration on ICAR-IISR developed machines particularly RMD and Cutter Planter in sugarcane cultivation. These machines need to be tested in that area looking into the fields with black cotton soils.
- (2) ICAR-IISR technical guidelines for entrepreneurship development in jaggery production and its marketing with value addition. Most of the farmers are now switching over to jaggery production since sugar mills are of low crushing capacities, and also not doing activities for the benefit of sugarcane farmers. Keeping quality of jaggery is also a problem over there; hence they need scientific method of jaggery storage for a longer period. Tips for quality jaggery production with installation of improved pans developed at ICAR-IISR, Lucknow for bagasse and time saving and

improvement in jaggery quality and productivity were suggested. It was emphasized not to use chemical during the process of clarification and tips for value addition were also given.

- (3) Actually the area comes under the climatic impact of tropical and sub-tropical characters. Therefore, it needs the testing of sub-tropical and tropical sugarcane varieties for their suitability in that area. Management of sugarcane diseases and insect pests are also the major concerns. Institute may take action for frequent visit of scientists since the district alone has 75000 ha area under sugarcane cultivation. Submitted to the Director for kind perusal and necessary action please.





विद्युत अधिनियम की धारा 135 के तहत कनेक्शन के विरुद्ध 3 लाख की बिलिंग पंचनामे तैयार कर राशि रूपए 24 हजार की प्रस्तावित की जाकर पंचनामे तैयार किए गए।

फार्म

खिक परीक्षा
स परीक्षा में
होने वाले
अंतिम तिथि
जिला शिक्षा
या कि कक्षा
नशिक्षा केन्द्र
में प्राप्त कर
धे शासकीय
स जमा कर
प्राप्त आवेदनों
गे और शुल्क
में जमा करेंगे।

गन्ना का उत्पादन बढ़ाने, फसलों को रोगों से बचाने किसानों को दी जानकारी

कृषि अनुसंधान केन्द्र में गन्ना उत्पादन तकनीक पर वैज्ञानिक परिचर्चा

भास्कर न्यूज, नरसिंहपुर। कृषि अनुसंधान केन्द्र नरसिंहपुर में गन्ना उत्पादन तकनीकी पर वैज्ञानिक कृषक परिचर्चा का आयोजन किया गया। जिसमें किसानों को गन्ने का उत्पादन बढ़ाने, फसल को रोग से बचाने, वैज्ञानिक तरीके से फसल लगाने सहित कई महत्वपूर्ण जानकारियां दी गईं। गन्ना आयुक्त डाक्टर साधुराम शर्मा की अध्यक्षता में हुई इस परिचर्चा में गन्ना अनुसंधान केन्द्र लखनऊ, उत्तरप्रदेश के प्रमुख चरिष्ठ वैज्ञानिक डाक्टर एसएन सिंह, गन्ना रोग विशेषज्ञ डाक्टर एमआर सिंह, गुड़ व खांडसारी विशेषज्ञ डाक्टर एसएल अनवर, सीएस तिवारी एवं नरसिंहपुर के विभिन्न अंचलों से आए गन्ना उत्पादक कृषक एवं कृषि विज्ञान केन्द्र के प्रमुख वैज्ञानिक डाक्टर आशतोष शर्मा, प्रभारी उपसंचालक कृषि डाक्टर आरएन पटेल, सहायक संचालक गन्ना डाक्टर अभिषेक दुबे भी उपस्थित थे। डाक्टर साधुराम शर्मा ने कृषकों को वर्तमान गन्ना उत्पादन 4 सौ से 6 सौ क्विंटल प्रति एकड़ कैसे करें तथा उत्पादन में प्रयोग होने वाली गन्ना उत्पादन की उन्नत तकनीकों की जानकारी दी। डाक्टर आरएन सिंह ने प्रति हेक्टर बीज गन्ना की मात्रा संतुलित खाद प्रयोग का समय एवं गन्ना बोनी की उन्नत विधि व फसल के पूर्व या सह फसल में हरी खाद ढेंचा का प्रयोग एवं गन्ना फेक्टर की राख को प्रेस मड के साथ प्रयोग की तकनीकों को कृषकों को अवगत कराया एवं गन्ने की लागत मूल्य कम करने एवं भरपूर गन्ना उत्पादन की तकनीकों से अवगत कराया। गन्ना रोग विशेष डाक्टर एमआर सिंह ने गन्ने में लगने वाले प्रमुख रोग एवं कीड़ों की पहचान, नुकसान का समय तथा उनके निदान के बारे में एवं ऐसी किस्मों के बारे में बताया, जिनमें रोग ज्यादा आता है एवं ऐसी किस्मों को कृषकों को न लगाने की सलाह दी। गुड़ एवं खांडसारी के गन्ना विशेषज्ञ डाक्टर अनवर ने कृषकों को उत्तम व कम खर्च में गुड़ बनाने की तकनीक एवं गुड़ के मूल्य संवर्धन की तकनीकों से किसानों को अवगत कराया। साथ ही गुड़ बनाते समय किसानों को रस साफ करने में किसी रसायन के प्रयोग से बचने की सलाह दी।

विक

ज्ञापन



टनेस

ने बताया कि
सांग है कि
की तैयारी चल
के छात्र-छात्राये
की है कि
र्यवाही को रोका
र्ण करने के लिए

ग्यारहवीं पुण्यतिथि



स्व. पं. गौरीशंकर दुबे

आपका अवसान हमारे जीवन में एक अंतहीन अशान्त खालीपन छोड़ गया है। आपकी अक्षुण्य स्मृतियां और आपका आशीष सदैव हमारा मार्ग प्रशस्त करता रहेगा। आज आपकी ग्यारहवीं पुण्यतिथि पर शत-शत नमन...विनम्र श्रद्धांजलि- श्रीमति कमला दुबे, आशुतोष, परितोष, अनुत्तम दुबे हाउसिंग बोर्ड कॉलोनी, नरसिंहपुर

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