

COTTON Innovate



Weekly Newsletter from Central Institute for Cotton Research, Nagpur

Visit : www.cicr.org.in

Issue : 1, Volume :1, January 5-11, 2014

RESEARCH ROUND-UP

HDPS at Thirumangalam, TamilNadu

K. Sankaranarayanan

High Density Planting System (HDPS) of cotton is being adopted by farmers in Thirumangalam, Kallupatti and Sedapatti blocks of Madurai District in Tamil Nadu. Climatic, edaphic and biotic factors of this domain suited and proved that HDPS is the better production system. Attempts made by innovative farmers by introducing hybrids were not successful against the variety (SVPR-2) in HDPS. The total rainfall of this domain is 850-900 mm out of which 450-500 mm is received during cotton season (August – December). A common phenomenon of continuous early dry spell after sowing in August, leads to mortality of seedling. The region is also known for endemic of cotton stem weevil



(*Pempheres (Pempherulus) affinis*) which affects plant population. Maintenance of plant population by adopting conventional method of planting of varieties/hybrids/Bt hybrids is not economically feasible. Soil depth in this region is around 15-60 cm with mixed type of soil, EC (0.27 m.mhos/cm (normal)), pH (7.6), low Nitrogen (155.6kg/ha), medium Phosphorus (17.3kg P₂O₅/ha) and medium Potash (274kg K₂O/ha). Low and erratic rainfall coupled with shallow to medium depth of soil cannot support hybrid cultivation. The indigenous HDPS is established by sowing of 20 kg/ha of cotton (SVPR-2) seeds along with mixing of pulses (black gram, green gram and red gram) by broad casting without definite row arrangement with manual weeding to meet the family requirements. The indigenous HDPS resulted in seed cotton yield of 10-15 q/ha in addition to pulses by incurring cost of cultivation of Rs. 20,000-25,000/ha and realized net return of Rs.20, 000-40,000/ha. This indigenous HDPS can be improved significantly by adopting HDPS technology generated by CICR such as suitable variety (Anjali/Suraj), certified seeds, line planting by animal drawn/inclined plate planer, soil moisture conservation practices, inter-culture and weeding by post emergence application (tank mixing) of quizalofop-ethyl @ 50 g/ha and pyriithobac sodium @ 75 g a.i/ha at 30 DAS.

SCIENTIFIC TALK



Dr. V. Santhy, Senior Scientist, Seed technology, delivered talk on '**Genetic Engineering for Seed Enhancement**' on 10th January, 2014, under the aegis of Innovation Club of CICR, Nagpur. Enhancing the seed size and number for enhancing cotton yield was emphasized in her talk. High G x E interaction makes the conventional improvement of seed size difficult. Genetic engineering for seed enhancement was therefore put forward as a possible option. A gene called *Revoluta* has been isolated in *Arabidopsis* which when over expressed in the seed using early embryo phase specific promoter produced big seeds which were also more in number in crops as mustard and Soybean. The possibility of transforming cotton using the *Revoluta* gene construct and making it to over express in the seed to enhance the cotton yield was therefore put forward as wild idea.

Mrs. Mukta Chakrabarty, Scientist, Organic Chemistry, delivered a talk on "**Overview of Plant Defense with Emphasis on Oxidative Stress and Herbivore Attack**" on 10-01-2014 under the aegis of Library Club. In her talk she explained about stunning array of structural, chemical, and protein-based defenses in plants designed to detect invading organisms /abiotic constraints and stop them before they are able to cause extensive damage. Plants have elaborated chemical defense strategies, involving the huge variety of secondary metabolites as tools and. these metabolites embrace representatives of all main classes of organic compounds: aliphatic, aromatic, hydroaromatic, and heterocyclic; unique carbon skeletons occur along with multiplicity of functional groups. Plants under herbivore attack release volatile compounds that can serve as cues that attract predators to the vicinity of their herbivorous prey or host. It has been observed that a systemic volatile release in cotton is specific to herbivory. Herbivore induced plant volatiles emission is not limited to the site of damage, but occurs systemically throughout the plant and also from undamaged leaves.



VISITS & MONITORING

Survey & Exploration

CICR, Nagpur has carried out exploration and collection of tree cotton and native landraces of desi cotton from Mehesana, Banaskantha, Patan and Kutch districts of Gujarat. Dr. Saravanan. M, Scientist, Plant Breeding and Genetics and Mr. G.R. Kene, Technical Officer participated in the exploration and collection survey from 04th to 09th January, 2014. Ten cotton germplasm materials were collected including five *Gossypium herbaceum*, four *G. arboreum* and one *G. barbadense* with the help of Krishi Vigyan Kendras (KVK) and forest officials.



Insect resistance Monitoring Visit

Dr. V. Chinna Babu Naik, Scientist, Entomology, along with Senior Research Fellows Mr. Nandeshwar, Mr. Aswin Jayal and Mr. Rama Krishna, carried out monitoring and collection of bollworms in Surat, Bharuch, Anand, Vadodara, Bhavnagar, Amreli, Junagadh, Ahmedabad, Surendrarnagar and Rajkot districts of Gujarat during 4/1/2014 to 8/1/2014.



Farmers' visit to HDPS trial, CICR,RS,Coimbatore

HDPS Farmers from Kinathukadavu (Taluk), Coimbatore (Dist.) visited HDPS trial at CICR, RS, New Area Farm, Coimbatore to improve their knowledge on HDPS. Technical details, and advantages (higher yield, early maturity and amenable for mechanical picking) of HDPS were narrated by Dr. K. Sankaranarayanan. Agro techniques of HDPS including appropriate genotypes (Anjali, Suraj, NH615, PKV 081 and KC-3), suitable soil types (shallow and medium depth and marginal soils), spacing (45 x 10 cm for shallow soil; 60 x 10 cm for medium depth soil), planting by inclined plate planter and weed control by post emergence application (tank mixing) of quizalofop-ethyl @ 50 g/ha and pyrithiobac sodium @ 75 g a.i/ha at 30 DAS were explained. The farmers assessed the yield potential of HDPS by counting number of plants per unit area in randomly selected plot and bursted bolls per plant and finally arrived at seed cotton yield per ha under HDPS. Dr. K. Sankaranarayanan and Dr. B. Dhara Jothi have coordinated the visit.



Hitrada 14.1.13
Administration gears up for 'Krishi Vasant'

President Pranab Mukherjee will inaugurate the fair on February 9

Staff Reporter

CITY administration is gearing up to host mega farm fair 'Krishi Vasant'.



Pranab Mukherjee

Senior administrative officers on Monday visited the venue of the fair, Central Institute for Cotton Research (CICR), Panjra on Wardha Road, and issued necessary directions.

President of India Pranab Mukherjee will inaugurate the fair. The fair will be held between February 9 and 13.

(Contd on page 2)

जवकार 8.1.2014
खापरी आ रहे राष्ट्रपति
प्रशासन को छूटा पसीना CICR में युद्धस्तर पर तैयारियां

प्रतिनिधि नागपुर केन्द्र व राज्य सरकार के संयुक्त तत्वावधान में नागपुर के वर्षों मागे पर खापरी के निकट स्थित केन्द्रीय कपास अनुसंधान संस्थान परिसर में 9 से 13 फरवरी के बीच कृषि वसंत प्रदर्शनी का आयोजन किया जा रहा है. इस प्रदर्शनी का उद्घाटन महामहिम राष्ट्रपति प्रणब मुखर्जी करने वाले हैं. इस कार्यक्रम के लिए एक माह का समय ही शेष रह गया है. अब जब राष्ट्रपति का दौरा तय हो गया है, तो जिला प्रशासन को पसीने छूटने लगे हैं. चूंकि राष्ट्रपति शहर की सीमा से लगे खापरी परिसर में आ रहे हैं, इसलिए उनके रुकने, ठहरने, आने-जाने की तैयारियों को लेकर अधिकारियों के हाथ पैर फूलने लगे हैं. इधर इस आयोजन को लेकर खापरी के निकट स्थित केन्द्रीय कपास अनुसंधान परिसर में युद्धस्तर पर तैयारियां आरंभ हो गई हैं.

9-13 फरवरी तक 50 एकड़ में 60,000 किसान प्रतिदिन आएंगे



45 करोड़ कार्यक्रम पर होंगे खर्च
 9 फर. से कृषि वसंत प्रदर्शनी

कृषि वसंत प्रदर्शनी का आयोजन वर्षों से परिसर में किया जाएगा. इस आयोजन पर 45 करोड़ की राशि खर्च की जाने वाली है, जिसमें से 40 केन्द्र सरकार के व 5 करोड़ रुपये का हिस्सा महागठ सरकार का होगा. (पृष्ठ 2 देखें)

FROM THE FRONT PAGE

Administration gears up for...

During a joint inspection, Divisional Commissioner B V Gopala Reddy, Collector Saurabh Rao, Joint Commissioner of Police Sanjay Saxena, Deputy Commissioner of Police (Traffic) Chandra Kishore Mina and Director of CICR Dr Keshav Kranthi visited the venue on Monday afternoon and inspected entire route.

The senior officers also inspected the main dais, parking place for the President's convoy and other VIPs.

Sources informed that around 5,000 invited persons will attend first day inauguration function including 2,500 farmers from across the country.

Governor K Sankaranarayanan, Chief Minister Prithviraj Chavan, Union Agriculture Minister Sharad Pawar will also attend the function. The event would have over 1,000 stalls and demonstrations, 307 varieties of 54 different types of crops would be exhibited and have interactive session with scientists and experts in regional languages.

Indian Railways has agreed to subsidise the ticket rates for farmers going to attend the event by fifty per cent.

The event is expected to attract more than half a million footfalls and over five million more farmers will benefit from dedicated web-casting of the event across the nook and corner of the country, down to the block level.

Produced and Published by : Dr. K. R. Kranthi, Director, CICR, Nagpur
 Chief Editor : Dr. Nandini Gokte-Narkhedkar
 Editors : Dr. J. Annie Sheeba, Dr. Vishlesh Nagrare, Dr. J. Amutha, Dr. M. Saravanan
 Media Support & Layout design : Mr. M. Sabesh
 Production Support : Mr. Sanjay Kushwaha

Citation : Cotton Innovate, Issue-1, Volume - 1, 2014, Central Institute for Cotton Research, Nagpur



Publication Note: This Newsletter presented online at <http://www.cicr.org.in/NewsLetter.html>
 Cotton Innovate is the Open Access CICR Newsletter

The Cotton Innovate – CICR Newsletter is published weekly by Central Institute for Cotton Research
 Post Bag No. 2, Shankar Nagar PO, Nagpur 440010
 Phone : 07103-275536 Fax : 07103-275529; email: cicrnagpur@gmail.com