

# COTTON *Innovate*



Weekly Newsletter from Central Institute for Cotton Research, Nagpur

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## RESEARCH ROUND-UP

### Machine Harvesting of Indian Cotton: Pickers or Strippers?

*Er. Gautam Majumdar, Scientist Farm Machinery & Power*

There are basically two types of machine harvesters available in the world: Spindle type pickers and Cotton strippers. Spindle type pickers are selective in nature, i.e., they pick cotton only from fully opened bolls and leave the unopened or closely packed locules unpicked. Thus several pickings are possible with spindle type pickers. Whereas, the cotton strippers strip the plant of bolls, bract, leaves in a combing operation and thus are one time harvesters. There is a limitation on the width of the header of spindle type pickers which can enter between the rows of cotton. The minimum row to row spacing required for spindle picking is 76cm. The strippers can enter the fields in which the plants are very densely populated in rows. However, the plants should have minimum branching and foliage. Therefore, it is advisable to pick cotton with spindle type pickers in fields under hybrids and Bt cottons while strippers are preferable for High Density Planting Systems or Ultra Narrow Row cottons.

## SCIENTIFIC TALKS

Scientific talks were delivered by Dr. Punit Mohan, Principal Scientist, Plant Breeding and Genetics and Dr. S. M. Palve, Principal Scientist (Plant Breeding), Division of Crop Improvement, Central Institute for Cotton Research, Nagpur, under the aegis of CICR Innovation Cell and Library Club respectively on October 11, 2013.



### Low cost technology for rapid screening of cotton germplasm for photo-sensitivity

Dr. Punit Mohan delivered a talk on 'Low cost technology for rapid screening of cotton germplasm for photo-sensitivity'. Majority of the flowering plants (Angiosperms) are photosensitive and photoperiodism is a physiological process of organisms. The quantity and quality of light can modify the photoperiodic response in several plant parts and assumes economic importance. Gene bank of the CICR, Nagpur holds a rich repository and global collection of cotton germplasm consisting geographically and genetically diverse *Gossypium hirsutum* (7542), *G. barbadense* (305), *G. arboreum* (1945) and *G. herbaceum* (566) while wild species, perennials and landraces, races of *G. arboreum*, *G. hirsutum*, *G. barbadense* & *G. herbaceum*, inter-specific hybrids and their derivatives are being maintained in the wild species garden *insitu* at CICR, Nagpur. The problems that impede utilization of germplasm for breeding include photosensitivity, mismatching of blooming period, low fertility index, etc. There is a need for rapid screening of geographically diverse germplasm for photo-sensitivity.



Dr. Punit Mohan in his talk presented outline of low cost technology for rapid evaluation of germplasm for photo-sensitivity. He presented blue print for fabrication of two huts covered by black polythene sheets. Two railway track liners along with adjustable railway surface inspection hand pushed trolley will serve to move 60 potted plants which would be evaluated for various attributes at variable photo induction periods.



### Ideotype Breeding in Cotton- Will it succeed?

Dr. S. M. Palve delivered a talk on "Ideotype Breeding in Cotton- Will it succeed?" in which he explained concept of Ideotype. Ideotype breeding can be defined as a method of crop improvement which is used to enhance genetic yield potential through genetic manipulation of individual plant character. In cotton, there is a need to develop ideal plant type or ideotype suitable for rainfed cultivation. Seed cotton yield of the cotton is determined by a combination of factors: boll number, boll size, seed number per boll, and fiber/seed. The main features of proposed ideotype includes, earliness ( 135-165 days), fewer small and thick leaves, compact and short stature , moderately indeterminate habit, sparse hairiness, medium to big boll size, synchronous boll development, high response to nutrients, tolerance to water stress and tolerance to insects and diseases.



Cotton crop at cutout stage (105 days) under rainfed conditions

### Dr. KRANTHI BRIEFED FARMERS ON CICR TECHNOLOGIES

Dr. K.R. Kranthi, Director CICR, Nagpur addressed farmers on the occasion of 'State Level Agriculture Exhibition cum Symposium'. The workshop was inaugurated by Sh. Ananrao Gharad, Member of Maharashtra Dry land Agriculture Mission Committee and Hon'ble MLA of Saoner, Sh. Sunil Kedar chaired the function. Dr. R.G. Dani, Vice Chancellor, Dr. PDKV Akola, Dr. D.G. Bakwad, Director Agricultural Processing and Planning Commissionerate of Pune were the other dignitaries. Dr. Vijay Ghavte, JDA Nagpur, Shri. N. B. Nagrare & Shri Keshav Nandeswar both Ex-JDA, Nagpur and Shri. Dilip Kalmegh, Member of ATMA district Advisory Committee, Nagpur were also present on the occasion.



## HINDI FORTNIGHT CELEBRATION

As part of Hindi Fortnight Celebrations, various competitions as Rangoli pratiyogita (Oct. 7, 2013) and painting pratiyogita (Oct. 9, 2013) were organized. The closing ceremony of Hindi fortnight celebration was held on Oct. 11, 2013. The Chief Guest of the function was Dr. M.S. Kairon, Ex. Director of CICR, Nagpur. In his address Dr. Kairon appreciated the cotton production and protection technologies developed by CICR, Nagpur. Children of Mundle Public School marvelously emphasized the importance of Hindi and seasons in agriculture through songs and dance. Quiz competitions (conducted by Mrs. Mukta Chakrabarty and Dr. M.V.Venugopalan) and one minute show (conducted by Dr. G. Balasubramani) were also held as a part of Hindi day Celebration. Prizes were distributed for winners of various Hindi competitions. Shri Rajnikant Chaturvedi coordinated the programmes over the fortnight and Shri Gokulpure compeered the conclusion ceremony.



## 57<sup>th</sup> DHAMMACHAKRA PRAVARTAN DIN AT DEEKSHABHOOMI, NAGPUR

On the occasion of 57<sup>th</sup> Dhammachakra Pravartan Din, KVK CICR, Nagpur participated in a State Level Agriculture Exhibition cum Symposium organized jointly by Joint Director of Agriculture, ATMA, Nagpur and Dr. PDKV, Akola. This exhibition was held at Deekshabhoomi, Nagpur during 12 to 14<sup>th</sup> October 2013. CICR, Nagpur set up an exhibition stall depicting various cotton production and protection technologies developed by CICR, Nagpur. Technologies particularly HDPS in cotton, Suraj - a high yielding cultivar developed by CICR, Bt. detection kit, GUS test kit and power sprayer among others attracted the attention of farmers and dignitaries who visited the stall. In the technical session CICR scientists delivered talks on various cotton production and protection technologies. More than 75000 famers and agri-preneurs visited CICR stall.



## SOCIAL AND WELFARE ACTIVITIES AT DEEKSHABHOOMI

To commemorate the 57<sup>th</sup> Dhammachakra Pravartan Din at Deekshabhoomi, Nagpur, ICAR SC/ST & Minorities Employees Welfare Association of ICAR Institutes based at Nagpur set up their stall at Deekshabhoomi premises, Nagpur during 12 to 14<sup>th</sup> October, 2013. The stall was inaugurated at the hands of Dr. S.T. Gaikwad (Ex-Director, NBSS & LUP). Staff (serving as well as retired) of all the four ICAR Institutes (CICR, NBSS & LUP, NRCC and GTC, CIRCOT) actively participated and immensely contributed for the programme alongwith their families. Two Scientists Dr. S.R. Singh and Shri. W. V. Bankar of NBSS & LUP were felicitated on the occasion. During the three days; food, snacks and drinking water were distributed to lakhs of peoples coming to Deekshabhoomi. Two books "Buddhism & Karl Marx" and "Revolution and Counter Revolution" written by Dr. B.R. Ambedkar (in Marathi) were distributed to the people coming from villages. More than 2-3 lakh people visited the stall. Dr. S.M. Wasnik, Dr. V.N. Waghmare, Dr. T.H. Hajare, Dr. Lallan Ram, Dr. Vinod Anavrat, Dr. V.S. Nagrare, Dr. J.H. Meshram, Sh.Nana Ramteke, Sh.Anand Kosare, Sh.Shekhar Bankar, Sh.Sunil Meshram, Sh.W.B. Mate, Sh.V.N. Dhengre, Sh.S.S. Gaikwad, Sh.Ajay Meshram and Sh.K.G. Dewale worked hard work for the success of the programme.



Visitors' conglomeration at the ICAR Stall



Dr. S.T. Gaikwad addressing the inaugural function



Distribution of refreshment at the Stall

## DISTINGUISHED VISITORS

Dr. N. P. Singh, Director, ICAR Research Complex, Goa visited CICR, Nagpur as well as Krishi Vigyan Kendra of CICR on Oct. 10, 2013. During his visit, Dr. Singh interacted with the scientists about latest technologies developed by CICR. Dr. Singh also visited Technology Park of KVK where various crop demonstrations have been laid. He also visited Soil Testing lab, Training hall and Osmanabadi goat unit of KVK. Dr. Singh appreciated the progress made by CICR and the efforts of KVK, Nagpur in providing various technological services to the farmers.

## CICR IN PRESS





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