COTTON INNOVATE

Cotton Innovate

A Monthly Newsletter from ICAR-Central Institute for Cotton Research, Nagpur

Adult of Pink bollworm, Photo by: Dr. K. Rameash

Research News Item

Mass trapping - An Eco-friendly tool for the Management of Pink Bollworm in Cotton

V. Chinna Babu Naik, B.B. Fand and Y.G. Prasad ICAR-Central Institute for Cotton Research, Nagpur- 440 010, India, E-mail: chinnaenton@gmail.com

Cotton is a major fibre crop cultivated across the country. The major factor limiting the yield is insect pest damage, in specific, the pink boll worm. Bt cotton with transgenic technology has been introduced in India to combat bollworms of cotton. But the development of resistance in bollworms diminishes the efficacy of Bt technology. Pink bollworm causes significant economic yield loss to the crop. Moreover, the larvae of pink bollworm usually lie within the cotton bolls making them unreachable to insecticidal sprays due to which, its management has become a difficult task. Moreover, the use of insecticides has resulted in the problem of resistance, resurgence of pests and unwanted pesticide residues in the environment. Hence an eco-friendly tool for bollworm management in view of increasing menace of pink bollworm is presented herewith.

Formulation of pink bollworm pheromone lures, developed by ICAR-CICR was used for experimental trial in mass trapping. Normally pheromone traps are used to detect both the presence and density of the pest species. The important components of IPM include estimation of insect population, detection of new areas of infestation at a very early stage and monitoring and timing of the insecticidal applications. Earlier, the traps were used for mass trapping @ 8 traps /acre. Field experiments were conducted by ICAR-CICR Nagpur for the evaluation of the mass trapping in managing pink bollworm using traps at different densities viz., 8, 20, 25, 30, 35 and 40 per acre in research and farmers' fields. To gain the full benefit of mass trapping, all traps should be in the field by the recommended time from 45 days after sowing i.e., two weeks prior to first flower to reduce the establishment of first-generation larvae in the flowers. The field trial was conducted on 400 acres of farmers' fields at Adilabad, Gadchirolli, Chandrapur, Amravati and Wardha districts during 2021-2022. Nearly 6,000 pheromone traps and 18,000 lures were placed in these fields for mass trapping of adult moth's pink bollworm. The trap densities of 30 and 35 traps per acre were found optimum in reducing the pink bollworm damage effectively. The infestation of Pink bollworm was reduced by 10-20 % in mass trapped fields as compared to control plots. There was reduction of one-two sprays with yield benefit observed between 1-1.5 q seed cotton /acre.

Impact of the project

The acceptance of technology is the key factor in adoption. In order to accept and adopt, the technology should be cheap, efficient and easy to apply in the field. All these apply well to the mass trapping technology and thus can be adopted by the farmers. The adoption of the technology has facilitated the farmers in reaping the additional yield of nearly 1-1.5 quintal per acre. Apart from the monetary benefits, the additional advantages in terms of safety to environment and natural enemies were also noticed while conducting the experiment.

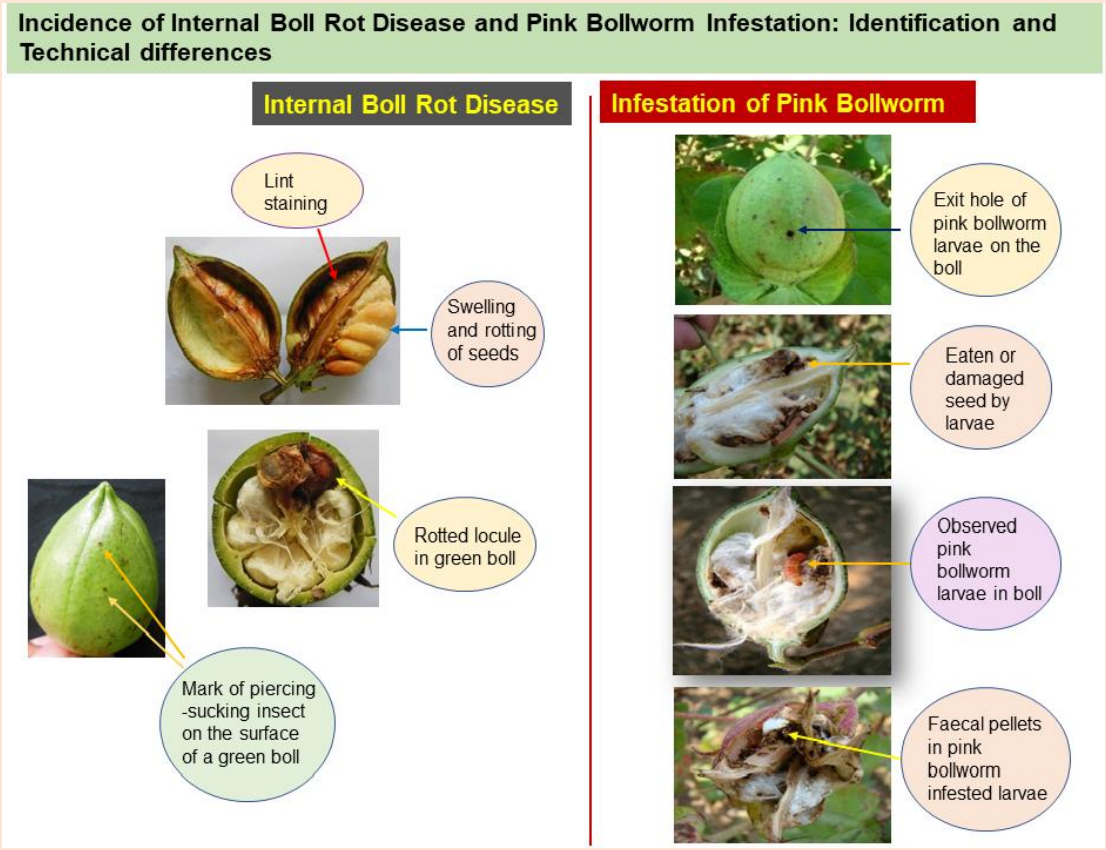
Research Communication

Internal boll rot disease in cotton: Diagnosis and Management

D.T. Nagrale, S.P. Gawande, V. Chinna Babu Naik and N.S. Hiremani
ICAR-Central Institute for Cotton Research, Post Bag No.2, Shankar Nagar PO, Nagpur-440010, Maharashtra, India.

The major cotton growing belt of Central India and parts of South India is witnessing the problem of internal rotting of green bolls during the boll development stage in the recent three to four years. These green bolls apparently looked healthy from the outside, but when such green bolls were cross-sectioned, the internal developing seeds and lint were stained and discolored to yellowish-pink to reddish in color and sometimes rotten. More often these damages were restricted mostly to one and/or two locules, however occasionally complete rotting of infected bolls was observed. In some cases, quite-a-few green developing bolls appeared with symptoms similar to that of damage imposed by piercing-sucking insects and bugs on the outer boll surface. However, no insect adult(s) or larval stages causing damage to lint and seeds were noticed in such bolls. This situation created some confusion among the farmers and extension workers because in the last few years; high infestation of pink bollworm has been noticed on widespread area of Bt cotton hybrids in India due to field evolved resistance of pink bollworm. Therefore, in order to study this emerging internal boll rot disease complex problem in detail, a team of scientists from ICAR-Central Institute for Cotton Research, Nagpur had conducted a study tour to those areas with problem of internal boll rot disease. Based on the survey visits to farms and discussion with farmers and diagnostic studies conducted by the institute researchers, real scientific reasons behind this malady were identified. The principal cause of internal boll rot disease, identification and technical differences between pink bollworm infestation and bacterial internal boll rot infection to green bolls is depicted in the figure given below. Integrated boll rot disease management practices, are being disseminated to the farmers and extension workers through various media and cotton crop advisories.

Endophytes as biological control agents are being widely used nowadays and there is lot of scope to unravel the potential in many of the crops. Thus, fungal endophytes isolated from leaf and root tissues of cotton were evaluated for their antagonistic potential against Corynespora cassiicola and Fusarium solani. Endophytes with more than 50% inhibition efficiency like Diaporthe longicolla (CEL-41, CEL-48) and Daldinia eschscholtzii (M1-4) were tested through seed treatment and found promising against soil borne plant pathogens in pot study. Field trial was taken up during 2020-21 to evaluate the efficacy of endophytes against natural incidence of diseases. Cotton seeds were treated with five endophytes (CEL-41, CEL-48, M1-4, CFS-5 and CFL-34) along with standard check. It was observed that wilt/ root rot incidence was less in endophyte treated Suraj and Phule dhanwantary plants as compared to control. Minimum disease incidence was seen in D. longicolla-CEL-48 (2.66%) in Suraj whereas, Daldinia eschscholtzii M1-4 (4.16%) in Phule Dhanwantary compared to the untreated control (12.61%). Therefore, the endophytes identified from this study have a potential role in biological control of plant diseases.



Research Notes Clipping

Potential of cotton fungal endophytes as biocontrol agents

Hiremani, N. S,* Gawande, S. P.,* Verma, P.*, Sain, S. K.+ and Nagrale, D. T*.
*Central Institute for Cotton Research, Nagpur
+ Central Institute for Cotton Research, Regional Station, Sirsa

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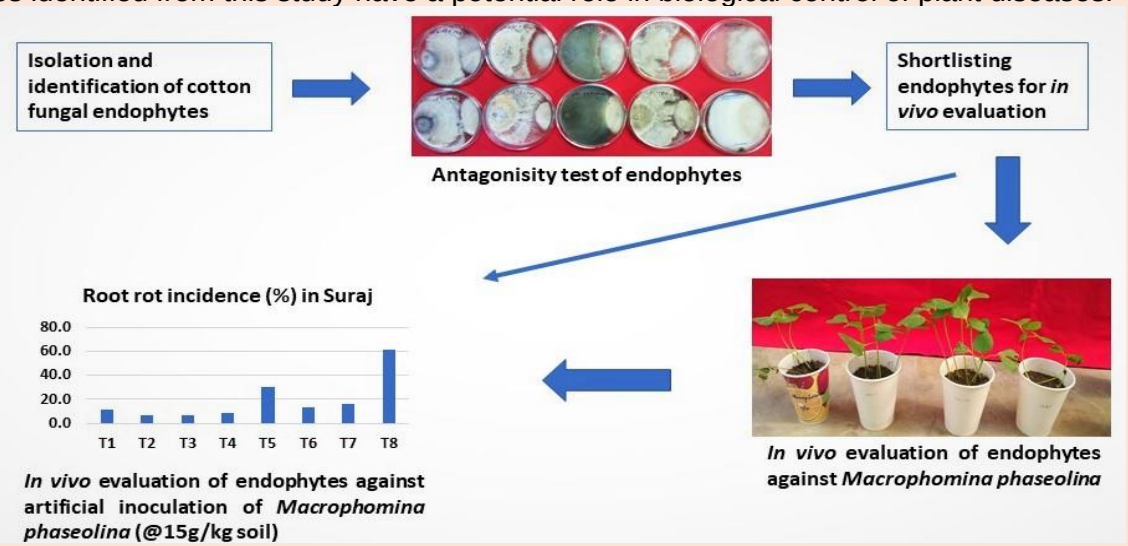

CICR happenings

Training programme on "Soil sampling" conducted at ICAR-CICR, Nagpur

One day training programme on "Soil sampling" was organized at ICAR-CICR, Nagpur on February 15, 2022 for the staff and community volunteers of WWF India, who are working with Regenerative Agriculture (RA) farmers at Chhindwara district, Madhya Pradesh. The aim of the training was to sensitize and impart the knowledge of soil sampling in conventional cotton, organic cotton and forest areas. The programme started with an inaugural address by Dr. Y.G. Prasad, Director, ICAR-CICR, Nagpur who stressed upon the significance of organic cotton in rebuilding soil health. Dr. D. Blaise, Head, Crop Production Division, in his welcome address emphasized on the importance of soil testing, legume intercropping and conservation agriculture. Dr. N. G. Narkhedkar, (Head, Crop Protection) explained about soil sampling strategy for nematode analysis. Dr. Prateeksha Mehra, Senior Project Officer, WWF India briefed about RA and WWF India. Dr. A. Manikandan, Scientist, Soil Science coordinated the program and also delivered a lecture on collection and processing of soil samples for physico-chemical analysis. Dr. Savitha Santosh, Scientist, Agricultural Microbiology, talked about the importance of soil biodiversity on plant nutrition and sampling strategy for microbial determination. Dr. Rachna Pande, Senior Scientist, Agricultural Entomology spoke about arthropods sampling and population estimates during soil collection. Practical demonstrations on collection and processing of soil samples were also conducted at Panjari farm by Mr. Chandrashekhar Mundafale (Technician, Soil Science).

Sensitization workshop to ginning mill owners, input dealers and state extension officers at ICAR - Central Institute for Cotton Research, Regional Station, Coimbatore - 641 003

A Sensitization Workshop on "Emerging Pests and Diseases of Cotton" was conducted on February 23, 2022 under the project "Insecticide Resistance Management (IRM): Dissemination of Pink Bollworm Management Strategies" through video conferencing with the participation of State Department Extension Functionaries, Agro Input Dealers, Southern India Mills' Association and other stakeholders of cotton. Dr Y. G. Prasad, Director, ICAR-CICR, Nagpur chaired the event and Dr. A. H. Prakash, PC & Head, ICAR-CICR, RS Coimbatore, Mr. S. Sundaram, Deputy Director (CS) Directorate of Agriculture, Chennai and Mrs. R. Chitra Devi, Joint Director of Agriculture, Coimbatore gave special address on the occasion. Lectures on "Implementation of IRM: PBW at Tamil Nadu and emerging pests of cotton in Tamil Nadu" by Dr K. Rameash, Principal Scientist; "Technologies for self-sufficiency in ELS cotton for Tamil Nadu" by Dr. S Manickam, Principal Scientist (Plant Breeding) and "Emerging diseases of cotton and their integrated management" by Dr. A Sampath Kumar, Scientist were delivered in the workshop. A total of 438 participants attended the event.


Perundurai, Erode.


Palacode, Dharmapuri.


Mukkudal, Tirunelveli.


Ariyalur, Ariyalur.


Vasudevanallur, Tenk


Sankarankovil, Tenkasi


Thirumanur, Ariyalur.


Dharmapuri, Dharmapuri.
Decimal
DMS
Latitude


Harur, Dharmapuri.


Mulanur, Tiruppur.


Pudur, Tuticorin.


Valliyoor, Tirunelveli.


Avinashi, Tiruppur.


Thiyagadu Trugam, Kallakurichi.


Kalligudi, Madurai.


Mudukulathur, Ramanathapuram.


Oddanchathiram, Dindigul.


Mangalore, Cuddalore.

Farmers Mela organized at ICAR - Central Institute for Cotton Research, Regional Station, Coimbatore

A Farmers Mela and outreach programme on pink bollworm and emerging pests & diseases of cotton will be conducted on February 16, 2022 under the project “Insecticide Resistance Management (IRM): Dissemination of Pink Bollworm Management Strategies” through video conferencing with the participation of 13 KVKs in Tamil Nadu. Dr Y. G. Prasad, Director, ICAR-CICR, Nagpur chaired the event and Dr. A. H. Prakash, PC & Head, ICAR-CICR, RS Coimbatore gave special address on the occasion. Lectures on Integrated management of pink bollworm and emerging pests on cotton in Tamil Nadu by Dr K. Rameash, Principal Scientist (Agricultural Entomology); Pest and disease tolerant cotton varieties suitable for Tamil Nadu and clean cultivation practices by Dr. S Manickam, Principal Scientist (Plant Breeding); Dynamics of pest modelling and automation in pest and disease management by Dr M Sabesh, Senior Scientist (Computer Applications) and Integrated management of important diseases in cotton with special reference to boll rot by Dr. A Sampath Kumar, Scientist (Plant Pathology) were delivered during the programme. A total of 305 participants attended the event.

#	KVK	No. of participants			Total
		SMS	Farmers	Students	
1	Cuddalore	2	15	50	67
2	Namakkal	2	30	0	32
3	Ariyalur	3	18	10	31
4	Perambalur	2	25	0	27
5	Trichy	1	26	0	27
6	Vellore	1	25	0	26
7	Coimbatore	1	23	0	24
8	Theni	2	9	6	17
9	Erode	1	15	0	16
10	Dindigul	1	12	0	13
11	Ramanathapuram	3	8	0	11
12	Krishnagiri	1	9	0	10
13	Salem	3	1	0	4
	Total	23	216	66	305

Vellore

Namakkal

Perambalur

Coimbatore

Erode

Cuddalore

Dindigul

Ramanad

Ariyalur

Theni

Kapas Mela and Training Camp in Sirsa

A one-day 'Kapas Mela and Training Camp' was organized on February 26, 2022 at ICAR-Central Cotton Research Institute, Regional Station, Sirsa. Dr. Y. G. Prasad, Director, ICAR-Central Cotton Research Institute, Nagpur was the chief guest of the programme. Dr. A. H. Prakash, Project Coordinator, All India Cotton Research Project (Cotton), Dr. R. P. Sihag, JDA (Cotton) Sirsa, Dr. Raghuveer Jhorad, District Horticulture Officer, Dr. Lalit Sharma, District Veterinary Surgeon, Sirsa, Dr. Bahadur Singh Godara, GM, IFFCO, Sirsa and Dr. Brij Mohan Sharma, District Fisheries Officer also participated in this programme. At the beginning of the event, Dr. S. K. Verma, Head, ICAR-CICR, Regional Station, Sirsa welcomed all the participants including farmers and presented general cotton production scenario of northern India.

Dr. Y. G. Prasad Director, ICAR-CICR, Nagpur informed about main problems confronted in cotton production. Dr. Prasad exhorted the farmers to adopt the techniques developed by the institute for higher cotton production. He assured the farmers for technical support with respect to cotton production technologies. Dr. A. H. Prakash, Project Coordinator, AICRP on Cotton, discussed about the main problems faced by the farmers in cotton production and the work being carried out under AICRP. Dr. R. P. Sihag, JDA (Cotton), Sirsa, shared detailed information about the schemes of the Agriculture Department in cotton production and various promotional programs being run by the department to increase the cotton production in Sirsa district.

Dr. Rishi Kumar, Principal Scientist (Entomology) delivered a lecture about the identification of insect pests, especially the life-cycle & its management of pink bollworm. Dr. Satish Sain, Principal Scientist (Plant Pathology), delivered a lecture about the identification and management of diseases in cotton crop. Dr. Amarpreet Singh, Scientist (SS) delivered a lecture about latest techniques for cotton production. Dr. Debashish Paul, Scientist (Seed Technology), delivered a lecture about good quality seed production techniques in cotton. Dr. Raghuveer Jhorad, District Horticulture officer, Sirsa, motivated farmers to adopt the horticultural crops and value addition products along with agriculture to increase the income. Dr. Lalit Sharma Veterinary Surgeon, Department of Animal Husbandry, Sirsa delivered a lecture on adoption of animal husbandry and dairy as a subsidiary business along with agriculture. The farmers visited the exhibition installed on PBW life cycle and its management. Total 250 famers actively participated in the programme.

Science Day Celebrations

National Science Day was celebrated on 28th February 2022 at ICAR-CICR, Nagpur. On this occasion a Kisan Goshti was organised. 110 participants including farmers from the adopted villages of KVK, ICAR-CICR, Nagpur and staff members of KVK and ICAR-CICR Nagpur participated. The theme of World Pulses Day 2022 was " Atmanirbhar Bharat- Harnessing potential pulses for import substitution".

Activities by ICAR-CICR under different schemes (Tribal Sub-Plan, SCSP, IRM, etc.)

The programme organized under different schemes during the month of February 2022 is as follows.

Sr. No.	Programme	Date	Place	Participants	Conducted by	Under the scheme
1.	Farmer's training-cum-exposure visit and input distribution under TSP scheme at ICAR-CICR, Nagpur to the tribal farmers. Distribution of 50 summer groundnut seeds bags (20 kg/bag) per farmer.	February 7, 2022	Muradpur, Bendoli, Bothali, Kinhi villages of Umred tahsil, Dist.-Nagpur, (Maharashtra)	50 farmers	Co-ordinators: Dr. V. Chinna Babu Naik Dr. Dipak T. Nagrale Dr. S. S. Patil	TSP
2	Farmer's training on cultivation technique of mushroom under tribal sub plan (TSP), ICAR-CICR, Nagpur organised at KVK, Nagpur	February, 15,2022	Nagpur district (MS)	15 Women farmers	Co-ordinators: Dr. V. Chinna Babu Naik Mrs. Sunita Chavan Dr. Dipak T. Nagrale	TSP
3.	"Sensitization workshop cum farmers training" at Ginning mill, for the management of pink bollworm and boll rot complex	February, 3, 2022	Chimanazari, Dist.-Nagpur	30 farmers	Co-ordinators: Dr. Dipak T. Nagrale Dr. S. S. Patil	IRM-PBW
4.	"Exposure visit cum farmers training" at ICAR-KVK-CICR, Nagpur on post-harvest management of cotton	February, 5, 2022	Nagpur district (MS)	30 farmers	**Co-ordinators:** Dr. Dipak T. Nagrale Dr. S. S. Patil	IRM-PBW

During these programmes, experts from ICAR-CICR have interacted with the farmers and advised them about the schemes, integrated management of pink bollworm and sucking pests, boll rot disease complex, management of foliar diseases, installation of pheromone traps for pest monitoring and mass trapping etc.


केन्द्रीय कपास अनुसंधान संस्थान, नागपुर
CENTRAL INSTITUTE FOR COTTON RESEARCH, NAGPUR


TRAL INSTITUTE FOR COTTON RESEARCH, NAGPUR


निर्मल
जिनिंग अॅण्ड प्रोसेसिंग


कृषि विज्ञान केन्द्र


MUSHROOM
UNIT

Farmers' Corner

Adoption of "Insecticide Resistance Management (IRM) strategies in cotton – a boon to cotton farmers: Shri. Murugesan Mayilsamy from Sokkanur shares his success story

The ICAR-CICR, Regional Station, Coimbatore had initiated National Food Security Mission (NFSM) funded project on "Insecticide Resistance Management (IRM): Dissemination of pink bollworm strategies" in Kinathukadavu block of Coimbatore District, Tamil Nadu from 2018 as a part of extension program. Fifty farmers from Palanigoundanur, Muthugoundanur, Sokkanur, Veerappagoundanur, Sattakkalpudur villages were adopted for the implementation of project activities during the current season. Training was imparted to farmers on plant protection technologies through lectures, field demonstrations, group meetings and exhibitions. Also they are being trained on pest monitoring with pheromone traps, use of bio-control agents and safe handling of insecticides. Regular monitoring of fields was done for sucking pests, natural enemies and boll damage at weekly intervals. Critical inputs were given and the farmers are advised to follow the plant protection measures.

Shri. Murugesan Mayilsamy (Mobile No: 8989406529), an adopted farmer from the Sokkanur village with a land holding of 3.4 acres, cultivating cotton, tomato and vegetable cow pea etc, actively participated in the training programmes organized under IRM project. After receiving the training, the farmer started adopting the use of pheromone traps for pest monitoring; was able to identify the damage symptoms and learned the concept of economic threshold level (ETL) in deciding the timing of insecticide spray. He used to get an annual income of Rs. 2, 23,600 from cotton, tomato, vegetable cowpea etc. He faced problems like pest and diseases, non availability of labour, water scarcity increase in critical input price etc. With DFI interventions like supply of critical inputs like insecticides, growth regulators, fertilizers, better cultivation practices, drought management techniques etc. he is getting an annual income of Rs. 4,23,300/-.

Information provided by,
Dr. K. Rameash,
Principal Scientist (Agrl. Entomology),
ICAR-CICR, Regional Station, Coimbatore

Did You Know?

Beauty Mark gene – for improving hybrid seed production

The purple spot formation at the base of flower petals of Gossypium barbadense is controlled by a semidominant gene, Beauty Mark (BM). GbBM encodes an R2R3 MYB113 transcription factor, which directly targets the promoter of flavonoid biosynthesis genes to positively regulate petal spot development. Scientists have successfully introgressed GbBM allele of Gossypium barbadense into G. hirsutum by marker-assisted selection. Introgression has effected restored petal spot formation, which significantly increased the frequency of honeybee visits in G. hirsutum. The research team achieved higher seed cotton yield in a three line hybrid production system under field conditions. Hence the application of this gene for negating the problem of low seed production of elite cotton hybrid lines could be explored.

Purple spots in flowers of *G. barbadense* variety, Suvin ; Image Source: Dr. S. Manickam, Principal Scientist, Genetics and Plant Breeding, ICAR-CICR, RS, CBE

Reference: Abid, M.A., Wei, Y., Meng, Z., Wang, Y., Ye, Y., Wang, Y., He, H., Zhou, Q., Li, Y., Wang, P., Li, X., Yan, L., Malik, W., Guo, S., Chu, C., Zhang, R. and Liang, C. (2022) Increasing floral visitation and hybrid seed production mediated by beauty mark in Gossypium hirsutum. Plant Biotechnol J., https:// doi.org/10.1111/pbi.13805

Contributed by

J. Annie Sheeba, Senior Scientist, Plant Physiology, ICAR-CICR, Regional Station, Coimbatore

Recent Advances in Plant Breeding and Plant Biotechnology

Genomic and Pedigree based Best linear Unbiased Prediction (BLUP) selection for low heritability complex traits

Best linear Unbiased Prediction (BLUP) is one of the standard selection methods in animal breeding in which the superior genotypes were selected based on the performance of the progeny to breed superior families (Henderson, 1950). Recently it is being used in breeding crop plants where in pedigree based BLUP is replaced by marker-based prediction which is also known a 'genomic relationship matrix'. Earlier either simple arithmetic means or 'Best Linear unbiased Estimation' (BLUE) of genotypes-based crop selection was practiced. They were calculated in a mixed model concept on fixed genotype effects (Piepho et al., 2008). The difference between the BLUE and BLUP is explained by the conditional mean and marginal mean respectively. In BLUE, the expected unbiased mean for an individual is equals to its true value, whereas in BLUP the expected mean over all individuals is equal to expected mean over all true effects. Genetic effects prediction is more accurate in BLUP based selection than BLUE based method (Robinson, 1991). ***Genomic based BLUP*****:** It is a common tool for genomic analysis in both plants and animals. It assumes an identical distribution of all marker effect on the genotype. A special version of GBLUP called single-step GBLUP (ssGBLUP) as core collection can merge pedigree and genomic relationships into a single matrix. The advantage of GBLUP (especially ssGBLUP) is simplicity, since existing models and BLUP software can be reused just by changing a relationship matrix. ***Pedigree based BLUP*****:** The crops in which marker availability is, pedigree based BLUP is the most promising method for selection of parental materials. BLUP based breeding value prediction aids in selection of individuals based on available pedigree information in the genetic analysis (Slater et al., 2014). This methodology uses mixed linear models based on the pedigree relationship to calculate the breeding value of the individuals from larger datasets.

Advantages: The main advantage of using BLUP for selection is that it results in faster genetic gains particularly for complex traits with polygenic inheritance. BLUP is more accurate than phenotypic selection especially for low heritability traits, which are highly influenced by environmental factors. The possible hardship in this method is that the pedigree details should be precise and complete for capturing the total variance through pedigree relationship matrix.

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Contributed by

K. Baghyalakshmi

Scientist (GPB), CICR, RS, Coimbatore

Organelle genome editing: A recent breakthrough in targeted genome engineering

Contemporary, genome editing techniques including the cutting-edge CRISPR/Cas technology can efficiently install desirable alterations in the target genetic locus. Despite significant achievements in nuclear genome editing, all attempts to edit the cellular organelle genome (mitochondrion or chloroplast), remain futile. Hence, to overcome this challenge, scientists from the Centre for Genome Engineering within the Institute for Basic Science developed a new gene-editing platform called *transcription activator - like effector-linked deaminases*, or TALED. TALEDs are base editors capable of performing A- to -G base conversion in mitochondria. Basically, this discovery has put an end to a decades-long journey to cure human genetic diseases linked to mitochondrial inheritance, and speculatively, TALED may well establish itself as the final missing link in gene-editing technology.

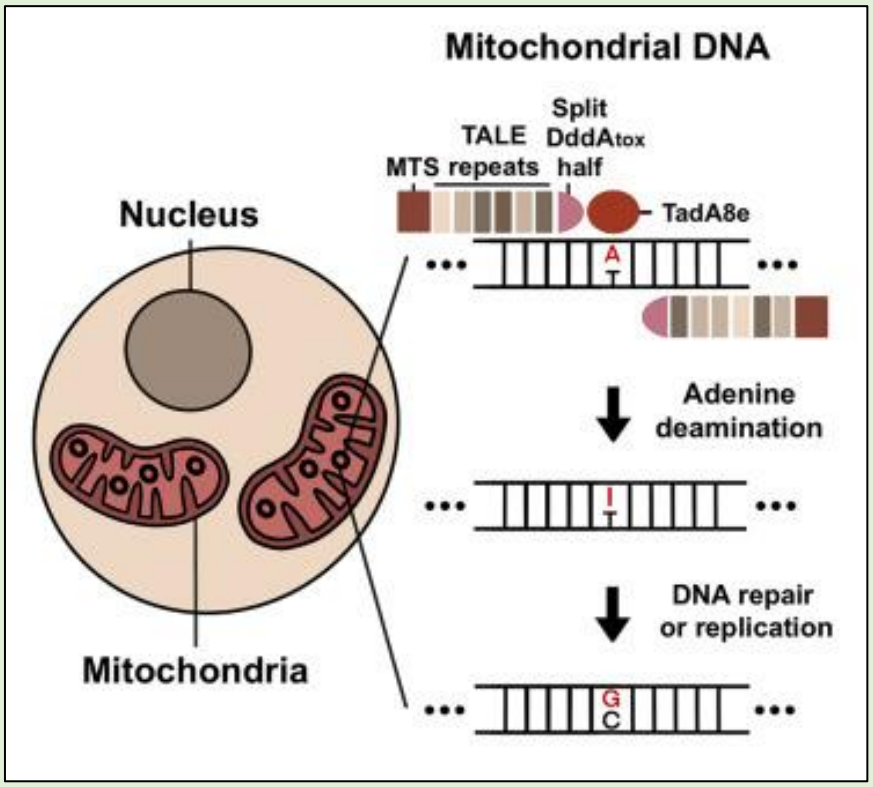


Image Source: https://doi.org/10.1016/j.cell.2022.03.039

In the study, the researchers, designed a base editor i.e. Transcription-activator-like effector (TALE)-linked deaminases (TALEDs) which induces targeted A-to-G editing in human mitochondria. TALED is composed of custom-designed TALE DNA-binding arrays, a catalytically impaired, full-length Ddd A variant or split Ddd A originated from *Burkholderia cenocepacia*, and an engineered deoxyadenosine deaminase derived from the *E. coli* TadA protein. Custom-designed TALEDs were found to be highly efficient in human cells, catalyzing A-to-G conversions at a total of 17 target sites in various mitochondrial genes with editing frequencies of up to 49%. As discussed in their research, similar plant-compatible TALEDs, can be custom designed to edit the enormous photosynthetically vital chloroplast genes in plants including cotton. Thus, this finding may open up new avenues in crop genetics and biotechnology.

Reference:

Cho, S.I., Lee, S., Mok, Y.G., Lim, K., Lee, J., Lee, J.M., Chung, E. and Kim, J.S., 2022. Targeted A-to-G base editing in human mitochondrial DNA with programmable deaminases. Cell

Contributed by
Rakesh Kumar, Joy Das and Raghavendra KP
Division of Crop Improvement
ICAR-CICR, Nagpur

Scientists' Corner:

- Dr. Y.G. Prasad, Director ICAR-CICR, Nagpur, attended the 46th Meeting of the Board of Management held on 01 February, 2022 through virtual mode at University Bhavan, Navsari.
- Dr. Y. G. Prasad, Director ICAR-CICR, Nagpur, participated along with Dr. M.V Venugopalan, Head, PME, ICAR-CICR, Nagpur and Er. G. Majumdar, Senior Scientist, ICAR-CICR, Nagpur in the Round Table Meeting on Cotton High Density Planting System organised by Dr. R. Jagadeeshwar, Director of Research, PJTSAU, Hyderabad on 02nd February 2022 through virtual mode.
- Dr. Y. G. Prasad, Director ICAR-CICR, Nagpur attended the Executive Council meeting of Indian Society for Cotton Improvement (ISCI) held on 2nd February 2022 through Hybrid mode. The meeting was chaired by Dr. A. J. Shaikh, Chairman, ISCI in the presence of Dr C. D. Mayee, President, ISCI.
- Dr. Y. G. Prasad, Director ICAR-CICR, Nagpur, participated as Guest of Honour in the National Summit on "Strategies for Promoting Organic Cotton in India" on 03rd February, 2022 organized by Dr. PDKV, Akola, Maharashtra in collaboration with Research Institute of Organic Agriculture (FiBL), Switzerland through virtual mode.
- Dr. Y. G. Prasad, Director, ICAR-CICR, Nagpur convened the virtual meeting of the Bayer Crop Science Proposal on GM Cotton Project on Monday 7th February, 2022. Dr. A. H. Prakash, Project Coordinator and Head, ICAR, CICR-RS, Coimbatore, Dr. D. Blaise, Head, Crop Production Division, ICAR-CICR, Nagpur, Dr. V. N. Waghmare, Head, Crop Improvement Division, ICAR-CICR, Nagpur, Dr. Nandini Gokte, Head, Crop Protection Division, ICAR-CICR, Nagpur, Dr S .B Singh, Principal Scientist, ICAR-CICR, Nagpur, Dr M. V. Venugopalan, Head, PME, ICAR-CICR, Nagpur, Dr G. Balasubramani, Principal Scientist, ICAR-CICR, Nagpur and Dr. S. Manickam, Principal Scientist, ICAR, CICR-RS, Coimbatore ,were present during the meeting.
- Dr. V. Chinna Babu Naik, Senior Scientist (Ag. Entomology) delivered an interactive lecture on "Integrated management of Pink bollworm in Cotton" to the farmers in one-day "Farmer's training-cum-Exposure visit and distributed inputs under TSP scheme organized by ICAR-CICR, Nagpur on 7th February, 2022.
- Dr. Dipak T. Nagrale, Senior Scientist (Plant Pathology), guided farmers on "Boll rot disease complex management in cotton" in one-day "Farmer's training-cum-Exposure visit and distributed inputs under TSP scheme organized by ICAR-CICR, Nagpur on 7th February, 2022.
- Dr. Y. G. Prasad, Director, ICAR-CICR, Nagpur along with Dr A. H. Prakash, Project Coordinator and Head, ICAR, CICR-RS, Coimbatore, Dr. D. Blaise, Head, Crop Production Division, ICAR-CICR, Nagpur, Dr V. N. Waghmare, Head, Crop Improvement Division, ICAR-CICR, Nagpur, Dr Nandini Gokte, Head, Crop Protection Division, ICAR-CICR, Nagpur, Dr S B Singh, Principal Scientist, ICAR-CICR, Nagpur, Dr M. V. Venugopalan, Head, PME, ICAR-CICR, Nagpur, Dr G. Balasubramani, Principal Scientist, ICAR-CICR, Nagpur and Dr S. Manickam, Principal Scientist, ICAR-CICR, Nagpur participated in the meeting to discuss on GM Cotton projects in virtual mode under the Chairmanship of DDG (CS) on 8th February, 2022.
- Dr. Y. G. Prasad, Director, ICAR-CICR, Nagpur, along with Dr A. R. Reddy, Principal Scientist, Agricultural Economics, ICAR-CICR, Nagpur attended the virtual meeting to discuss the issues related to the Single Nodal Agency and the compliance made by the various states/seed certification agencies and other IAs to SNA as per DoE's OM dated 23/03/2021 and subsequent OM's under the Chairmanship of Joint Secretary (Seeds) organised by Dr. Dilip Kumar Srivastava, Deputy Commissioner (QC) on 09th February 2022.
- Dr. Y. G. Prasad, Director, ICAR-CICR, Nagpur participated as Special Guest in commemoration of 75th Year of India Independence (Azadi ka Amrut Mahotsav) and celebration of 69th Foundation day of ICAR-CRIJAF, Barrackpore, organised by ICAR-CRIJAF Barrackpore on 09th February 2022 through virtual mode.
- The Institute Bio safety Committee (IBSC) meeting was held under the Chairmanship of Dr Y. G. Prasad, Director, ICAR-CICR on 14th February, 2022. All the Committee members of IBSC & External members viz Dr. Ashish Das, DBT Nominee, ICAR-CCIR, Nagpur, Dr. B. D. Deshmukh, MO, Datta Clinic Nagpur and Dr. Amit Bafana, Outside Member, CSIR-NEERI, Nagpur participated through virtual mode.
- Dr. Rishi Kumar, Principal Scientist (Entomology) ICAR-CICR, Regional Station, Sirsa attended Institute Bio-safety Committee meeting on February 14, 2022 through video conference.

- Dr. Y. G. Prasad, Director, ICAR-CICR, Nagpur participated in the virtual zonal level review workshop on ARYA in Maharashtra and Gujarat on 15th February, 2022 organized by ICAR-ATARI, Zone-VIII, Pune.
- Dr. Y. G. Prasad, Director ICAR-CICR, Nagpur along with Dr. Blaise D' Souza, Head, Crop Production Division, ICAR-CICR, Nagpur, Dr. A. Manikandan, Scientist, ICAR-CICR, Nagpur inaugurated the one day training programme on soil sampling for the field staff and community volunteers of WWF, India organized by ICAR-CICR Nagpur on 15th February, 2022.
- Dr. Y. G. Prasad, Director ICAR-CICR, Nagpur along with Dr. S. Manickam, Principal participated in the virtual meeting under the chairmanship of Joint Secretary (Seeds) on 16.02.2022 through video conference for Finalization of Breeder Seed Indent of Agriculture crops for Kharif-2023 being organized by Dr Chandra Mohan, Assistant Commissioner (Seeds) Ministry of Agriculture & Farmers Welfare.
- Dr. Y. G. Prasad, Director ICAR-CICR, Nagpur presided the outreach programme on pink bollworm and emerging pests and diseases of cotton organised by ICAR Regional Station, Coimbatore on 16th February 2022.
- Dr. Y. G. Prasad, Director ICAR-CICR, Nagpur presided the outreach programme on pink bollworm and emerging pests and diseases of cotton organised by ICAR Regional Station, Coimbatore on 16th February 2022. Dr. A. H. Prakash and Dr. K. Rameash accompanied Director during the outreach programme.
- Dr. Y. G. Prasad, Director, ICAR-CICR, Nagpur, gave special address during the workshop on “Thrust Areas & State Training Needs in Agriculture & Allied Sector” on 17th-18th February, 2022 organised by VANAMATI, Nagpur.
- Maharaj Chatrapathi Shivaji Jayanthi, was celebrated on 19/02/2022 at Central Institute for Cotton Research, Nagpur. Dr. Y. G. Prasad, Director, CICR, Nagpur, Scientists, administrative, technical and all the supporting staff were present on the occasion.
- Dr. Y. G. Prasad, Director, ICAR-CICR, Nagpur, attended the 31st Agricultural Research Council Meeting of Dr PDKV, Akola held under the Chairmanship of Hon’ble Vice Chancellor on 21st February, 2022.
- Second meeting of the “Price Fixation Committee of price norms related to sharing of germplasm with private firms including multinational companies” was held on 21.02.2022 through hybrid mode. Dr. Y.G. Prasad, Director, ICAR-CICR, Nagpur, Dr. A.H. Prakash, PC & Head, ICAR-CICR, RS, Coimbatore and Chairman of the Committee and all the members PFC Committee and a special invitee Dr. Anjali Kak, PS, NBPGR participated in the meeting.
- The Sensitization Workshop on “Emerging Pests and Diseases of Cotton” was held on 23rd February 2022 on virtual mode, hosted by ICAR-CICR, Regional Station, Coimbatore. The Special address was given by Mr. S Sundaram, Deputy Director (CS), Directorate of Agriculture, Chennai and Mrs R Chitra Devi, Joint Director of Agriculture, Coimbatore and Presidential Address was delivered by Dr Y G Prasad, Director, ICAR-CICR-Nagpur.
- A Meeting with Senior Officials from Bayer Crop Science Limited, was held on 23rd February, 2022 regarding the proposal from Bayer Crop Science Ltd. for contractual services by ICAR-CICR, Nagpur, to introgress herbicide tolerant technology into cotton lines belonging cotton seed companies. The meeting was attended by Dr. Y. G. Prasad, Director, ICAR-CICR, Nagpur, Dr. D. Blaise, Head, Crop Production Division, ICAR-CICR, Nagpur, Dr V. N. Waghmare, Head, Crop Improvement Division, ICAR-CICR, Nagpur, Dr Nandini Gokte, Head, Crop Protection Division, ICAR-CICR, Nagpur, Dr S B Singh, Principal Scientist, ICAR-CICR, Nagpur, Dr M. V. Venugopalan, Head, PME, ICAR-CICR, Nagpur, Dr A. H. Prakash, Project Coordinator and Head, ICAR, CICR-RS, Coimbatore, Dr G. Balasubramani, Principal Scientist, ICAR-CICR, Nagpur, Dr H B Santosh, Senior Scientist, ICAR-CICR, Nagpur, Dr K P Raghvendra, Senior Scientist, ICAR-CICR, Nagpur and BAYER Crop Science Ltd representatives, Mr. Nagesh Wunnava, Dr Yogesh Kumar & Mr. P J Suresh.
- Dr. S. K. Verma, Principal Scientist (Plant Breeding) and Head (I/C), Dr. Rishi Kumar, Principal Scientist (Entomology) participated in a workshop on “Off season management of Pink bollworm” and delivered a lecture at KVK, HAU Sirsa on February 23, 2022. Total 100 representatives from seed and agro chemicals company participated in the program.
- Dr. Y. G. Prasad, Director, ICAR-CICR, Nagpur and Dr. A.H. Prakash, PC & Head, ICAR-CICR, RS, Coimbatore and Member Secretary of the Committee attended the first meeting of “Revisiting the guidelines for testing of Bt cotton varieties/hybrids under AICRP on Cotton” held under the Chairmanship of Hon’ble Prof. BS Dhillon, Former Vice Chancellor, PAU, Ludhiana on 25th February, 2022 in Board Room of NASC Complex, New Delhi.
- Dr. Y.G. Prasad, Director, ICAR-CICR Nagpur participated as Chief Guest under the Kapas Mela and Training Camp on 26th February 2022 organised by ICAR-CICR, RS, Sirsa.
- A Special meeting of the Academic Council was held on 28th February, 2022 through video conferencing under the Chairmanship of Dr P G Patil, Hon’ble Vice-Chancellor, MPKV, Rahuri. All members of Academic Council participated through virtual mode.
- Dr. Debashis Paul, Scientist (Seed Technology) successfully completed the 21 days winter school on ‘Artificial Intelligence in Agriculture’ organised by ICAR-IASRI, New Delhi during February 15 to March 07, 2022 through online mode.

Cotton Trade and Statistics (February 2022)

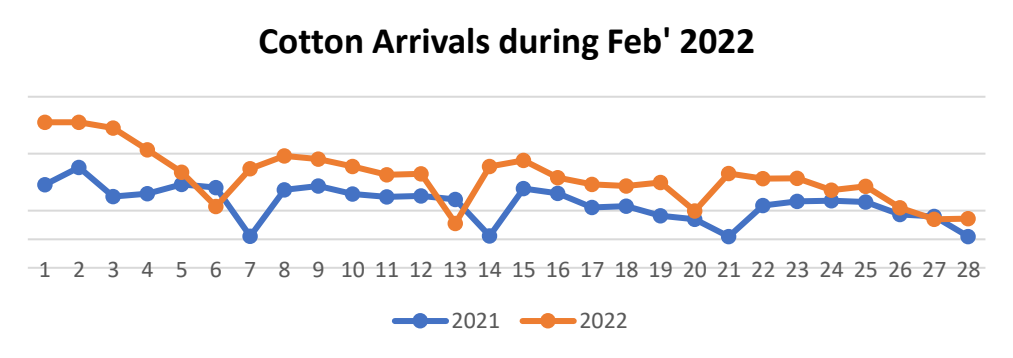
Isabella Agarwal & A. R. Reddy
Principal Scientists, Agricultural Economics, ICAR-CICR

Indian spot prices (Shankar-6 quality) eased from 133 to 128 cents/lb or from 78,000 to 77,000 INR/candy. Over the past month, the INR weakened slightly against the dollar, from 75 to 77 INR/USD. Pakistani spot prices briefly moved higher but are currently trading near levels as one month ago (137 cents/lb). In domestic terms, prices traded between 20,200 and 20,000 PKR/maund. The PKR weakened slightly from 174 to 178 PKR/USD.

International Price of Cotton (cents/lb)

	Latest Value (9th Mar 2022)	Latest Month (Feb 2021)	Last 12 Months (Mar 2021-Feb 2022)
NY Nearby	117.50	124.20	99.60
A Index	134.60	138.40	108.70
CC Index	163.40	163.50	134.30
Indian Spot	128.90	132.40	99.90
Pakistani Spot	136.50	138.70	106.10

The Indian cotton arrival has drastically reduced to around 220 lakh bales during February 2022 compared to 293 lakh bales arrived during February, 2021



Out of 220 lakh bales arrival in the market, around 150 lakh bales have been consumed by the mills, 30 lakh bales have been contracted for exports, 15 to 20 lakh bales are in the pipeline and around 20 lakh bales are with the trade and ginners. Hence, the spinning mills are having one to two months stock only, against the normal stock of three to six months during February 2022. Overseas buyers have started scouting for alternate destinations to broaden their supply base for fear that elevated input costs in India would push the prices of garments up.

State wise Wholesale Prices Monthly Analysis for Cotton during February 2022

States	Prices Feb'2022	Prices Jan'2022	Prices Feb' 2021	% Change (Over Previous Month)	% Change (Over Previous Year)
Andhra Pradesh	9152.51	8701.41		5.18	__
Gujarat	9245.21	8901.65	5641.25	3.86	63.89
Haryana	8962.06	8614.73		4.03	__
Karnataka	9631.8	9305.19	5819.98	3.51	65.5
Madhya Pradesh	9598.85	9166.53	5787.16	4.72	65.86
Maharashtra	9653.11	9530.58	5791.6	1.29	66.67
Odisha	9138.05	7931.97	5708.36	15.21	60.08
Punjab	8493.96	8686.78	5833.96	-2.22	45.6
Rajasthan	9906.12	9048.69	5986.81	9.48	65.47
Tamil Nadu	9914.51	9104.04	4793.17	8.9	106.85
Telangana	9373.18	8899.12	5642.47	5.33	66.12
Average	9369.94	8686.1	5667.2		

As the seed cotton price (kapas) is ruling around 70 per cent higher than the Minimum Support Price; the farmers, ginners and traders are hoarding the cotton hoping for further increase in prices.

Cotton in Media

(A one page collage will be designed in the Cotton Innovate template)

या या बोंड अळीनं बरं नाही केलं गं बया !

Sakal Agroone, 4 February, 2022

देशात 'एचटीबीटी कॉटन'ला उत्पादनाची परवानगी मिळणार !

केंद्र शासन अनुकूल; उद्योजक, खासगी कंपन्यांचे शास्त्रज्ञ सकारात्मक

Lokmat, 20 February, 2022

World Pulses Day celebration held at ICAR-CICR

The Hitavada, 22.2.2022

अन्नधान्याची गरज भागविण्यासाठी जीएम बियाणांशिवाय पर्याय नाही

कृषीतज्ज्ञांचे मत : उत्पादन वाढेल, महागाईवर येईल नियंत्रण

Lokmat, 5 February, 2022

बांधावरच करता येणार कापसाचे जिनिंग-प्रेसिंग

देशात कापूस लागवड क्षेत्र १५ टक्के विस्तारेल

केंद्रीय कापूस संशोधन संस्थेकडून सूतोवाच

Sakal Agroone, 12 February, 2022

बांधावरच करता येणार कापसाचे जिनिंग-प्रेसिंग

राहुरी विद्यापीठाकडून मोबाइल जिनिंगचा पर्याय

Sakal Agroone 28.2.2022

Click of the Month

Adult of Pink bollworm by Dr. K. Rameash

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Chief Editor:
Dr. Y. G. Prasad

Senior Editor:
Dr. Annie Sheeba

Associate Editor, Cover page & Layout Design:
Dr. M. Sabesh

Editors: Dr. V. Chinna Babu Naik, Dr. Pooja Verma, Dr. K. Baghyalakshmi, Dr. Debashis Paul

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Director ICAR-Central Institute for Cotton Research Post Bag No. 2, Shankar Nagar PO, Nagpur 440010, India
Phone: 07103-275536; Fax: 07103-275529
Email: cicrnagpur@gmail.com, director.cicr@icar.gov.in

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