COTTON INNOVATE

Cotton Innovate

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

Incidence of Tobacco Streak Virus in Gossypium hirsutum
Photo by - Dr. P. Valarmathi, Scientist, ICAR, CICR, RS, Coimbatore

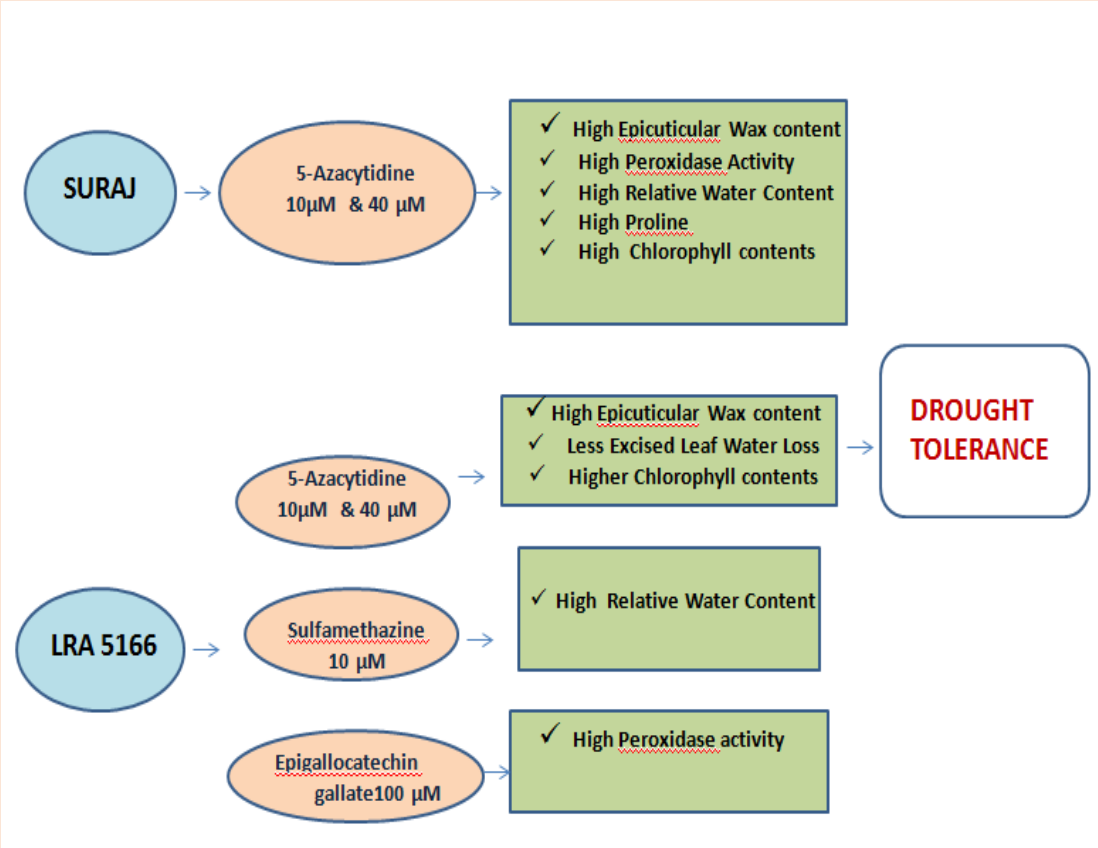
Cotton Innovate | Volume 12(2), 2022
www.cicr.org.in

Research Note Clipping

Transmission of Stress Memory through Cotton Seeds treated with epigenetic regulating chemicals improves drought tolerance in Cotton

J. Annie Sheeba, Senior Scientist, ICAR-Central Institute for Cotton Research, Regional Station, Coimbatore

Epigenetic inheritance is important for the understanding of phenotypic variations in nature. Recent evidences in plants indicate that few epigenetic traits are stably inherited across generations. An experiment was conducted to explore the possibility of using epigenetic inheritance for imparting abiotic stress tolerance in cotton. Suraj and LRA5166 seeds treated with Epigenetic Regulating Chemicals (ERCs) like 5-Azacytidine, Sulfamethazine, Epigallocatechin gallate and Nicotinamide along with control (water) in the first generation and generation advancement was done up to five generations and screened for drought tolerance. The results revealed that seed treatment with 5-Azacytidine contributes to drought tolerance at least up to three generations in cotton varieties Suraj and LRA 5166 by enhancing most of the important drought tolerant traits involved in water conservation and osmolytes production.



Whole genome bisulphite sequencing revealed that the higher proportion of differentially hypo methylated regions was observed in Chromosome 9 and 12 in third generation plants of LRA 5166. In case of Suraj, higher proportion of differentially hypo methylated regions were observed in Chromosome 5 of third generation plants. This indicates increase in gene expression under drought stress conditions, thus imparting drought tolerance to cotton.

CICR Happenings

Research Advisory Committee (RAC) meeting held at ICAR, CICR, Nagpur

The third meeting of the current Research Advisory Committee (RAC) of ICAR-Central Institute for Cotton Research (CICR), Nagpur was held on 7th and 8th December 2022 under the Chairmanship of Dr. SA Patil, Former Chairman, Farmers' Commission of Karnataka, Former Director, ICAR-IARI, New Delhi and Former Vice Chancellor, UAS, Dharwad. Dr. OM Bambawale, Dr. AJ Shaikh, Sh. Srirang Devaba Lad attended in physical mode and Dr. RK Singh, Prof. SS Siwach, Dr. AR Sharma attended through virtual mode. Dr YG Prasad, Director; Dr. VN Waghmare, Dr. D Blaise, Dr. Nandini Gokte Narkhedkar, Dr. AH Prakash, Dr. SK Verma, Dr. MV Venugopalan, Dr. SN Rokde, Dr. KP Raghavendra and Dr. K Velmourougane also participated in the meeting. Dr. MV Venugopalan, Member Secretary, welcomed the chairman and the other members of the RAC. Dr. YG Prasad, Director, ICAR-CICR also extended a formal welcome and appraised the RAC on the salient achievements of the Institute and new initiatives at ICAR-CICR. The Chairman Dr SA Patil in his introductory remarks briefed about the current national cotton scenario and the global dynamics in the cotton economy. He added that there is a need to keep a balance among the different categories of cotton produced. He exhorted ICAR-CICR to take up the challenge of improving the cotton productivity of India to the global average. Innovative technologies developed by the institute need to be up-scaled.Dr. MV Venugopalan presented the Action Taken Report on the recommendations of the previous RAC meeting held on 17th & 18th November, 2021. Dr YG Prasad appraised the RAC about the salient research achievements for the period during 2021-22 and highlighted the recent R&D initiatives. In the prolonged meeting during December 07-08, 2022, the Heads of the Divisions and Regional stations presented the salient achievements of the research undertaken by their divisions/stations. The Chairman and Members of the RAC also visited the experimental fields, polyhouse and laboratories. The scientists interacted with the experts and explained the objectives of the work being undertaken and the research findings that are emerging.

Dr. SA Patil addressed all the scientists through hybrid mode (physical and virtual). He appreciated the research achievements of ICAR-CICR and urged the institute to work on popularization of CICR Bt varieties and integrate all the available technologies to achieve at least 50 quintals yield/ha. He appreciated the conduct of RAC meeting and urged the institute to include the valuable suggestions been made by the members during the meeting in the research programmes of the institute. The RAC meeting was concluded with the vote of thanks proposed by Dr. Y.G. Prasad, Director, ICAR-CICR, Nagpur.

ICAR-CICR, Nagpur celebrates 8th World Soil Day-2022

Soils are the principal constituents of the terrestrial ecosystems upon which our existence and well-being rely. Hence, protection of soil in terms of its functions, fertility, and degradation is essential for sustainable agriculture to feed the rising population. The adoption of inappropriate and defective soil management practices have effects on soil health in terms of compaction, soil erosion, groundwater pollution, nutrient deficiencies, loss of soil biodiversity, etc., which affect agricultural productivity. Under changing climate conditions, these effects on soils will be further accelerated and affect soil, plant, and human health. Though agricultural experimentation mainly centered on enhancing soil fertility and crop productivity worldwide, soil fertility deterioration and its consequences on biodiversity, ecosystem functions, and food security have been realized only recently. Under the climate change era, soils have become a more vulnerable natural resource, worldwide, due to rising temperature and evaporation rates leading to extended drought and moisture deficits. Around 25–40 billion tonnes of fertile soil is estimated to be lost globally each year. Hence, soil health protection has become a vital societal responsibility for future food security and environmental health. Considering the importance of soil health, 2015 was declared as the 'International Year of Soils by the FAO, to increase world-wide consciousness on the significance of soil health.

ICAR - Central Institute for Cotton Research (CICR), Nagpur, celebrated World Soil Day on 5th December 2022 to create awareness on the importance of soil health, and its sustainable management. World Soil Day 2022 (#World Soil Day) and its campaign "Soils: Where food begins" aim to raise awareness of the importance of maintaining healthy ecosystems and human well-being by addressing the growing challenges in soil management, increasing soil awareness and encouraging societies to improve soil health. On the event of "World Soil Day 2022", 45 progressive farmers from Palwadi village, Tiwasa Taluk, Amravati District and Front line demonstration (FLD) farmers from Bhugaon village, Kamptee Taluk, and Kondali village, Katol Taluk, Nagpur District were invited. Along with farmers, college students of Environmental Science, Biochemistry and Biotechnology department, Kamala Nehru Mahavidyalaya, Sakardhara and school students of Future Agriculture leaders (FALI), Prakash High School, Malegaon, Saoner Taluka, Jijamata High School, Khapa, Saoner Taluk, and Swami Vivekananda Ashram School, Chandrapur also took part in the World Soil Day 2022, along with scientists, technical officers, administrative staff of CICR, Nagpur. Along with Coimbatore and Sirsa (Regional Station), scientists also participated through on-line mode. ICAR-CICR has arranged lectures and quiz programmes on soil health and its significance in agriculture and human welfare. During this program, messages on the significance of soil health from the Union Minister of Agriculture, Govt. of India and Director General, ICAR were read out for the benefit of farmers and students. Dr. YG Prasad, Director, ICAR-CICR, in his keynote address emphasized the importance of soil health vis -a -vis human health, and urged the farmers for regular soil testing and soil health card-based nutrient management. He also pointed to the importance of soil organic carbon, organic matter for future soil and crop productivity. Where, food production needs to be increased by 60% by 2050. Sustainable Soil health and Regenerative Agriculture are future prospects of Cotton production. Dr. Blaise Desouza, Head, Crop Production Division mentioned that approximately 97 million hectares of soil has already been degraded out of the nation's total geographical area of 329 million hectare. Further, he emphasized that the soil acts as a potential sink for CO2 sequestration, thus helping in carbon sequestration and mitigation of climate change. He pointed out that 360 ppm of CO2 level in the 1990s was raised to 418 ppm in 2022. Dr. A. Manikandan, Senior Scientist (Soil Science) delivered a lecture on "Soils for nutrition" and conducted a quiz program on soil health and its significance in agriculture. He talked about the importance of soil for the supply of essential plant nutrients. He emphasized that any mismanagement of soils could cause hidden hunger of micronutrients, which needs to be taken care of for balanced nutrition of crops and humans.

Dr. K. Velmourougane, Senior Scientist (Agricultural Microbiology), delivered a talk on the “Role of microorganisms in soil health and plant nutrition.” In his lecture, he explained the beneficial role of microorganisms in the alleviation of biotic and abiotic stress under climate change situations. During this World Soil Day 2022, “Soil health cards (SHC)” were prepared for 175 cotton fields and distributed to front line demonstration farmers. Dr. G. Balasubramani, Principal Scientist (Agri. Biotechnology) and Dr. Jayant Meshram Principal Scientist (Plant Physiology) have guided the students and farmers during laboratory visits.Mrs. Rachana Deshmukh (Technical Officer, Crop Production) compered the program. Field visit was assisted by Mr. Chandrashekar Mundafale (Technician, Crop Production). The World Soil Day programme ended with a vote of thanks by Dr. A. Manikandan.

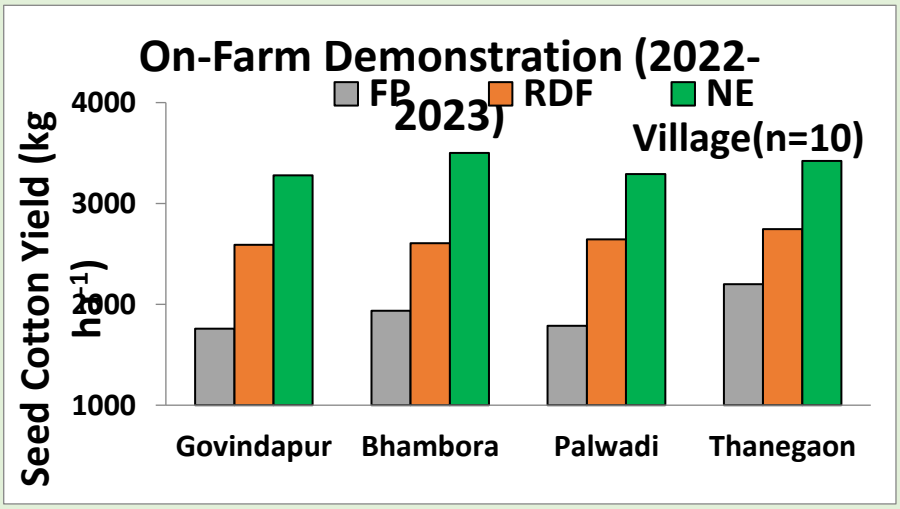
Picture 1. Soil health Card distribution to FLD Cotton farmer-World Soil Day 2022

Picture 2. Directors key address and view of participants –World Soil Day 2022

Picture 3. Cotton farmers, college and school students at ICAR-CICR, Nagpur for World Soil Day 2022 celebration

Front line Demonstration

Seed cotton yield data collection was done from farmers' field at Chittur, at Asthi district, Wardha, at Kannamwar, at Karanja district, Wardha and ICAR-NePPA farmers' field visit at Thanegaon, Karanja District, Wardha.



Visit to the demonstration trial fields on pink bollworm management using novel technology (PB knot) at Wardha, Nagpur under the Project Bandhan of SBAC and Agrovision Foundation.

A team of scientists from ICAR-NCIPM, New Delhi and ICAR-CICR, Nagpur comprising Dr Ajanta Birah, Dr Anoop Kumar and Dr T Prabhulinga visited the demonstration trial fields on pink bollworm management using novel technology (PB knot) at Wardha and the visit was coordinated by Mr Rahul Panchbhai, Project Officer, Agrovision foundation and Dr. Neelesh Vajeere, SMS Plant protection, KVK Wardha. The project officer, Mr. Rahul Panchbhai informed that PB knot contains 140 mcg gossyplure and was applied at 50 days old crop. At the border of the crop, the PB knot was tied on cotton plants at a distance of one meter, whereas in the middle it was applied at 5 meters apart. A total of 160 knots per acre were applied. As per the company claim, PB knot proves to be effective for 90 days. In this way, it can protect the crop up to the age of 140 days. The team surveyed the cotton fields of Project Bandhan, where the crop was 6 months old with about 20 green bolls per plant. The team randomly collected 100 green boll samples from the PB knot treated field and farmer field without PB knot, 3 km away from it. Based on destructive sampling, PBW infestation was recorded at about 18 % in the treated field, whereas it was 52.4 % in the untreated field.

ICAR-CICR, Regional Station, Coimbatore trains farmers on Sustainable Production from fibre to the finished garment at Sardar Vallabhbhai Patel International school of Textiles and management

Dr (Mrs.) P. Nalayini, Principal scientist (Agronomy) acted as one of the coordinators for the Training program on sustainable production from fibre to the finished garment during December 8-9, 2022 at Sardar Vallabhbhai Patel International school of Textiles and management in association with Germany International Academic Partners at SVPITM campus, Coimbatore. Dr. K. Rathinavel, Dr. P. Nalayini, Dr. A. Manivannan, Dr. K. Shankar Ganesh, Dr. P. Valarmathi of ICAR – CICR, Coimbatore and Dr. Senthilnathan of TNAU delivered emerging topics to the cotton growers of Tamil Nadu.

Cotton Farmers Training conducted at ICAR-CICR, RS, Coimbatore

A training programme for forty cotton farmers from Tirupathur District under ATMA scheme of Tamil Nadu was conducted during December 7-9, 2022. Dr. K Rathinavel, Principal Scientist (Seed Science) acted as the convener, and Dr. K. Baghyalakshmi, Scientist (Genetics and Plant Breeding) as co-convener. The training programme was conducted at the office premises where all the scientists from various disciplines delivered lectures to the farmers. Field visits were also organized during the programme.

Assistant Director General (Seeds) visits ICAR-CICR, RS, Coimbatore

Dr. D.K. Yadava, Hon'ble Assistant Director General (Seed) and Dr. Sanjay Kumar, Director (ICAR- Indian Institute of Seed Science), Mau, UP visited ICAR - Central Institute for Cotton Research, Regional Station, Coimbatore on December 9-10, 2022. During the visit, ADG interacted with scientists and visited the breeder seed production plot.

ICAR-CICR, Regional Station, Coimbatore participated in Agri Expo 2022

ICAR CICR regional station, Coimbatore participated in the State level Agri expo 2022 organized at the VIT School of Agricultural Innovations, Vellore. A team of scientists and technical staff led by Dr (Mrs.) P. Nalayini (as Convener) with Dr A. Manivannan, Dr Shankar Ganesh, Mrs. Anisha, Shri Sabarinathan and Shri. Satheesh partook in the expo and showcased CICR Technologies, varieties, and advances in cotton cultivation to dignitaries, research scholars, and the general public organized during December 14-15, 2022. The CICR Stall attracted a huge crowd and was appreciated by one and all and honored with a shield by the organizers.

Training programme Cotton production, protection technologies and hands-on training on mass production of the entomopathogenic fungus

ICAR-Central Institute for Cotton Research, Regional Station, Coimbatore and ICAR - Krishi Vigyan Kendra jointly organized a five days training programme on Cotton production, protection technologies and hands on training on mass production of entomopathogenic fungus from December 20 to 24, 2022 at ICAR-Krishi Vigyan Kendra MYRADA, Gobichettipalayam - Taluk, Erode District. Twenty cotton-growing farmers from Erode District and six youth from ARYA-Bio input group took part in the training programme. The inaugural session started with the welcome address by Mr. Srinivasan, Scientist (Plant Protection), ICAR-KVK followed by the inaugural address by Mr. P. Alagesan, Senior Scientist and Head, ICAR-KVK. He gave an update on ICAR-KVK and ARYA Bio Input group activities. He highlighted the production of bioagents like Pseudomonas flourescens, Trichoderma viride, Beauveria bassiana, and VAM by ARYA. Dr. AH Prakash, Project Coordinator and Head delivered the presidential address and emphasized the significance of production and protection technologies for sustainable cotton production. Dr. J Gulsar Banu provided a summary of the training programme. Lectures were given over the course of five days by scientists from ICAR-CICR and ICAR-KVK. Dr. S. Manickam, Principal Scientist, interacted with farmers on Cotton varieties suitable for Tamil Nadu and Dr. K Rathinavel, Principal Scientist (Seed Technology) briefed on the Importance of seed, seed treatment and seed production techniques in cotton. These two lectures were delivered at Nichapalayam Village. Field visits to farmers' fields where the Surakash variety is cultivated under FLD were organised. Talc based formulation of Lecanicillium lecanii was distributed to farmers on December 21, 2022. Demonstration on spraying of this formulation was carried out. Dr. R. Raja, Principal Scientist delivered a lecture on cotton production technologies which was followed by a lecture by Dr. D. Kanjana, Senior Scientist (Soil Science) on Best nutrient management practices in cotton production. Dr. K. Rameash, Principal Scientist (Agricultural Entomology) explained to the farmers about the important pests of cotton and their management. Dr. M. Sabesh, Senior Scientist (Computer applications) briefed the farmers about Recent IT applications in agriculture. Dr. J. Gulsar Banu delivered lectures on Biological control of cotton pests, biopesticides-opportunities and challenges, nematode management in cotton. She gave hands-on training on the mass production of entomopathogenic fungus to ARYA-Bio Input youths. Dr.R.D. Srinivasan, Scientist, ICAR-KVK, delivered lectures on identification of natural enemies of cotton and disease management in cotton. A lecture on Soil health management was given by Dr. A. Premalatha, Scientist, ICAR-KVK which was followed by a presentation by Mr. P. Pachiappan, Scientist, ICAR-KVK on Natural farming practices in cotton cultivation. A discussion on the Importance of Millets and health benefits was held December 20, 2022. This training programme was coordinated by Dr. AH. Prakash. Dr.J. Gulsar Banu and Dr. M. Sabesh coordinated the training programme at Gobichettipalayam.


ICAR-KRISHI VIGYAN KENDRA
ERODE DISTRICT.TN


G20
Training Program on


ICAR-KRISHI VIGYAN KENDRA
வேளாண் அறிவியல் நிலையம்
ERODE DISTRICT (TN)


ICAR-KRISHI VIGYAN KENDRA
வேளாண் அறிவியல் நிலையம்
ERODE DISTRICT (TN)


ICAR-KRISHI VIGYAN KENDRA
வேளாண் அறிவியல் நிலையம்
ERODE DISTRICT (TN)

Technology demonstration: Talc based biopesticide formulation of *Lecanicillium lecanii* was distributed to farmers at Nichapalayam Village, Erode District to manage sucking pests of Cotton under FLD.

Protection of Plant Varieties and Farmers' Rights Authority Registrar-General visits ICAR-CICR

Register -General of PPVFRA, New Delhi, Dr Dinesh Kumar Agarwal visited ICAR, CICR, Regional Station, Coimbatore on December 23, 2022. He visited the DUS testing field and interacted with the Scientists of the station.

Students visit ICAR-CICR, Coimbatore

Forty-six B.Tech Agriculture Engineering students from SNS Institute, Coimbatore visited the Regional Station of ICAR, CICR, Coimbatore on December 6, 2022 as a part of their Organic farming course. The students interacted with Dr R. Raja, Principal Scientist (Agronomy), and got exposure to the institute activities. They got acquainted with the research activities and significant achievements in various areas of the Station. During their visit, they visited various labs and fields of the Regional Station. Seven students belonging to I and II Year M.Tech (Apparel Technology) from Kumaraguru college of Technology, Department of Fashion Technology, Coimbatore visited ICAR, CICR, Regional Station in three batches on December 16, 2022. The students interacted with Dr. R. Raja, Principal Scientist (Agronomy) and got exposure to the institute's activities. One hundred and twenty-nine B. Sc (Ag) students from JSA College of Agriculture and Technology, Avatti, Cuddalore District visited ICAR, CICR, Regional Station on December 13, 2022. The students interacted with Dr. K Baghyalakshmi, Scientist (Genetics and Plant Breeding), and got exposure to the cotton crop and research ongoing in the institute.

Recent Advances in Cotton Research

Development of flame resistant cotton genotypes

Saravanan, M and Chandrashekar, N, Scientists, ICAR-CICR, Nagpur

Textiles prepared from cotton fibres are flammable and thus include flame retardants for safety of consumers particularly fire fighters and soldiers. Generally, Flame retardant (FR) chemicals are synthetic and harmful to the environment. Some of the natural brown colour cotton (*Gossypium hirsutum* L.) possesses intrinsic flame retardant properties. Non-woven textiles prepared from LC1 brown cotton fibres self-extinguish upon exposure to an open flame. The colour cotton owes both its FR and brown fibre colour to higher levels of various flavonoid compounds, due to the activation of an ortholog of the transcription factor TT2 by a structural variance in the promoter of the gene *Gh_A07G2341*. The study found that the enhanced FR of the fibres was present in developing fibres before the appearance of the brown fiber colour suggesting a colourless flavonoid or other natural colourless compound was responsible for the FR, rather than the pigment responsible for colour itself. But in case of white cotton, only way to make flame retardant fabric is by adding synthetic chemicals. Recently, Researchers from USDA-ARS screened 257 recombinant inbred lines from eleven white fiber based multi-parent advanced generation intercross (MAGIC) population for naturally enhance flame retardance. This population create an opportunity for beneficial alleles from the multiple parents to combine in novel ways, resulting in phenotypes that are far superior to any of the parents.

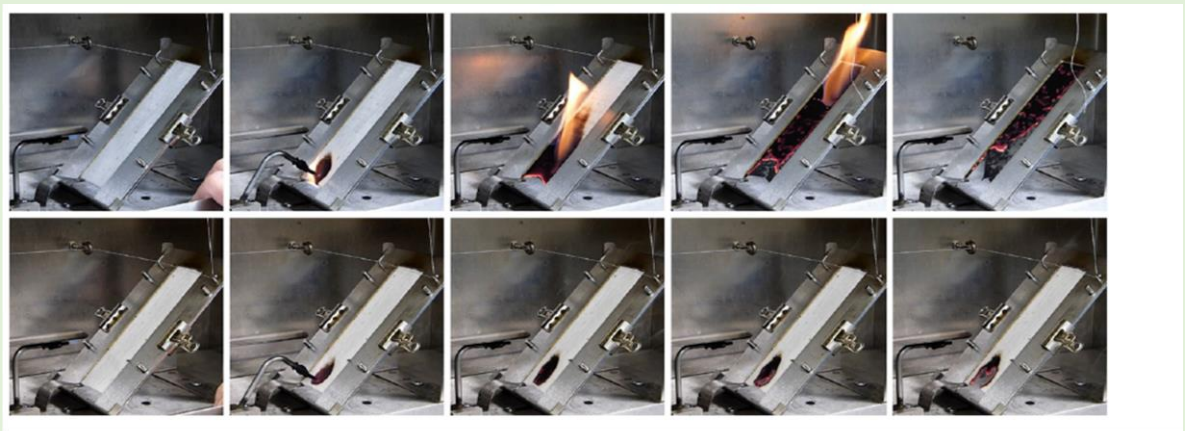


Fig.1 Time series of 45° incline flame test of non-woven fabrics from the MAGIC RILs with low & high HRC. Each image is 5 seconds apart. Top series is fabric made from RIL-225, which like all untreated textiles produced from conventional cultivated white cotton was fully consumed by flame in ~15 seconds. Bottom series is RIL-385, which self-extinguished.

Transgressive segregation has been observed in biparental population, but MAGIC populations intrinsically present even greater opportunities. Researchers conducted microscale combustion calorimetry (MCC) test to quantify the MAGIC lines, a standard proxy for FR. Out of five RILs with the lowest heat release capacity (HRC), four white fiber cotton RILs were identified that produce self-extinguishing fabrics. Linkage, epistatic, transcriptomic and multi-locus genome wide association studies (GWAS) from multiple locations and years suggest that heritable, genetically controlled synergistic epistasis created the novel trait by a combination of numerous small-effect alleles and genetic loci. Mapping such small effect, synergistic loci is difficult, and much further research is required to fully understand the mechanism of the natural flame retardance. Breeding of inherently flame-resistant white cotton varieties can be utilized to develop flame resistant cultivars to reduce the costs and impacts of use of flame-retardant chemicals, and benefit textile producers and consumers.

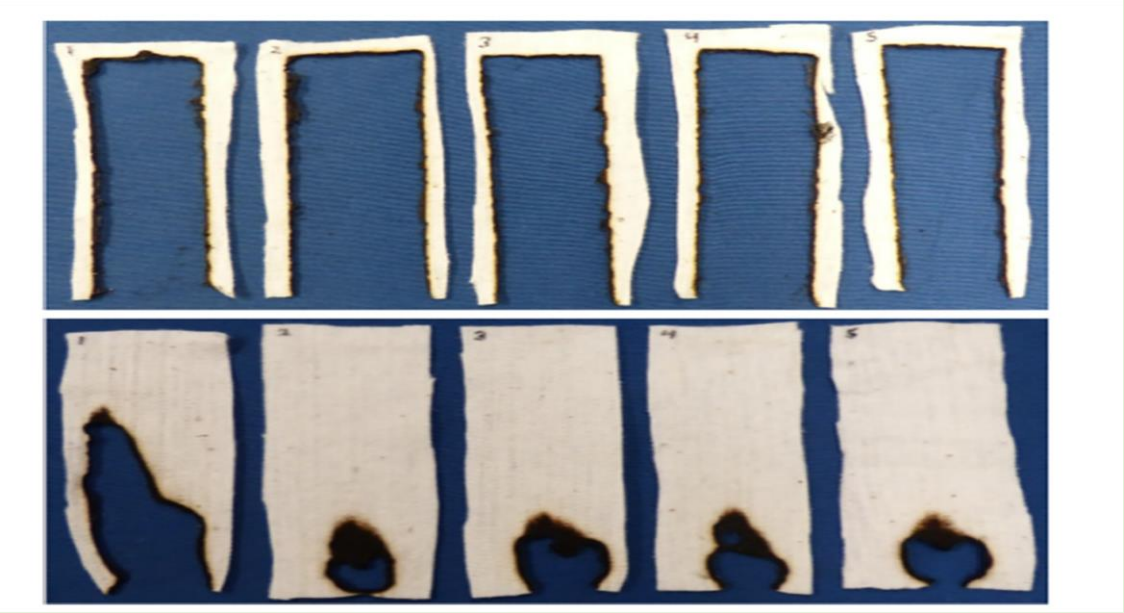


Fig. 2 End point of five technical replicates of the 45° include flame test of non-woven fabrics from the MAGIC RILs with the inferior HRC and the most superior HRC.

References:

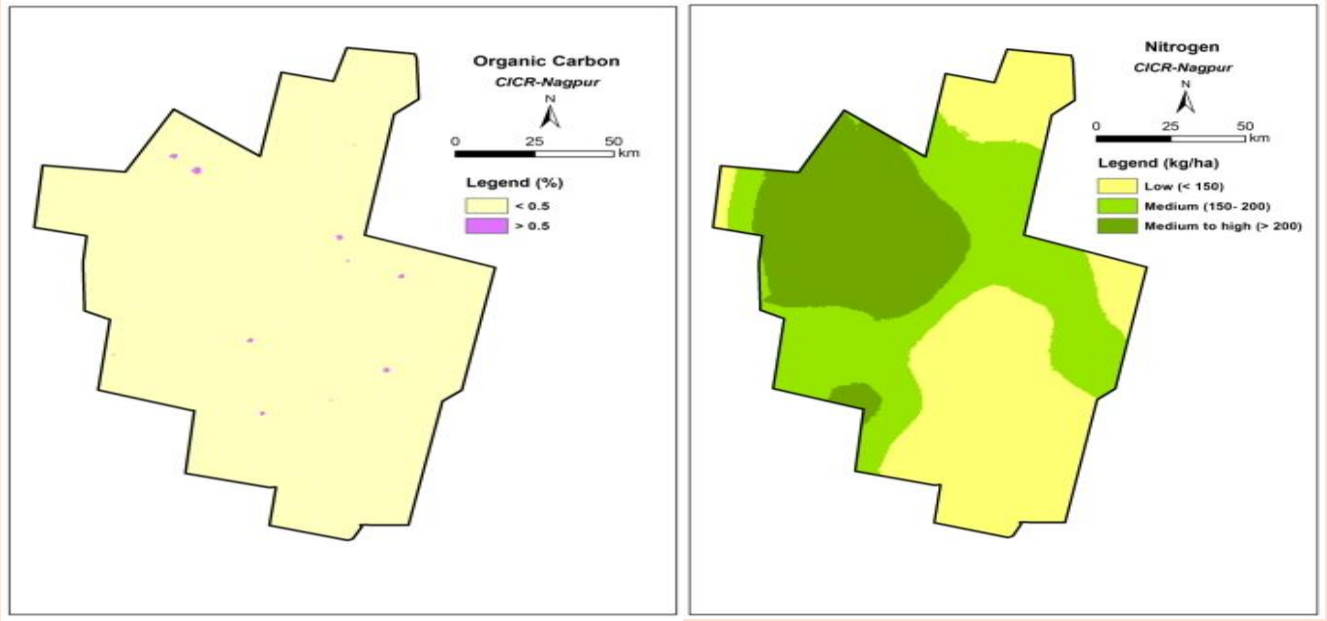
Thyssen GN, Condon BD, Hinchliffe DJ, Zeng L, Naoumkina M, Jenkins JN, et al. (2023) Flame resistant cotton lines generated by synergistic epistasis in a MAGIC population. PLoS ONE 18(1): e0278696. https://doi.org/10.1371/ Journal.pone.0278696.

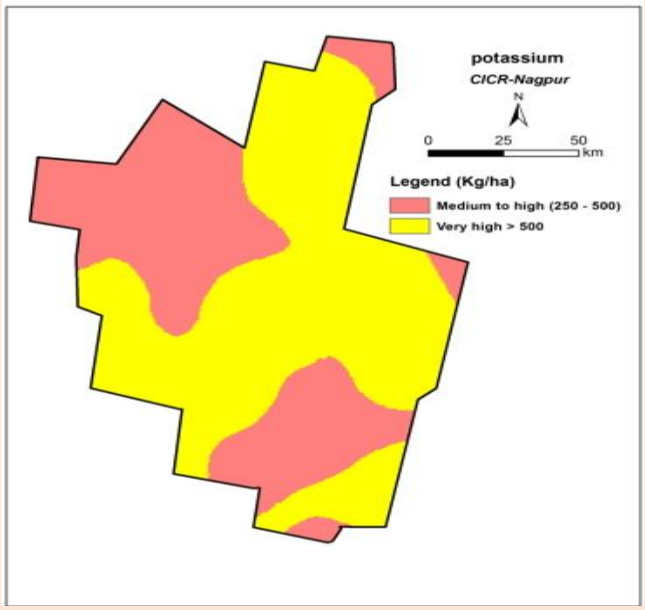
Zhang J, Abdelraheem A, Thyssen GN, Fang DD, Jenkins JN, McCarty JC, et al. (2020) Evaluation and genome-wide association study of verticillium wilt resistance in a MAGIC population derived from intermating of eleven Upland cotton (Gossypium hirsutum)parents. Euphytica. 216 (1): 1-13.

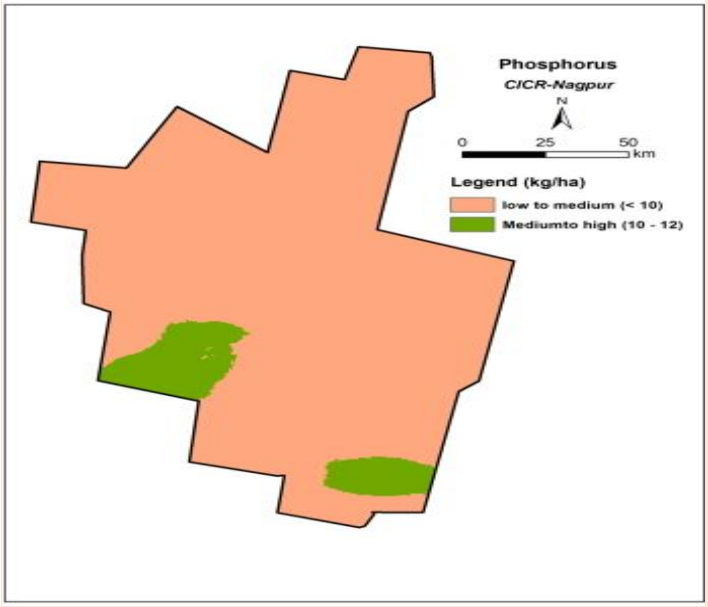
Scientists' Corner:

- Dr. YG Prasad, Director, ICAR-CICR, Nagpur participated in the meeting of subgroup I - Pilot project on cotton under the chairmanship of ADG (CC), ICAR, New Delhi to discuss with members on the (1) Operational area of the project in coordination with CITI (2) Review seed requirement and availability along with other inputs/machinery and also (3) Finalize components and patterns of assistance for the project on 01, December 2022 at ICAR, Krishi Bhavan, New Delhi and also attended a Supervisory Group meeting to review recommendations of sub-groups and funding for the project on 01, December 2022 organized by Asstt. Commissioner (Crops), MoA & FW, DA & FW, Division of Crops & PHMF at Krishi Bhavan, New Delhi.
- Dr. YG Prasad, Director, ICAR-CICR, Nagpur participated in the meeting of Supervisory Group under the Co-chairmanship of Joint Secretary (Crops) DA&FW and Joint Secretary (Fibre) held on 02.12.2022 at 03.00 pm in hybrid Mode and briefed about the deliberations held in two meetings. Smt. Shubha Thakur, Dr RP Singh, Dr VN Kale, Dr Shailesh Kumar Mishra, Dr Somnath Agasimani, Dr Chander Mohan, Sh BS Patil, Sh Hemant Kumar Nanda, Sh LK Gupta, Smt. Chandrima Chatterjee, Dr AL Waghmare also participated in the meeting.
- Dr. Rishi Kumar, Principal Scientist (Entomology), ICAR-CICR, Regional Station, Sirsa delivered two lectures in dealers training organised by Haryana Agriculture Management and Education Training Institute (HAMETI), Jind for Dealers Diploma Course. The lectures were (1) Use of Pheromone traps as monitoring tool (2) Refuge in bag concept in cotton on December 03, 2022. A total of 40 participants were present in that programme.
- Dr. Y G Prasad, Director, ICAR-CICR, Nagpur along with all HoDs and Head Regional Stations, CAO & FAO participated in the 56th Meeting of IMC (Institute Management Committee) of the Institute held on 06.12.2022.
- Dr. S. Manickam, Principal Scientist (Genetics and Plant Breeding), attended the Institute Management Committee Meeting of ICAR-CICR, Nagpur on December 6, 2022.
- Dr. Rishi Kumar, Principal Scientist (Entomology), ICAR-CICR, Regional Station, Sirsa organized training cum input distribution for IRM adopted farmers on December 07, 2022. Total 38 farmers participated in the training. The farmers were updated about the cotton production and protection technology in the training.
- Dr. A. Manikandan assisted in technology demonstration and field visits during RAC 2022 on 8th December 2022
- Dr. A. Manikandan coordinated field visits for Progressive farmers on 8th December 2022
- Dr Vinita Gotmare, Principal Scientist ICAR-CICR, Nagpur, participated in the XXXXIXth Meeting of PGRC held on 8th December 2022 in virtual mode.
- Dr. A. Manikandan and Mr. Chandrasekar Mundafale visited FLD plots to Bhugaon, Kamptee Taluka on 10th December 2022
- Dr. Rishi Kumar, Principal Scientist (Entomology), ICAR-CICR, Regional Station, Sirsa delivered lecture on Important insect pests of Rabi & Kharif crops and their identification in Diploma Course organised by Haryana Agriculture Management and Education Training Institute, Jind on December 10, 2022 & December 18, 2022. In training, total 40 participants were present.
- Dr. Rishi Kumar, Principal Scientist (Entomology), ICAR-CICR, Regional Station, Sirsa delivered a lecture in District Level Awareness Programme on Natural Farming in KVK, Sirsa on December 13, 2022. A total 400 farmers including women were present in the programme.
- Dr. YG Prasad, Director, ICAR-CICR, Nagpur participated in the farmers interaction meeting organized by Acharya N. G. Ranga Agricultural University, RARS, Lam Guntur under the IRM-PBW Project on 14 December, 2022 at Jonnalagadda village, Guntur district.
- Dr. YG Prasad, Director, ICAR-CICR, Nagpur attended the Textile Advisory Group (TAG) meeting under the Chairmanship of Hon'ble Minister of Textile held on 15 December 2022 at Din Dayal Has kala Sankul, Varanasi.
- Dr. S. Manickam, Principal Scientist (Genetics and Plant Breeding) as external member attended the Department Promotion Committee to consider the cases of Probation of Skilled Supporting Staff of ICAR-SBI, Coimbatore on December 19, 2022.

- Wadhwani Group organized a workshop on “Artificial Intelligence and its applications in agriculture with special reference on cotton” on 20 December 2022 at the Institute. All scientists and technical staff attended the workshop along with Director, ICAR-CICR.
- Dr. YG Prasad, Director, ICAR-CICR, Nagpur participated and delivered an presentation on revised pilot project on cotton in a review meeting on 21.12.2022 in hybrid mode to discuss revised pilot project on cotton of ICAR-CICR under the chairmanship of Secretary, Department of Agriculture and Farmers Welfare, Joint Secretary (Crops), DA & FW.
- Dr. S Manickam, Principal Scientist (Genetics and Plant Breeding) gave a lecture on "Cotton varieties suitable for Tamil Nadu". In: Training Programme on “Cotton Production and Protection Technologies” during December 20-25, 2022 at ICAR-KVK, MYRADA, Gobichettipalayam, Tamil Nadu on December 21, 2022.
- Dr. Rishi Kumar, Principal Scientist (Entomology) and Dr. S. K. Sain, Principal Scientist (Plant Pathology), ICAR-CICR, Regional Station, Sirsa attended Interstate Consultative Committee meeting under Cotton Development Programme 2023-24 and presented the pest management strategies for the North zone at Kheti Bhawan, Bathinda on December 22, .2022
- Dr. YG Prasad, Director, ICAR-CICR, Nagpur, participated in the IBSC meeting on 23rd December, 2022 to discuss agenda of IBSC through hybrid mode. Dr Manickam and Dr Rishi Kumar joined through video conferencing and all IBSC Members attended the meeting. Dr Balasubramani, Member Secretary of IBSC conducted the meeting.
- Kisan diwas was celebrated 23 December 2022 at ICAR-CICR Nagpur with great zeal and enthusiasm under the Chairmanship of Shri Narendra Singh Tomar, Hon'ble Minister of Agriculture & Farmers Welfare. Sushri Shobha Karandlaje and Shri Kailash Choudhary, Hon'ble Ministers of State participated in this event. All participants along with Director ICAR-CICR joined event virtually through media.
- Dr. Rishi Kumar, Principal Scientist (Entomology), ICAR-CICR, Regional Station, Sirsa attended IBSC meeting under the chairmanship of Dr. Y.G. Prasad on December 23, 2022.
- Dr. S. Manickam, Principal Scientist (Genetics and Plant Breeding) attended the Institute Biosafety Committee Meeting of ICAR-CICR, Nagpur virtually on December 23, 2022.
- Dr. S. Manickam, Principal Scientist (Genetics and Plant Breeding) attended the State Cotton Mission on Cotton of Tamil Nadu in Commissionerate of Textiles, Chennai on December 28, 2022.
- Dr. Y G Prasad, Director, ICAR-CICR, Nagpur participated in the 48th Meeting of Board of Management of Navsari Agricultural University held on 30.12.2022 at VC Conference hall at Navasari Agricultural University.




potassium
CICR-Nagpur
N
0
25
50
km
Legend (Kg/ha)
Medium to high (250 - 500)
Very high > 500

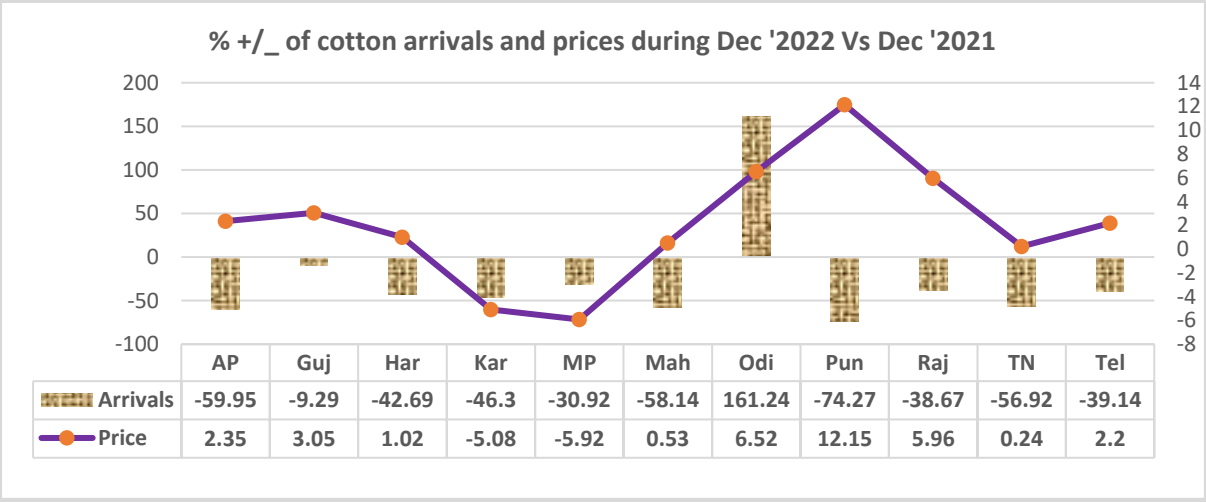

Phosphorus
CICR-Nagpur
N
0
25
50
km
Legend (kg/ha)
low to medium (< 10)
Mediumto high (10 - 12)

Cotton scenario during December 2022

Dr. Isabella Agarwal, Principal Scientist, Agricultural Economics, ICAR, CICR, RS, Coimbatore

International cotton prices fluctuated in a wide range during December owing to sharply higher and lower settlements in New York to end overall with a decline on the period. The A Index fell to a low of 97.25 US cents per lb mid-month, before reversing direction to reach its high point (105.55) on December 22. However, prices moved lower in the following four consecutive sessions, to settle just below the dollar mark. The average for the 12-month period was slightly more than 130 cents per lb, compared with 101.39 in 2020, which itself was historically high. On the business front, while downstream textile demand remained below the level that would normally be expected for the month of December, the slightly more positive mood that was sparked by China's relaxation of covid restrictions in late November was maintained and a further tentative improvement in raw cotton demand was witnessed in several countries. Vietnam was mentioned as one of the more active import markets, as mills experienced a modest uptick in demand for cotton yarn. Generally, a cautious optimism began to emerge during December, though that optimism was tempered somewhat by rising covid cases in China, and a transformation of market sentiment still appeared some way off. Cotlook's December numbers indicated an increase of global stock levels of 1,258,000 tonnes by the end of the current season, up from an increase of 1,213,000 a month earlier.

National cotton market scenario



	AP	Guj	Har	Kar	MP	Mah	Odi	Pun	Raj	TN	Tel
Arrivals	-59.95	-9.29	-42.69	-46.3	-30.92	-58.14	161.24	-74.27	-38.67	-56.92	-39.14
Price	2.35	3.05	1.02	-5.08	-5.92	0.53	6.52	12.15	5.96	0.24	2.2

Cotton arrivals during Dec '2022 were less in almost all States except in Odisha in comparison to that of Dec '2021. Likewise in prices during the same year of comparison, it was higher in almost all States reflecting the cause of less arrivals excepting in Karnataka and Madhya Pradesh. Stock at the end of December 2022 is estimated at 49.3 lakh bales including 35 lakh bales with textile mills and the remaining 14.3 lakh bales with the Cotton Corporation of India (CCI), Maharashtra Federation and others (MNCs, traders, ginners, The domestic consumption for the season is estimated at 300 lakh bales, while the exports at 30 lakh bales Textile industry and trade are facing poor demand from the global market due to the economic slowdown and high inflation. Higher prices of cotton and other fibres are also pushing the cost of production up, thus squeezing the profit margins of manufacturers. In the Textile sector, Cotton yarns exports declined because there was continuous price rise of raw materials throughout 2022. Exports of Indian Textile apparels and RMG textiles got a major hit due to recessionary trend in major economies.

बोंड अळीचे एकात्मिक व्यवस्थापन करा

केंद्रीय कापूस संशोधन संस्थेच्या तज्ज्ञांचा सल्ला; कार्यशाळेचे आयोजन

Sakal Agrowon 5/12/2022

अॅग्रोवन वृत्तसेवा

चंद्रपूर : केंद्रीय कापूस संशोधन संस्थेअंतर्गत वरोरा येथे गुलाबी बोंड अळीचे एकात्मिक व्यवस्थापन याविषयी प्रशिक्षण व कार्यशाळेचे आयोजन करण्यात आले. संस्थेचे वरिष्ठ शास्त्रज्ञ (कीटकशास्त्र), तसेच जिल्हा प्रकल्प समन्वयक डॉ. चित्रा बाबू नाईक यांनी या वेळी उपस्थित शेतकऱ्यांना बोंड अळी नियंत्रण विषयक तंत्रशुद्ध माहिती दिली.

वातावरणातील बदलाचा परिणाम होत चालू हंगामातील कापसावर बोंड अळीचा प्रादुर्भाव दिसून येत आहे. काही भागात बोंडसडच्या समस्येलाही शेतकरी सामोरे जात असल्याच्या तक्रारी आहेत. त्या पार्श्वभूमीवर 'सीआयसीआर'ने या कार्यशाळेचे आयोजन केले होते.

या वेळी मार्गदर्शन करताना डॉ. चित्रा बाबू नाईक म्हणाले, की या किडीचे वेळीच नियंत्रण शक्य व्हावे याकरिता शेतकऱ्यांनी कामगंध सापळ्यांचा प्रभावी वापर करण्यावर भर दिला पाहिजे. कपाशीवरील गुलाबी बोंड अळीचा प्रादुर्भाव होण्याची कारणे जाणून घेत त्याचे एकात्मिक व्यवस्थापन पद्धतीनुसार नियंत्रण करावे. एकात्मिक व्यवस्थापन पद्धतीविषयी त्यांनी या वेळी उपस्थितांना माहिती दिली.

वरोरा, जि. चंद्रपूर : 'गुलाबी बोंड अळीचे एकात्मिक व्यवस्थापन' या विषयावर केंद्रीय कापूस संशोधन संस्थेचे तज्ज्ञ डॉ. चित्रा बाबू नाईक यांनी मार्गदर्शन केले.

शेतकऱ्यांच्या समस्यांचे देखील निरसन त्यांच्याद्वारे करण्यात आले. जिल्हा प्रकल्प सहसमन्वयक डॉ. टी. प्रभुलिंगा यांनी प्रकल्पाचे स्वरूप, रसशोषक किडींमुळे होणारे नुकसान आणि त्याचे व्यवस्थापन याविषयी मार्गदर्शन केले. कार्यक्रमाला प्रशिक्षण समन्वयक सुभाष बोबडे, क्षेत्र अधिकारी मंगेश ठोंबरे, पराग सहारे, आकाश दुर्गेडीवार, प्रकाश लोखंडे, प्रदीप पोटे, विठ्ठल निब्रड, लक्ष्मी माथनकर, भावना रोहनकार यांची उपस्थिती होती. बोर्डा, जामगाव, साखरा, तळेगाव आण सागरा या गावांतील शेतकऱ्यांनी प्रशिक्षणाचा लाभ घेतला.

Sakad Agroone, 5 December, 2023

स्मार्ट कॉटन प्रकल्पातून होणार आता शेतकऱ्यांची 'समृद्धी'

राज्यातील १२ जिल्ह्यांत लावणार एकाच वाणाचा कापूस

देवकांत चिचाटे

लोकमत न्यूज नेटवर्क

पुलगाव (वर्धा) : राज्यामध्ये उच्च प्रतीचा कापूस उत्पादित करण्यामध्ये विदर्भाचा पहिला क्रमांक लागतो. एकूण उत्पादित होणाऱ्या कापसापैकी ७८ टक्के वाटा हा विदर्भाचा आहे. कापूस उत्पादक पट्ट्यामध्ये शेतकऱ्यांनी सामूहिकरीत्या एकाच कापसाच्या वाणाची लागवड करावी, जेणेकरून कापसाला निर्यातक्षम करण्यास मदत होईल तसेच आर्थिक लाभ होईल. यासाठी राज्यातील १२ जिल्ह्यांमध्ये 'स्मार्ट कॉटन प्रकल्प' राबविला जात असून, यातून शेतकऱ्यांची समृद्धी होणार आहे.

स्वर्गीय बाळासाहेब ठाकरे कृषी व्यवसाय व ग्रामीण परिवर्तन प्रकल्पांतर्गत राज्यातील १२ जिल्ह्यांमधील ३५ तालुक्यांत 'स्मार्ट कॉटन प्रकल्प' सुरू झाला आहे. 'एक गाव, एक वाण' हे ब्रीदवाक्य स्मार्ट कॉटनसाठी घोषित झाले आहे.

एकूण जिल्हे - १२
एकूण तालुके - ३५
एकूण शेतकरी - ३,८७५
एकूण गट - ४७८

वर्धा जिल्ह्यातील देवळी, कारंजा, आष्टी या तीन तालुक्यांतील ४५ गावांमध्ये हा प्रकल्प राबविला जात आहे. देवळी तालुक्यासाठी संत गजानन माउली जिनिंग प्रेसिंग पुलगाव, कारंजा तालुक्यासाठी विदर्भ कोट फायर तर आष्टी तालुक्यासाठी एम.आर. जिनिंग तळेगाव यांची या प्रकल्पाकरिता निवड केली आहे.

या बारा जिल्ह्यांचा आहे समावेश

जिल्हा	तालुके
नागपूर	सावनेर, हिंगणा, नरखेड, काटोल
वर्धा	देवळी, कारंजा, आष्टी
यवतमाळ	यवतमाळ, कळंब, पुसद, आर्णी
अमरावती	अमरावती, वरुड, अचलपूर, दर्यापूर
अकोला	अकोला, आकोट, बोरगाव मंजू
वाशिम	कारंजा लाड
बुलढाणा	देऊळगाव राजा, जळगाव, जामोद
चंद्रपूर	वरोरा, भद्रावती, गोंडपिंपरी, चिमूर
परभणी	गंगाखेड, पाथरी
बीड	बीड, गेवराई
औरंगाबाद	फुलउमरी, सिल्लोड, पैठण, गंगापूर
जळगाव	धरणगाव, पालोरा

स्मार्ट कॉटनमध्ये सहभागी असलेल्या गावांमध्ये शेतकऱ्यांनी आपला सहभाग नोंदवून एकजिनसी कापसाची लागवड केली आहे. यामध्ये शेतकरी बचत गटांचा समावेश आहे.

Sakal Agroone, 15 December, 2022

Cotton yield to decline despite increase in area

SUNIL CHARPE
LOKMAT NEWS NETWORK
NAGPUR

The arrival of cotton has decreased by at least 12.38 percent in the market from October 1 to December 7. During this period, compared to the previous season, at least 95 lakh bales of cotton are expected to come in the market across the country, but as on date only 49,67,700 bales of cotton have arrived in the market.

In the season of 2021-22, 82, 21,000 bales of cotton came in the market during the corresponding period. While the area under cotton has increased by 10 lakh hectares this year, experts have predicted a decline in production. The Cotton Association of India has predicted that a total of 362 lakh bales of cotton will be produced in the country during the season of 2021-22 (October 1 to September 10). During this period, 307.6 lakh bales of cotton entered the market, resulting in a reduction of 54.4 lakh bales of cotton production. The Cotton Association of India has predicted that 375 lakh bales of cotton will be produced in the country in the season of 2022-23. Later it was clarified that 345 lakh bales of cotton will be produced. Market experts have predicted that 290 to 300 lakh bales of cotton will be produced in this season.

As there are indications that there will be a decline in cotton production in India as well as in other countries, the experts have appealed that the farmers should not be in a hurry to sell cotton. Instead, they should sell cotton in stages and keep the cotton inflow in the market stable, they said.

Countrywide cotton arrivals
(October 1 to December 7)

(Bales) State	2021	2022
Punjab	2,74,000	69,300
Haryana	4,85,000	3,00,000
Rajasthan	10,36,000	9,33,000
Gujarat	21,00,500	15,35,000
Maharashtra	17,73,000	6,27,000
Madhya Pradesh	6,66,000	4,06,000
Telangana	7,34,500	2,92,500
Andhra Pradesh	3,36,000	3,13,800
Karnataka	6,46,500	4,04,000
Tamil Nadu	31,500	60,100
Odisha	51,000	27,000
Others	60,000	00,000
Total	**82,21,000**	**49,67,7000**

Area under cotton in the country (in lakh hectares)

Year	
Year 2021-22	115
Year 2022-23	125

Low production can push up prices

There are indications that cotton production will decrease globally along with that in India. Low production can certainly push up prices. So farmers should sell cotton as per requirement without haste. The remaining cotton should be sold in phases.

- Govind Vairale, Former general manager, Cotton Marketing Federation

Farmers should not panic

Although the price of cotton may fluctuate, the rates will remain stable. If the income increases, the rates will increase. At present the price of cotton has been affected by the decrease in the price of sorghum. However, farmers should not panic and keep the supply of cotton in the market stable.

- Vijay Niwal, Ex-member, Cotton Advisory Board.

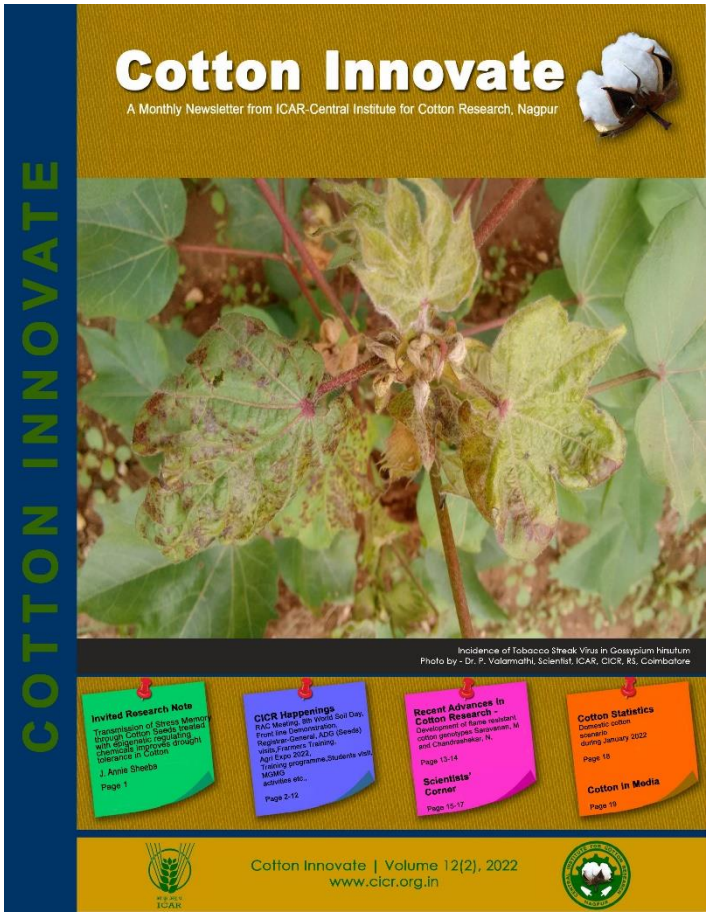
Farmers should become 'stockists!'

Economically marketable cotton storage capacity is currently exhausted. An increase in cotton imports may increase economic pressure in the market. In such a situation, there is a fear of price hike. In order not to increase this economic pressure, it is necessary for the farmers themselves to become stockists and keep the inflow of cotton in the market stable.

Ginning & pressing units working below capacity

At least 1,000 quintals of cotton is required to run a gin at full capacity. But, 150 to 200 quintals of cotton are being obtained regularly. Therefore, the owners of ginning and pressing mills informed that they will operate ginning factories only one to one and a half days in a week.

Lokmat Times, 15 December, 2022



Produced and published by
Dr. Y. G. Prasad, Director, ICAR-CICR, Nagpur

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

Publication Note: Cotton Innovate is an Open Access monthly newsletter of ICAR-CICR, Nagpur available online at http://www.cicr.org.in/cotton_innovate.html

Published by

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

Citation: Cotton Innovate 2022, ICAR-Central Institute for Cotton Research, Nagpur, India, Volume: 12 (02), pp-19, available at http://www.cicr.org.in/cotton_innovate.htm

To subscribe for receiving an electronic copy of this newsletter, please write a request mail to cicrinnovate@gmail.com

ICAR-CICR
ICAR - Central Institute for Cotton Research
(An ISO 9000 : 2015 Certified Organisation)