



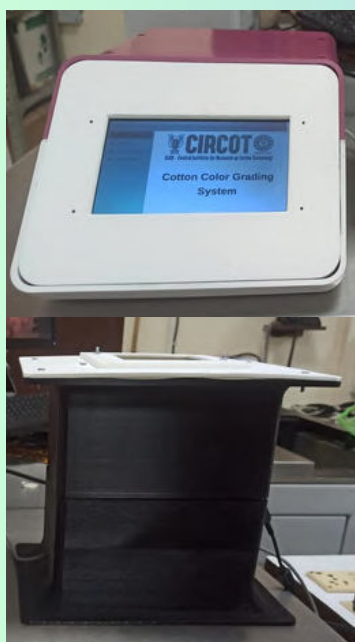
ICAR-CIRCOT

e-News



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Technology of the Month

Cotton Colour Grading System

A portable instrument for measuring the colour grade of cotton has been developed. The instrument works by optical principles, primarily by measuring the reflected light from a sample. The module uses a photodiode to capture this reflected light and compares with the standards to arrive at the whiteness (Rd) and yellowness (+b) of the cotton samples. The device provides a quick and reliable assessment of the colour quality of cotton samples. This portable instrument can measure the colour grade of cotton fibre in the field, facilitating objective method for fixing the price of cotton.



Stakeholders Meet

An interaction meeting with startups incubated at CIRCOT R-ABI was organized at ICAR-CIRCOT, Mumbai on April 08, 2025, under the chairmanship of Dr. S. N. Jha, Deputy Director General (Agricultural Engineering), ICAR, New Delhi. The event witnessed the active participation of fifteen startups, who shared their innovations, challenges, and growth journeys during the session.

Edited by: S.K. Shukla, N. Vigneshwaran, C. Sundaramoorthy, Bindu Venugopal & Anand Jadhav



Stakeholders Meet

A stakeholder meet was organized at GTC, Nagpur on April 09, 2025 in the presence of Dr. S.N. Jha, DDG (Agricultural Engineering), ICAR. Stakeholders representing MSCCGMF Ltd., CITI-CDRA, M/s. Bajaj Steel Industries Ltd., M/s. Daftari Agro Biotech, Wardha, M/s. Mahalaxmi Industries, M/s Precision tooling, Nagpur, Gramkalyan, Nagpur, M/s Vidharbha Sales, Nagpur, and progressive farmers and cotton brokers from Nagpur participated.



RAC Meeting

The 31st Research Advisory Committee (RAC) meeting of the Institute was conducted in hybrid mode on April 16–17, 2025, at the Video Conference Room, ICAR-CIRCOT, Mumbai, under the chairmanship of Dr. S. M. Ilyas. The meeting was attended by esteemed members including Dr. Pitam Chandra, Dr. S. P. Borkar, Dr. K. Narsaiah, Shri Makarand Korde, Dr. S. K. Shukla, Dr. V. G. Arude, Dr. R. V. Adivarekar, and Shri Sachin Kulkarni. Five publications, *viz.*, ICAR-CIRCOT Nanosulphur Production Technology, Industrial Multilayer Woven Cut-Resistance Gloves, Sustainable Textiles from Novel Blends of Cotton / Hemp, ICAR-CIRCOT Seed Cotton Storage Bag with Anti-microbial Finish, and CIRCOT R-ABI Newsletter Uddan were formally released by the committee members during the event.

Human Resource Development

- Ginning Training Centre, Nagpur organized a lecture on the topic “Artificial Intelligence mein Hindi Ka Yogdan” (in Hindi), in hybrid mode on March 27, 2025. Staff of GTC, Mumbai HQs and regional units attended.
- ICAR-CIRCOT Agri Business Incubation Centre organized a lecture on ‘Patent filing process and different fee structure’ for all staff of the Institute on April 02, 2025.
- A seminar on NPS and UPS was conducted on April 22, 2025 as part of the Institute's HRD activities for staff members covered under the scheme. About 20 staff attended the meeting.



Guest Lecture

Lecture on ‘Recent Trends in Green Composites’ was delivered by Dr. S. P. Borkar, RAC Member and Professor, Department of Textile Manufactures, VJTI, Mumbai, during the 31st RAC on April 17, 2025



Skill Development Programme

ICAR-CIRCOT, Mumbai organized training programme titled ‘Best Production Practices, Processing of Cotton and Value Addition to Cotton By-Product’ in two batches for officials of the Department of Agriculture & Farmers Empowerment, Government of Odisha. First batch was during April 14 - 18, 2025 for ten (including three female) officials and second batch during April 21 - 25, 2025 for ten officials.

Publications

1. Bharimalla, A.K., Patil, S., Dhakane-Lad, J. Mahawar, M.K., Vigneshwaran, N., and Kautkar, S. (2025). Blending of cellulose nanofibers with cotton linter pulp to enhance the mechanical and barrier properties of paper. *Sci Rep* 15, 11788. <https://doi.org/10.1038/s41598-025-96213-1>.
2. Kumar, M., Totade, S., Sharma, K., Dukare, A., Pandiyan, K., & Saxena, S. (2025). Advances in CRISPR/Cas9-driven strategies for microbial production and optimization of sugar polyols for food applications: A review. *Food Bioscience*, 106553.
3. Sharma, K., Kumar, M., Dukare, A., Vigneshwaran, N., Thappa, C., Saxena, S., Pandiyan, K., D'souza, C. and Singh, R. (2025). Gossypol and Semi-synthetic Derivatives: Chemistry, Bioactivities and Mechanism of Actions. *Chemistry & Biodiversity*, p.e202402872.
4. Dukare, A., Shaikh, A., Pawar, A., Sharma, K., Vigneshwaran, N. (2025). Valorization of Cotton Biomass and Processing Waste for Production of Biohydrogen and Biomethane. In: Mukherjee, G., Dhiman, S. (eds) *Value Addition and Utilization of Lignocellulosic Biomass*. Springer, Singapore. https://doi.org/10.1007/978-981-96-2786-8_5.
5. Sharmila Patil, V. G. Arude, P. Jagjanantha, ASM Raja, Sujata Saxena, S. K. Shukla and N. Shanmugam. (2025). Post-harvest Processing of Cotton. In: *Handbook of Agricultural Engineering (Revised Second Edition)*. Published by Directorate of Knowledge Management in Agriculture, Indian Council of Agricultural Research, New Delhi.

Awards / Recognitions

1. Dr. V. G. Arude, Principal Scientist, has been nominated as a member of the Institute Management Committee (IMC) of ICAR-CICR, Nagpur.
2. Dr. Kirti Jalgaonkar, received certificate of excellence for 'Women in Science 2025' at the Celebrating Womanhood 2025 event, organized by Association of Food Scientists and Technologists (India), Mumbai Chapter in collaboration with the Institute of Chemical Technology (ICT), CASMB, Farm to Fork Solutions, National Young Academy of Sciences (INYAS), INSA, New Delhi on April 08, 2024, at Institute of Chemical Technology (ICT) Mumbai.



Inauguration of Deep Grooving Machine at GTC, Nagpur by Dr. S.N. Jha on 9th Apr 2025



Inauguration of Microbiology Lab at GTC, Nagpur by Dr. S.N. Jha on 9th Apr 2025



Foundation stone laying for a Biomass Torrefaction Pilot Plant (200 kg/h) at GTC, Nagpur by Dr. S.N. Jha on 9th Apr 2025



Inauguration of USTER HVI Machine, Speed Frame Machine, and Smart Textile Laboratory by Dr. S. N. Jha during April 7-8, 2025



The 31st Research Advisory Committee (RAC) members in front of the Centenary Pillar of the Institute on 17th April 2025



Celebration of Ambedkar Jayanti on 25th April 2025



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