



Global Excellence in Cotton Technology Monthly Bulletin, Volume 01, January 2026

Republic Day Celebration

The 77th Republic Day was celebrated at ICAR-CIRCOT, Mumbai, and GTC Nagpur on January 26, 2026, by hoisting the National Flag. Staff members along with their family participated in the event.



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Visit of Dignitaries

- Shri Ram Kripal Yadav, Hon'ble Minister for Agriculture, Government of Bihar, visited ICAR-CIRCOT on January 02, 2026. He visited the research facilities and was briefed about the ongoing activities of the Institute during his interaction with the scientist.



- Dr. Mangi Lal Jat, Secretary, DARE and Director General, ICAR, along with Dr. D. K. Yadava, DDG (Crop Science), ICAR, visited the Ginning Training Centre (GTC) of ICAR-CIRCOT, Nagpur, on January 21, 2026.



IRC Meeting Organised

The Mid-term Institute Research Council (IRC) meeting of ICAR-CIRCOT was conducted on January 29 and February 02, 2026.



Technology of the Month

Banana fibre composite boards with enhanced fire and water resistance

Banana fibres are lignocellulosic and naturally prone to high moisture absorption and poor fire resistance. Suitable fire-retardant and water-resistant treatments were incorporated into the composite formulation to overcome these limitations and meet particle board application requirements. Treated fibres were blended with resin and protective additives, followed by mat formation and hot pressing to produce boards with uniform density and effective fibre–matrix bonding. As per IS 3087 standards, the boards exhibited a density of 808 kg/m³, water absorption of 33%, thickness swelling of 10%, and moisture content of 6.64%, all within the permissible limits for particle boards. The treated boards showed improved fire resistance, indicated by reduced flame spread and delayed ignition, along with enhanced water resistance and dimensional stability. Overall, the developed composite boards demonstrated superior durability, making them suitable for interior and furniture applications requiring improved fire safety and moisture resistance.

Third Party Evaluation Meeting Organised

The Outcome Review (Third-Party Evaluation) of ICAR-CIRCOT under the ICAR Central Sector Scheme, “Agriculture Production and Post-Production Mechanization Augmented with Innovative Technologies for Sustainable Agriculture Development (Agricultural Engineering)”, was conducted by Arpan Seva Sansthan, Jaipur, Rajasthan, during January 27–28, 2026. As part of the review, an online interaction meeting was organized with the start-ups incubated at the CIRCOT Agri-Business Incubator (ABI), ICAR-CIRCOT, Mumbai. Around 30 start-ups participated in the meeting and shared their feedback. On January 28, 2026, the Ginning Training Centre (GTC), Nagpur, organized a stakeholders’ meet to discuss the benefits of CIRCOT technologies among farmers, traders, and industrial partners.



Skill Development Program



ICAR-CIRCOT organized a three-day training programme on “Electrospinning for Nanofibre Production” from December 10–12, 2025, at ICAR-CIRCOT, Mumbai. Ten participants attended the programme.

Industry Interface



A Hybrid brainstorming session of the Expert Group/Think Tank was organized under the leadership of ICAR-CIRCOT, Mumbai, on January 08, 2026, to deliberate on key challenges in cotton mechanisation and contamination control. Around 30 stakeholders participated in the meeting.



An Industry–Academia Consultative Meet on “Cottonseed Value Chain: Innovations in Processing and By-Product Utilization” was organized by ICAR-CIRCOT, Mumbai, in collaboration with the All India Cottonseed Crushers Association (AICOSCA), Mumbai, at the Mumbai premises on January 23, 2026. Around 20 industry leaders from across the cottonseed value chain participated the programme.

HRD Program



All employees at the ICAR-CIRCOT, Mumbai Headquarters were imparted training under the Rashtriya Karmayogi Jan Seva Program. The training was conducted in three batches during January 27–29, 2026, with a one-day duration for each batch.

Recognition

- ICAR–CIRCOT, Mumbai, was ranked 6th among 175 laboratories worldwide in the CSITC Global Round Trial 2025-4 conducted by ICAC, demonstrating world-class accuracy and consistency in measuring key cotton fibre quality parameters vital for spinning, textiles, and global trade.
- “ICAR-CIRCOT has been designated as the Hub institute for incubating start-ups in the domain of Farm Mechanization and Post-Harvest Technology under KSHITIJ, a pan-India start-up incubation programme supported by the IP&TM Unit of ICAR through the National Agricultural Innovation Fund (NAIF). The five Spoke institutes supporting mentoring and regional outreach are ICAR-CIAE, Bhopal; ICAR-NINFET, Kolkata; ICAR-CAZRI, Jodhpur; ICAR-CCARI, Goa; and ICAR-IIFSR, Meerut.”
- Dr. Shekh Mukhtar Mansuri, Scientist, GTC, Nagpur, was invited as the Chief Guest for the farmers’ training programme under a special project on cotton technology. The programme was jointly organized by ICAR-CICR and CITI-CDRA at Village Waghala, Wardha District, Nagpur, on January 05, 2026.

Publication

Research Paper

- Guruswamy, Krishna Prasad, Senthilkumar Thambiannan, Vigneshwaran Nadanathangam, Jagajanantha Palaniappan, and Seiko Jose. "Preparation and characterization of nano silver infused multilayer micro fibrillated cellulose for wound dressing application." *Bioresource Technology Reports* (2026): 102529. (NAAS: 10.3/IF: 4.3)
- N. Shanmugam, T. Senthilkumar & G. Krishna Prasad "Rotor Spinning with Indigenous Cotton and Recycled fibers", *Journal of Cotton research & Development*, 40(1), 83-90 (2026). (NAAS: 4.7)
- V. G. Arude, S. K. Shukla, P. S. Deshmukh, V. Satankar, R. R. Potdar, A. P. Pandirwar, T. Senthilkumar, G. I. Ramkrushna, G. Majumdar, and R. Raja. 2026. Subjective assessment of handheld mechanical cotton picker in comparison to hand picking for suitability and acceptability by workers. *Journal of Cotton Research and Development*. Vol. 40 (1): 50-58. (NAAS: 4.7)
- Varsha Satankar, S.K. Shukla, S.V. Ghadge, K. Pandiyan, V.G. Arude, S.S. Kautkar, Manoj Mahawar, Shekh Mukhtar Mansuri, and D.U. Patil (2026). Performance Evaluation of Lint Cleaners Used in Indian Ginneries. *Journal of Cotton Research Development*. 40(1): 59-65, ISSN No. 0972-8619. (NAAS: 4.7)
- Vellaichamy Mageshwaran, Varsha Satankar, Chandrasekaran Sundaramoorthy, R. Jayakumara Varadan and V. Pavithra (2025). Assessment of Compost and Oyster Mushroom Production from Cotton Stalks as an Additional Income to Cotton Farmers in Wardha District of Maharashtra, India. *Asian Journal of Agricultural Extension, Economics & Sociology*, 43(12), 233-241, ISSN: 2320-7027. (NAAS: 4.73)

Participation and Presentation in Conference

- Dr. Kirti Jalgaonkar attended and presented a paper titled "Innovative Testing System for Evaluating Air Purification Materials" in virtual mode at the International Conference on "Enhancement of Quality of Life: Echoes of the Past, Vision for a Sustainable Resilient Future", conducted by Nirmal Niketan College of Home Science, Mumbai, during January 16–17, 2026.

Book Chapter

- Vigneshwaran, N. (2026). Life cycle analysis of nanoparticles. In S. Jose, S. Thomas, & F. B. Kadumudi (Eds.), *Metal and Metal Oxide Nanoparticles in Textile Applications* (pp. 477–494).
- Kautkar, S., Patil, S., Jalgaonkar, K., Arude, V. G., & Shukla, S. K. (2025). Cotton ginning: Technology advancement and by-products utilization for circularity. In C. D. Mayee, S. K. Shukla, & M. Kumar (Eds.), *Cotton in Indian circular economy: A journey from farm to fashion* (pp. 45–76). Daya Publishing House (An Astral International Pvt. Ltd.).

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- A web-based tool titled "HMRPred: Heavy Metal Resistance Prediction Tool" was developed under the Network Project on Agricultural Bioinformatics and Computational Biology by ICAR-IASRI, with the involvement of Dr. Himanshushekhar Chaurasia, Scientist froICAR-CIRCOT.

Participation in Events

- Dr. G. Krishna Prasad participated in the 14th Meeting of TXD 38 – Technical Textiles for Mobiltech Applications Sectional Committee, organized by BIS, New Delhi, in virtual mode on January 09, 2026.
- Dr. S. K. Shukla, Director , Co-chaired a session on “Farm Mechanization” during the State-Level Workshop on “Developing an Action Plan for Researchable Issues Emerging from VKSA 2025,” held on January 21,2026, at ICAR -NBSS & LUP Auditorium , Nagpur.



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