



Technology of the Month



Optimized formulation for puncture resistance fabric production

Puncture resistance is required in protective gear, safety equipment and in the products that need to resist bites and scratches. A multilayer fabric was developed consisting of three layers warp yarns of Dyneema in one layer & polyester in other 2 layers and core-spun cotton/nylon as weft. The developed fabric possessed a puncture resistance of 61 N (level 2). An optimized formulation made of shear thickening fluid with 1.5% (w/w) nanocellulose, applied to the fabric, improved the puncture resistance to 199 N that meet the level 5 standards set by EN 388:2016.

Research Advisory Committee Meeting



- The 29th RAC meeting of ICAR-CIRCOT, Mumbai was held during April 19-20, 2023 in hybrid mode. Dr. S. M. Ilyas presided over the meeting. All RAC Members, Heads of Divisions and scientists participated in the meeting.
- Technology leaflets on High Performance cotton based wound dressing material, Engineered cotton fabric face mask, Nano fibre cartridge for filtration application, Augmented process for production bio-enriched compost from Cotton micro-dust, Utilization of Cotton Stalk and other crop residue for Energy Generation were released during this meeting.

Bharat Ka Amrit Mahotsav



- As a part of Azadi ka Amrit Mahotsav, ICAR-CIRCOT in collaboration with Rajiv Gandhi National Institute of Intellectual Property Management (RGNIIPM), Nagpur organized a workshop on “Intellectual Property Rights & Patents, Design filing” on 21st April, 2023. The Guest speaker Dr. Bharat N Suryawanshi, Asst. Controller of Patents & Designs, RGNIIPM, Nagpur gave an elaborative presentation on different IP rights and explained different procedures for filing innovations / IP / Designs. Around 100 participants attended the event in a hybrid mode.

Technology Demonstration



- ICAR-CIRCOT participated in an exhibition ‘Sharing Rich History of Maritime Cotton Trade’ organised by Mumbai Port Authority (MbPA) and Cotton Association of India (CAI) during April 13-15, 2023 at Gateway of India, Mumbai. ICAR-CIRCOT displayed small-scale models of machines relating to the processing of cotton and textile manufacturing. Shri. Shripad Naik, the Hon’ble Minister of State for Tourism and Ports, Shipping and Waterways inaugurated the exhibition.
- Dr. Ashok Kumar Bharimalla attended exhibition arranged for Agricultural Chief Scientists of G-20 countries and showcased the achievements of ICAR-CIRCOT at Varanasi on 19th April 2023.

Outreach Activities



- Dr Sujata Saxena, Principal Scientist & Head, CBPD attended the 6th meeting of the Textile Advisory group (TAG) with stakeholders held at Rajkot on 22nd April, 2023, chaired by Shri Piyush Goyal, Hon. Union Minister for Textiles
- Dr. Jyoti Dhakane-Lad, Scientist and Mrs. Prachi Mhatre, ACTO attended 19th Foundation Day of Society for Innovation & Entrepreneurship (SINE), IITB, Mumbai on 13th April 2023 and canvassed about ICAR-CIRCOT incubation services
- Ginning Training Centre of ICAR-CIRCOT, Nagpur organized an awareness programme on “Value addition to Cotton Biomass” in association with CottonGold Farmer Producer Company Ltd., Ghatanji, Yavatmal district on April 28, 2023.

Human Resource Development



- Scientists of the Institute attended an online training programme on “Introduction to Emerging Technologies” provided by Capacity Building Commission, Department of Personnel and Training, GoI under Karmayogi Bharat during Mar-Apr 2023.
- Dr. G.T.V. Prabu attended six days Faculty Development Programme on 'Recent Trends and Innovation in High Voltage Engineering, organised by KSR College of Technology during 27th March to 1st April 2023.

Stakeholder Interaction



- Dr. N. Vigneshwaran, Principal Scientist and Dr. A. Arputharaj, Scientist visited M/s. Aditya Birla Science and Technology Company Private Limited on 28th April 2023 and interacted with the researchers to formulate a collaborative research proposal in the areas of tracer fibre development and viscose filament strength improvement using nanocellulose.

World Intellectual Property Day



- A webinar was organized on the occasion of World Intellectual Property Day (26th April 2023) with theme “Women and IP: Accelerating Innovation and Creativity”. Ms. Rohini Woyal, Senior Manager, Intellectual Property Godavari Biorefineries, Mumbai gave a brilliant presentation on the theme of WIPO 2023.

Skill Development Programme for Farmers



- Ginning Training Centre of ICAR-CIRCOT, Nagpur organized two training programmes on “Post-Harvest Processing of Cotton and Value Addition to its By-produce” during 17 -20 April 2023 for 30 participants and during 24-27 April 2023 for 31 participants.

Publications



- A. Dukare, K. Sharma, S. Kautkar, J. Dhakane-Lad, R. Yadav, N. Vigneshwaran & S. Saxena. 2023. Microbial xylanase aided bio-bleaching effect on multiple components of lignocelluloses biomass based pulp and paper: a review. Nordic Pulp & Paper Research Journal. <https://doi.org/10.1515/npprj-2023-0005>.
- A.S.M. Raja, A. Arputharaj, Sujata Saxena & P.G. Patil. 2023. Chemo-Enzymatic Processes for Preparation of Absorbent Cotton. Cotton Innovations, 3(1), 23-29.
- C.S. Sahay, D.S. Thorar, S.S. Kautkar, A.K. Patil & P.K. Pathak. 2023. Grass Seed Harvesting – Methods, Machines and Aspects. Research Journal of Agricultural Sciences, 14(02):512-515. (ICAR-IGFRI work)



Awareness Programmes at GTC, Nagpur



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