



A Monthly Insight into the ICAR-CIRCOT e-NEWS letter



"I see God in every thread that I draw on the spinning wheel." - Mahatma Gandhi

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India is the leading producer of cotton in the world accounting for one-fourth of the world output, covering 36% of the area under global cotton cultivation. Besides, India is the second largest consumer of cotton in the world with a robust cotton value chain. Cotton production for the crop year 2017-18 has been at 360 lakh bales. The projected yearly Balance Sheet for the season estimates total cotton supply up to September 2018 at 410 lakh bales. The

domestic consumption for the season will be 324 lakh bales while the exports are estimated to be 65 lakh bales, increasing by about 27% from the earlier estimate, which in turn may evolve India as the second largest exporter of cotton replacing Australia by the end of the coming cotton season.

The ICAR-CIRCOT aims at basic and strategic research in processing of cotton & its agro-residues for development of value added products and quality assessment of cotton. Looking at the skill development gap in knitting technology, the training programme on "Knitting and knit garments" is scheduled during June 11-13, 2018 at ICAR-CIRCOT, Mumbai. Representatives from industries, academic institutes are expected to participate in this programme.

At present production of natural fibres has reached 33 million tons (cotton 24 mt, jute 3.3 mt, coir 1 mt, others 1.6 mt) and farm value is estimated to USD 60 billion. About 60 million households are engaged in production of natural fibres extending employment to 300 million people (4% of world population). Looking at the importance of natural fibres, a one-day Hindi seminar on "प्राकृतिक रेशों की उन्नत प्रसंस्करण प्रौद्योगिकी एवं उनके मूल्यवर्धित उत्पाद" is being organized on June 2, 2018 at Mumbai premises in association with Indian Fiber Society to create awareness about the potential of natural fibers and to strengthen their demand through value addition ensuring a sustainable future; as well as to promote the use of official language Hindi in dissemination of innovative technological knowledge. The seminar is expected to be attended by researchers, academicians, industry, students and policy makers. The deliberations among the stakeholders would evolve strategies to address challenges in the cotton and natural fiber processing sector.

(P. G. Patil)
Director

Technology Insight

Cotton Stalk Briquettes for Incineration in Modern Crematoria

In India, a large amount of wood is used for burning dead bodies in crematoria. About 300 kg wood is needed for burning of a single dead body. Usually, a tree which has been wilted and withered is used for cremation. However, in order to meet the high consumption rate of wood, green trees are also cut leading to deforestation and global warming. Studies conducted in this work showed that cotton stalk briquettes could be used as an alternative to wood for burning of dead bodies. However, a serious problem posed in field trials was the proper burning of densified briquettes.

In this work, an innovative experimental set up has been designed and developed for burning of dead bodies using cotton stalk pellets/briquettes by incorporating a forced draft system. The experimental setup consists of a MS platform and side covers for heaping of briquettes. The forced air draft using a centrifugal fan is provided through air ducts provided at the bottom and two sides of the set up. The air draft generated by fan is directed towards pyre through 2 mm perforations in the bottom and side ducts to ensure proper and efficient burning.



Experimental set up for burning dead bodies using cotton stalk briquettes

Trainings

Increasing Farm Income through Increase in Production and Processing of Cotton at Village Level

Ginning Training Centre, Nagpur organized three training programmes on “Increasing Farm Income through Increase in Production and Processing of Cotton at Village Level” during 2-5, 14-17, 21-24 May 2018. Ninety farmers from Jalgaon district of Maharashtra participated in these trainings. The programmes were coordinated and sponsored by ATMA, Jalgaon.

During training programmes, farmers were provided with first-hand information on recent techniques to enhance cotton productivity to get an additional income. The training module dealt with best cotton production management practices, strategy for control of pink boll worm, biological inputs in cotton farming, pest and disease management techniques, cotton

marketing, fibre quality parameters and by-products utilization. The farmers were taught about entrepreneurship development on value-addition to biomass for generation of additional farm income. Practical sessions on pellets, compost and oyster mushroom production using cotton stalks were taken. The operation of

facilities such as ginning, oil mill, particle board and pellet plant were demonstrated to the farmers. Trainees were also taken for visits to ICAR-CCRI, Regional Organic Farming Centre, Vidarbha Sales, Agricultural Machinery Manufactures and M/s Ankur Seeds at Nagpur.



**Group Photo- Training Programme on
“Increasing Farm Income through Increase in Production and Processing of Cotton at Village Level”**

Quality Evaluation of Cotton

ICAR-CIRCOT organized a five-day training programme for 9 participants from Ginning and Trading Industry on “Quality Evaluation of Cotton” during May 7-11, 2018. The training was inaugurated by Dr. P. G. Patil, Director, ICAR-

CIRCOT, Mumbai. The course aimed on basics of cotton grading, trading, fibre attributes and their impact on yarn quality as well as marketing and commercial aspects of cotton. Theoretical lectures and hands-on training on cotton fibre quality

testing using High Volume Instrument (HVI) and Advanced Fibre Information System (AFIS), cotton grades, spinning and yarn testing were given to the trainees. A visit to Cotton Association

of India (CAI), Cotton Green, Mumbai was also arranged to show the cotton museum and commercial grading of cotton.



Group Photo- Training Programme on "Quality Evaluation of Cotton"

Events

Dr. V. Sundaram Memorial Lecture

Dr. N. Vigneshwaran, Principal Scientist delivered Dr. V. Sundaram memorial lecture on "Nanotechnology & its Applications in Cotton". The programme was jointly organized by ICAR-

CIRCOT & Indian Society for Cotton Improvement (ISCI), Mumbai on May 1, 2018 to celebrate the 90th birth anniversary of the former Director Dr. V. Sundaram. Dr. P. G. Patil, Director



Director, ICAR-CIRCOT addressing the guests and staff during the occasion

welcomed the guests and felicitated the family members of Dr. V. Sundaram and retired employees. The family members also shared their memories about Dr. V. Sundaram on this occasion. The programme was attended by Dr. A. J. Shaikh, Secretary of ISCI and Former Director, ICAR-CIRCOT and Shri. Suresh Kotak,

Swachh Bharat Abhiyan

A cleanliness drive was undertaken at the premises of GTC, Nagpur on May 19, 2018. All

Chairman, ISCI & Chairman, Kotak & Co Ltd who recalled their memories and cherished his hard working, calm & quiet nature. The meeting ended with vote of thanks by Dr. P. K. Mandhyan, Sr. Scientist and Head I/c, Quality Evaluation and Improvement Division.

staff members actively participated in cleaning of the campus and sheds.



Cleanliness programme at GTC, Nagpur

Visit

Director's Visits

- Director, ICAR-CIRCOT visited Satara Co-operative Spinning Mill, Satara and DKTE Society's Textile & Engineering Institute, Ichalkaranji, Maharashtra during May 9-11, 2018.

Dignitaries visit

- Dr. Trilochan Mohapatra, Director General, ICAR, visited ICAR-CIRCOT on May 19, 2018. •
- African Official Mr. HOUSSOU Paul, Chief of

Party, National Institute of Agricultural Research (INRAB), Rep of Benin, West Africa visited GTC, Nagpur on May 16, 2018. Dr. S. K. Shukla, Officer I/c, GTC briefed him about various research activities being undertaken at the center for the benefit of farmers and industries. Mr. Paul appreciated the technologies and training facilities available at GTC, as these will be very helpful for the cotton farmers and industry in Africa.



African official visit to GTC, Nagpur

Scientists' Visit

- Dr. Dattatreya M. Kadam, Principal Scientist, CBPD visited ADF Foods Ltd., Malegaon, Sinner, Dist. Nashik as Technical Assessment Panel Member of Export Inspection Agency, Mumbai on May 17, 2018 to certify ADF Foods Ltd for export worthiness under Voluntary Certification Scheme.

Meetings

The deputation presentations of Dr. P. G. Patil, Director, ICAR-CIRCOT and Dr. P. S. Deshmukh, Sr. Scientist were held on May 5, 2018 in the Video Conferencing Hall of the institute. Dr. P. G. Patil briefed about his expert presentation on "Promoting Cotton By-products in Eastern and Southern Africa" during the National workshop of UN Development Account Project held at Kampala, Uganada on March 14-16, 2018. Dr. P. S. Deshmukh detailed on his visit to Regional Knowledge-Cluster-cum-Training Centre on Post-Harvest and Ginning Technology in Benin under Cotton TAP programme during December 17-23, 2017.



6 Director, ICAR-CIRCOT delivering deputation presentation at ICAR-CIRCOT

Awareness Programmes

Mera Gaon Mera Gaurav

An awareness-cum-demonstration programme was conducted by team of experts led by Dr. V. Mageshwaran, Scientist, Ginning Training Centre, ICAR-CIRCOT, Nagpur at Palasgaon village, Selu Taluk, Wardha district on May 31, 2018. During the programme, demonstration on multiplication of compost culture and preparation of compost from cotton stalks was given to the farmers. A total of thirty farmers participated in the programme. The farmers were demonstrated practically on “Protocol to

multiply 100 g of ICAR-CIRCOT's solid based compost culture to ten litres for its use in preparation of one tonne of cotton stalks compost”. The advantages of on-site multiplication of compost culture such as savings in transportation cost and large conversion of cotton stalks into compost was explained to the farmers. The farmers were also supplied with ICAR-CIRCOT's compost culture to use them in their own field.



Dr. Mageshwaran explaining protocol to use ICAR-CIRCOT compost culture to the farmers

Participation

Meetings

- Dr. Dattatreya M. Kadam, Principal Scientist, CBPD attended the Assessment Committee Meeting for assessment of technical staff at ICAR- Central Institute for Agricultural Engineering, Bhopal on May 5, 2018.
- Dr. P. K. Mandhyan, Head I/c, QEID participated in Brainstorming Meeting on “Banana fiber: Research needs for commercial exploitation” held at ICAR- National Research Centre for Banana (NRCB), Trichy on May 10, 2018.



Dr. P. K. Mandhyan during Brainstorming Meeting at ICAR-NRCB, Trichy

- Dr. Sujata Saxena, Principal Scientist & Head I/c, CBPD participated in the inaugural session of the 3rd International Symposium on Aquaculture and Fisheries Education (ISAFE) organized during May 16-18, 2018 at ICAR-Central Institute of Fisheries Education, Mumbai.
- Dr. Sujata Saxena, Principal Scientist & Head I/C, CBPD participated in the 5th Meeting of Indian Grain Storage Working Group on "Bulk Storage, Fumigation and Drying of Grains at Farmers Level" held at NASC Complex, New Delhi on May 21, 2018.
- Dr. S. V. Ghadge, Senior Scientist, Shri G.B. Hadge, A.C.T.O and Shri Nishant Kambli, Technical Officer attended the 46th Joint AGRESCO - Agricultural Research and Development Committee Meeting 2018 at Vishweshwaraiyya Hall, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth (DBSKKV), Dapoli, Maharashtra during May 24-26, 2018.
- Dr. Sujata Saxena, Principal Scientist & Head I/c, CBPD was invited to participate in the Texellence 2018 Conclave on "Business Excellence in Textile & Apparel Industry-Competitive Strategy for Growth in Uncertain Times" organized by the Confederation of Indian Industry, Mumbai on May 25, 2018.



46th Joint Agricultural Research and Development Committee Meeting at Dr. BSKKV, Dapoli

Demonstration Programmes / Exhibitions

ICAR-CIRCOT participated and showcased exhibits and technologies in the 3rd International Symposium on Aquaculture and Fisheries Education (ISAFE3), organized by the ICAR-Central Institute of Fisheries Education (CIFE), Mumbai during May 16-18, 2018. The theme of ISAFE3 was "Fisheries Education for Sustainable Blue Economy". The symposium was inaugurated by Chief Guest, Shri Mahadev Jankar, the Hon'ble

Minister for Animal Husbandry, Dairy and Fisheries, Govt. of Maharashtra accompanied by Padmavibhushan Dr. Anil Kakodkar, Former Chairman of Atomic Energy Regulatory Board; Dr. J. K. Jena, President, Asian Fisheries Society and DDG (Fisheries Science), ICAR; Dr. C. Virapat, DG, Network of Aquaculture Centers in Asia Pacific (NACA), Thailand and Prof. S. Kaushik, European Research Area (ERA), Spain.



Guests visiting exhibits of ICAR-CIRCOT at ISAFE3

Human Resource Development

- One-day training on MATLAB was organized for eight scientists of ICAR-CIRCOT, Mumbai on May 18, 2018 to sensitize them about the basics and advanced tool boxes available in the

MATLAB software. Engineers from DesignTech® Systems Ltd., Mumbai delivered lectures on statistical toolbox, image analysis and time series analysis.



Group Photo- Training Programme on "MATLAB"

Publications

- Mageshwaran V., Sharma V., Chinnkar M., Parvez N. and Krishnan V. 2018. Biodegradation of gossypol by mixed fungal

cultures in minimal medium. Applied Biochemistry and Microbiology, 54(3): 301-308.

Personnel

Recognition/Awards

- Dr. Sujata Saxena, Principal Scientist & Head I/c, CBPD was felicitated during the six-monthly meeting of Town Official Language Implementation Committee (TOLIC) held on May 22, 2018; for her contribution as a judge of Hindi competition on "Story writing in Hindi on shown picture" conducted by Town Official Language Implementation Committee, Mumbai in collaboration with ICAR-CIRCOT, Mumbai.

- Mrs. Nandini Deshmukh, Assistant, ICAR-CIRCOT was awarded during the six monthly meeting of Town Official Language Implementation Committee held on May 22, 2018; for bagging second prize in Hindi competition on "Story writing in Hindi on shown picture" conducted by Town Official Language Implementation Committee, Mumbai in collaboration with ICAR-CIRCOT, Mumbai.



Dr. Sujata Saxena being felicitated by Shri. Anil Kumar Gupta, President, TOLIC



Mrs. Nandini Deshmukh receiving second prize in Hindi competition

Transfers

- Dr. S. V. Ghadge, Senior Scientist transferred from Mumbai HQs to Ginning Training Centre, Nagpur
- Dr. (Smt.) Sharmila Patil, Scientist, transferred from TTD to QEID
- Shri S. Banerjee, Asstt. Chief Technical Officer transferred from the PME Cell to QEID
- Shri M. B. Patel, Senior Technical officer transferred from Mumbai HQs to Q.E. Unit, Surat
- Shri C. V. Shivgan, Technical Officer, transferred from Mumbai HQs to Ginning Training Centre, Nagpur

- Shri A. R. Jadhav, Senior Technical Assistant transferred from the Training Cell to PME Cell
- Shri S. K. Parab, Technical Assistant, transferred from MPD to Ginning Training Centre, Nagpur
- Shri R. K. Pallewad, Asstt. Administrative Officer transferred from Mumbai Hqs to Q.E. Unit, Coimbatore
- Shri P. V. Jadhav, Assistant was transferred from Adm-I Section to Adm-V Section
- Shri A. F. Guddadur, Skilled Support Staff transferred from Mumbai to Q.E.I.D. Dharwad
- Shri M. G. Sosa, Skilled Support Staff transferred from Mumbai to Q.E.I.D. Surat

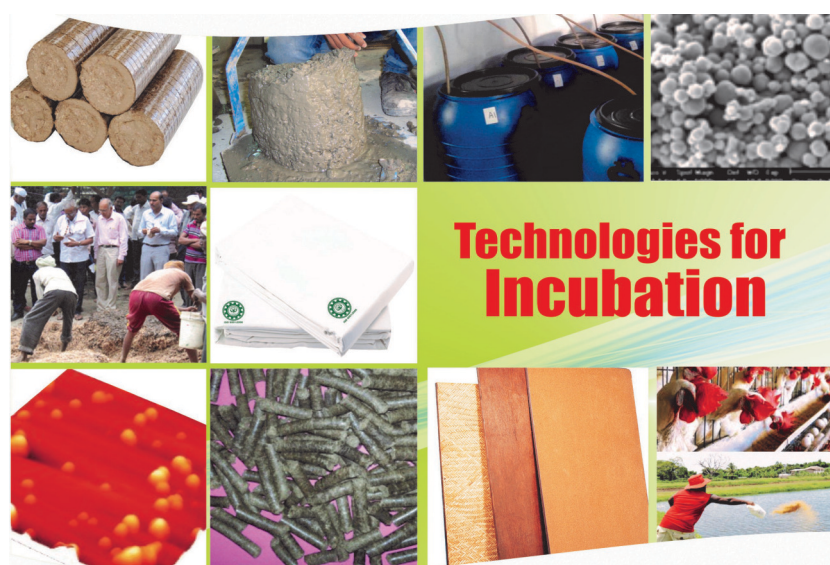
Superannuation

Shri. D. B. Temgire, Skilled Supporting Staff, ICAR-CIRCOT superannuated on May 31, 2018.

Agri-Business Incubation

Technologies Available for Incubation at the ICAR-CIRCOT ABI Centre

- 1) Ecofriendly preparation of absorbent cotton for medical & hygiene products.
- 2) Nanofinishing Technologies for Cotton Textiles
 - a) Antimicrobial
 - b) UV protection
 - c) Water repellency
- 3) Cotton rich blends for functional textile applications
- 4) Innovation Finishing processes for garments & home textiles: Mosquito repellent, pesticide protection cloths & denim fading
- 5) Software module for non-metameric color matching in textiles
- 6) CIRCOT Calibration Cotton for global outreach
- 7) Sustainable business model for cotton at village level:
 - a) Quality based trading
 - b) Supply chain logistics for cotton stalk (custom hiring)
 - c) Value addition to cotton biomass
 - d) CIRCOT mini card for sliver preparation
- 8) Microbial Degossypolisation cottonseed meal for use as feed in poultry, fish & piggery sectors
- 9) Enhancing farmers and other stakeholders income by Cotton value chain: via startup & entrepreneurship development
- 10) Cotton Trading based on Quality
Parameters for better price remuneration by Farmers



Upcoming Events

Specialized training programmes for the year 2018-19

S.No.	Title of Training	Period	Fees (Rs) (excluding GST)
1	Knitting & knit Garments	11-13 June, 2018	10, 000
2	Value addition to Cottonseed	26-28 July, 2018	12, 000
3	Absorbent Cotton Technology	02-04 Aug., 2018	15, 000
4	Quality Evaluation & Spinning performance of Indian Cottons using Advanced Techniques	04-07 Sept., 2018	10,000
5	Advances in Applications of Nanotechnology	24-28 Sept., 2018	25,000
6	Electrospinning for Nanofibre Production & its Applications	03-05 Oct., 2018	10,000
7	Basic & Advanced Statistical Techniques for Research	12-15 Nov., 2018	6,000
8	Spectroscopic & Chromatographic Techniques for Material Characterization	27-29 Nov., 2018	10, 000
9	Instrumental Evaluation of Clothing Comfort	10-15 Dec., 2018	50,000
10	Characterization of Materials Using X-Ray Diffractometer (XRD)	27-29 Dec., 2018	30,000
11	Advances in Microscopy	17-19 Jan., 2019	15, 000
12	Basic and Advanced Techniques for Evaluation of Textile Materials	17-19 Jan., 2019	10,000
13	Fibre Reinforced Composite	04-06 Feb., 2019	10,000
14	Customized training programme for students & academia*	Two days (Dates can be finalized as per the requirement)	3,000
	Customized training programme for students & academia*	One day (Dates can be finalized as per the requirement)	1,500

Dr. Ashok Kumar Bharimalla

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