



## A Monthly Insight into the ICAR-CIRCOT

e - News Letter

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### Director's Desk...

The textile and apparel sector has received a boost through the Government of India's Rs. 6000 crore special package that aims to garner bigger share for the sector in the global textile market. The policy aims to create one crore jobs in the textile and apparel industry over the next three years and attract an investment worth Rs. 74,000 crores. The special package includes labour friendly measures that will generate more employment, promote economies of scale and boost the exports. The Asian region is emerging as the major processing hub for the textile processing in the world. It's the right time that the country revitalizes the cotton value chain segment. Development of sustainable enterprise and skill development are the key to remain competitive in the sector.

The Cotton Advisory Board (CAB) has estimated the closing stock at 43 lakh bales as against its previous estimate of 35 lakh bale for the season. The area under cotton has also been revised to 119.10 lakh hectare as against its previous estimate of 118.81 lakhs hectare for the 2016-17 season. The Agri-business incubation centre established in the Institute is nurturing the young entrepreneur and providing avenues for the incubatees to venture into start-up companies in the area of the post-harvest processing of cotton. This initiative will help in starting up sustainable enterprises resulting in value addition and employment generation.

In line with the skill development initiatives of the Government of India, ICAR-CIRCOT has scheduled 13 specialized training programmes during the year 2016-17 for capacity building in the area of advances in Nanotechnology and its applications, value addition to cottonseed, absorbent cotton technology, characterization of textile materials using XRD, Spectroscopy & chromatographic techniques, instrumental evaluation of clothing comfort besides regular the training programme on Quality evaluation of cotton and Roller Ginning technology & Basics of Cotton grading.

P. G. Patil



ICAR-CIRCOT, Mumbai



ISO: 9001:2008

### **Hon'ble Union Minister of Agriculture and Farmers Welfare, Shri Radha Mohan Singh Visits ICAR-CIRCOT**

Hon'ble Union Minister of Agriculture and Farmers Welfare, Shri Radha Mohan Singh visited the Institute on 3<sup>rd</sup> July 2016. While addressing the staff members of the Institute, he applauded the establishment of Nanocellulose Pilot Plant, first of its kind in India and fifth in the World. The Minister stressed upon the skill development programmes and the research output of the Institute to be beneficial for farmers and emphasized that awareness about such activities should reach the stakeholders on real-time basis. He visited various research

facilities, Nanocellulose Pilot Plant and the exhibition hall and also released 14 leaflets on the Skill Development programmes. Shri Chhabilendra Roul, Additional Secretary DARE and Secretary, ICAR in his address, expressed that the institute should focus on developing frontier technologies and give prominence to technology commercialization. Dr. P. G. Patil, Director, ICAR-CIRCOT, briefed about the achievements of the Institute. Dr. S. N. Jha, ADG (PE) and officials of ICAR Institutes were present on the occasion.



Hon'ble Union Minister of Agriculture and Farmers Welfare, Shri. Radha Mohan Singh while addressing ICAR-CIRCOT staff



Hon'ble Union Minister of Agriculture and Farmers Welfare, Shri. Radha Mohan Singh in exhibition Hall of Institute



Hon'ble Union Minister of Agriculture and Farmers Welfare, Shri. Radha Mohan Singh in Nanocellulose Pilot Plant

## Dr. K. Alagusundaram, DDG (Engg.) visits GTC, Nagpur

Dr. K. Alagusundaram, DDG (Engg.) and Dr. K. K. Singh, ADG (Engg.) visited Ginning Training Centre, Nagpur on 2<sup>nd</sup> June, 2016. Dr. P. G. Patil, Director and Dr. S. K. Shukla, Officer In-charge, GTC, Nagpur explained the activities undergoing at the centre and status of its upgradation to International Ginning Training Centre.

The demonstration facilities of particle board and scientific seed crushing plant were also showed. The research and training activities undertaken at the centre was appreciated by DDG and he reiterated the immediate need for strengthening of facilities of GTC to International standards so that Afro-Asian cotton growing counties will improve their skill in this area.



Dr. K. Alagusundaram DDG (Engg.) and Dr. K. K. Singh, ADG (Engg.) at GTC, Nagpur

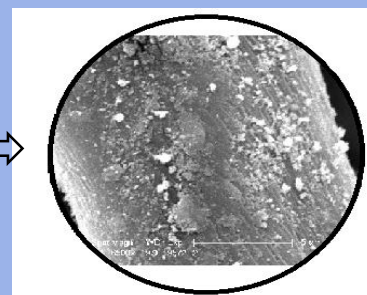


Dr. K. Alagusundaram, Dr. K. K. Singh & Dr. P. G. Patil with GTC staff

## Antibacterial Finish to Cotton-bamboo Viscose Blended Fabric

Durable antibacterial and UV protective finish of cotton-bamboo blended fabric (Cotton: Bamboo 65:35) has been achieved through *in-situ* synthesis of nano-zinc oxide (nano-ZnO) in the fabric. The ultrafine pores available on cotton fibre surface were targeted as the nucleating sites for *in situ* synthesis of nano-ZnO to facilitate the physical entrapment of ZnO in pores for

better durability. The *in situ* synthesis of nano ZnO in fabric resulted in excellent antibacterial activity (>99 %) against two pathogens, *Staphylococcus aureus* (Gram-positive) and *Klebsiella pneumoniae* (Gram-negative) even after 15 wash cycles. Also, the UV protection level was maintained above 30+ UPF up to 15 wash cycles. The developed processes does not affect other fabric properties such as water absorbency and colour of the cotton fabrics.



Scanning electron micrograph of nano-ZnO finished blended fabric

## International Yoga Day

The International Yoga Day was celebrated at ICAR-CIRCOT on 21<sup>st</sup> June, 2016 as per the protocol received from the Government of India. Yoga teachers from Shri Ambika Yoga Kuteer, Mumbai, were invited to conduct the yoga session for the benefit of all staff members.

They demonstrated various asanas to the staff and made them perform the asanas and pranayam under their supervision. At the end of the session, all the staff members took pledge to continue practicing Yoga every day.



International Yoga Day and Yoga Workshop at ICAR-CIRCOT on 21<sup>st</sup> June, 2016



Yoga teacher, Shri Sudhir Sawant, teaching yogasana on International Yoga Day



ICAR-CIRCOT staff performing yoga on International Yoga Day

## Foreign Deputation

Dr. S. K. Shukla (Sr. Scientist) and Dr. C. Sundaramoorthy (Sr. Scientist) visited Burkina Faso and organized the In-country training programme on post-harvest management and value addition to crop residues. They also visited Benin for monitoring the establishment of the Regional Knowledge Cluster cum Training

Centre for Post-harvest and Ginning Technologies respectively, under the Cotton Technical Assistance Programme (Cotton TAP) to Africa during 14-24 May, 2016. The report of the foreign deputation was presented by Dr. S. K. Shukla at GTC, Nagpur on 15<sup>th</sup> June, 2016 and by Dr. C. Sundaramoorthy in the Jubilee hall, ICAR-CIRCOT, Mumbai on 17<sup>th</sup> June, 2016.



Dr. S.K. Shukla delivering the presentation on the foreign deputation at GTC, Nagpur



Dr. C. Sundaramoorthy delivering the lecture about his visit to Burkina Faso and Benin, Africa

## Agri Business Incubation (ABI): Advisory Sub-Committee Meeting

The 1<sup>st</sup> Advisory Sub-Committee Meeting of Agri Business Incubation (ABI) Centre was held on 13<sup>th</sup> June, 2016, at the Institute. Dr. P. G. Patil, Director & Chairman, Advisory Sub-Committee, welcomed the experts and made a mention of the CIRCOT technologies (Nanocellulose Pilot Plant, Rubber dam and the Agri Business Incubation (ABI) Centre) featuring among the list of achievements published by Ministry of Agriculture & Farmers Welfare, Government of India in June 2016. The members of the advisory sub-committee Dr. R. P. Kachru, Former ADG (PE), Dr. S. Sreenivasan, Former Director, Dr. V. D. Gotmare, Registrar and Textile Expert, VJTI and Mr. Rajeeb Roy, CEO, Agriplast Tech India Pvt. Ltd., Bengaluru were present in

the meeting and deliberated on the key issues of ABI activities.

During the last six months three incubatees have been admitted in ICAR-CIRCOT-ABI Centre viz., M/s. Green Globe Mumbai; Mr. R. Annush from M/s. The Kadri Mills Limited, Coimbatore and Mr. Irfan Ali, Entrepreneur from Raichur, Karnataka. The advisory sub-committee members and dignitaries deliberated on various points like importance of Agri Business Incubation in technology commercialization, need for promoting and publicizing CIRCOT technologies amongst stakeholders and importance of developing commercially viable technologies.



Er. A. K. Bharimalla, Senior Scientist & Head In-charge, TTD & PI, ICAR-CIRCOT-ABI Centre presented the proposed management strategies of the ABI Centre followed by a presentation from Dr. N. Vigneshwaran, Senior

Scientist & member of ICAR-CIRCOT-ABI Management Team on the progress of activities. The management support being provided to the three admitted entrepreneurs and their future course of action was also discussed in detail.



Deliberations during Advisory sub-committee meeting of Agri Business Incubation (ABI) Centre

## ISO Management Review

Management review meeting for ISO 9001:2008 Quality Management System (QMS) of the Institute was conducted on 18<sup>th</sup> June, 2016. Dr. A. S. M. Raja, Management Representative presented the outcome of the internal audit held in the month of May, 2016. Dr. P. G. Patil, Director reviewed the quality policy & objectives and overall implementation of QMS. He urged the staff members to work with dedication to achieve the targets in stipulated time.

## Policy Paper on Water Requirement

A meeting was organized on June 14, 2016 under the chairmanship Dr. R. P. Kachru, former ADG, ICAR to discuss on preparation of a policy paper on “Water Requirement for Textile Industries”. Dr. P. G. Patil, Director, ICAR-CIRCOT addresses the group of scientist and stressed on the importance of bringing out the policy paper at this juncture and Dr. R. P. Kachru, Former ADG (PE), gave an overall idea and frame work for the preparation of policy paper. Dr. A. S. M. Raja gave a brief presentation on the topic based on initial study done in this aspect.

### Quarterly Review on Hindi Implementation

The Second meeting of implementation committee on official language was held on 16<sup>th</sup> June, 2016 at V. Sundaram Committee Room under the chairmanship of the Director. The various issues discussed include; activation of UNICODE in all computers, publication of Hindi magazine AMBAR, updating the institute website in Hindi and organization of Hindi workshop for skilled supporting staff and use of Hindi PARANGAT staff for doing section's translation works.

### Karyalयेन Kamkaj Avam Patrachaar

As per the recommendations of implementation committee on official language, a one day Hindi workshop was organized on 24<sup>th</sup> June, 2016 for skilled supporting staff on the subject "Karyalयेन Kamkaj Evam Patrachaar". Smt. Sadhana Tripathi, Assistant Director (Hindi), implementation office of the official language, delivered lecture on "Karyalयेन Kamkaj" and Dr. Vishwanath Jha, Deputy Director, Hindi Teaching Scheme delivered lecture on "Patrachaar". Twelve skilled supporting staff participated in the workshop.



Dr. P. G. Patil, Director welcoming Dr. Vishwanath Jha, Deputy Director, Hindi Teaching Scheme



Skilled supporting staff of CIRCOT participating in Hindi Workshop

## De-oiled Cake as Animal Feed

Dr. V. Mageshwaran, Scientist, GTC, Nagpur participated in one day seminar on “De-oiled cake (DOC) as cattle, poultry and fish feed” organized by All India

Cottonseed Crushers Association (AICOSCA) at Guntur, A.P., India on 25<sup>th</sup> June, 2016. He presented a paper on “Microbial process for degossypolization and nutritive quality improvement of cottonseed cake”.



Dr. V. Mageshwaran, Scientist, GTC, Nagpur presenting paper in the seminar

## Cotton Feeder for Double Roller

MoU was signed between ICAR-CIRCOT, Mumbai and M/s Bajaj Steel Industries Limited, Nagpur under collaborative research for *Development of Single Locking Cotton Feeder for Double Roller Gin* on 2<sup>nd</sup> June, 2016.

## Cotton Reinforced Rubber Baton

ICAR-CIRCOT, Agribusiness Incubation Centre (ABI), admitted Mr. C. A. Manoj Kumar and Mr. K. K. Anand from Kerala as an Incubatee for '*Development of Cotton Reinforced Rubber Baton*' The baton will have applications in the police force and the security agencies. MoU was signed with the incubatees on 30<sup>th</sup> June, 2016.



Mr. C. A. Manoj Kumar and Mr. K. K. Anand signing MoU for Development of Cotton Reinforced Rubber Baton

## Publications

A. Yadav, N. Vigneshwaran, Manoj Srivastava. "*Nano Takniki Se Mrida Sudhaar*" *Kheti*, May 2016.

Agarwal, A. Jeengar, A. Arputharaj, M. Bhowmick, P. Satyamurthy, K.K. Samanta, C.D. Souza, N. Vigneshwaran. "*Performance Characteristics of Electrospun Cellulose Acetate Nanofiber Mat Embedded with Nano-ZnO / Vitamins*", *International Journal of Nanotechnology and Application*, 2016, 6(3): 1-12.

## Director's Visits

Dr. P. G. Patil, Director, CIRCOT, attended the review meeting of ICAR Regional Committee No. VII organized at ICAR-CICR, Nagpur under the chairmanship of Dr. K. Alagusundaram, DDG (Engg.) on 2<sup>nd</sup> June, 2016.

## Agri Business Incubation (ABI) Centre

Technologies available for Incubation at ICAR-CIRCOT-ABI Centre

- Synthesis of Nano-Zinc Oxide Particle by Novel Chemical route
- Energy Efficient Nanocellulose Production Technology
- CIRCOT's Accelerated Processing of Cotton Stalk for manufacture of Compost
- Gossypol reduction and nutritive quality improvement in cottonseed cake for its use in non-ruminants feed
- Design and development of Textile through Computerized Sampling Facility with CAD
- Process for preparation of Absorbent Cotton
- Briquetting and Pelleting of Cotton Stalk

## Obituary

Shri. J. B. Dhodia, Retd. Technical Assistant (T-1-3) who was working in QEI Division at Surat regional station passed away on June 22<sup>nd</sup>, 2016.

## Upcoming Events

Calendar of training cum-skill development programmes for the year 2016-17

Sr. No.	Title of Training	Period	Fees (Rs) (excluding Service tax)
1	Electrospinning Techniques & their applications	Jul 11-13, 2016	10,000
2	Value addition to Cottonseed	Aug 29- Sep, 2016	12,000
3	Quality Evaluation & Spinning performance of Indian Cottons using Advanced Techniques	Sep 20-22, 2016	10,000



## Upcoming Events



ISO: 9001:2008

4	Fibre and Yarn Quality Management in Spinning	Oct 5-7, 2016	10,000
5	Basic Statistical Techniques for Textile Research	Nov 15-17, 2016	6,000
6	Training on Absorbent Cotton Technology	Nov 21-23, 2016	10,000
7	Characterization of Materials Using X-Ray Diffractometer (XRD)	Dec 19-21, 2016	30,000
8	Advances in Microscopy	Jan 16-18, 2017	15,000
9	Advances in Applications of Nanotechnology	Feb 6-10, 2017	25,000
10	Spectroscopic and Chromatographic Techniques for Material Characterization	Feb 21-24, 2017	12,000
11	Instrumental Evaluation of Clothing Comfort	Mar 6-10, 2017	50,000
12	Quality Evaluation of Cotton	Jul 25-29, 2016 Aug 8-12, 2016 Aug 22-26, 2016 Sep 19-23, 2016 Nov 7-11, 2016 Jan 9-13, 2017 Feb 20-24, 2017	10,000
13	Double Roller Ginning Technology & Basics of Cotton Grading, GTC, Nagpur	Jul 11-16, 2016 Aug 22-27, 2016 Sep 19-24, 2016 Oct 17-22, 2016 Nov 21-26, 2016 Dec 19-24, 2016 Jan 16-21, 2017 Feb 20-25, 2017	10,000
14	ICAR Short course on Synthesis and Characterization of Nanomaterials for Agricultural Applications	Sep 19-28, 2016	ICAR sponsored short course

For further detail please contact

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Shri S. S. Barnala, Union Minister for Agriculture and Irrigation, Govt. of India visited ICAR-CIRCOT on December 27, 1977.



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