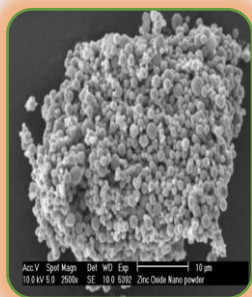




## Technology of the Month

### *Toxicity analysis of ICAR-CIRCOT nano-Zn suspension*



The nano-Zn suspension prepared by ICAR-CIRCOT is being evaluated by various stakeholders for diversified applications. Hence, to understand the skin irritation potential of this material, the acute dermal irritation study was conducted on white rabbit. This test was outsourced from M/s. Liveon Biolabs Pvt Ltd., Tumakuru, Karnataka. This study provides a rational basis for risk assessment in humans. Three healthy young and adult male rabbits with good intact skin were used to conduct this acute dermal irritation / corrosion study. The skin reaction (erythema/edema) was scored (Draize Method) at 1, 24, 48 and 72 h post removal of the test patch. There were no skin reactions (erythema / edema) clinical signs / mortality and morbidity in any of the animals. Based on this study, nano-Zn suspension is classified as 'Non-toxic' as per the Globally Harmonized System of Classification (GHS) and labelling of Chemicals.

## MoUs signed



- ICAR-CIRCOT, Mumbai signed an MoU with Mr. Saneesh K M, Thrissur, Kerala for technology mentoring and incubation for the project titled 'Preparation of value-added products using banana leaf and pseudostem' on 19<sup>th</sup> June 2023
- ICAR-CIRCOT, Mumbai signed an MoU on 28<sup>th</sup> June 2023, with Dr. Deepa Bhajekar, Managing Director, D Technology, Thane for technology mentoring in the field of "Extraction of cellulose from Biomass".

## Industry-Institute Interface Meet



- ICAR-CIRCOT, Mumbai organized an 'Industry Interface Meeting' on 7<sup>th</sup> June 2023. This meeting was presided over by Dr. S. N. Jha, DDG (Agril. Engg), ICAR, New Delhi. Representatives from tractor manufacturing companies, Fertilizer industries, Textile industries, Food industries, Chemical industries, Briquettes and Pellets manufacturing industries participated in this meeting along with other cotton value chain stakeholders.

## Brainstorming session on Mechanization of Cotton Harvesting



- Brainstorming session was held on 28<sup>th</sup> June 2023 under the chairmanship of Dr. S.K. Shukla, Director, ICAR-CIRCOT to suggest roadmap for mechanization of cotton harvesting in India. Mr. Suresh Kotak, Chairman, The Textile Advisory Group, Ministry of Textiles, GoI; Mr. L. K. Gupta, CMD, CCI, Mumbai; Dr. M. K. Sharma, Whole Time Director, M/s. Bajaj Steel Industries Ltd, Nagpur and other stakeholders participated in this meeting.

## Inauguration of ICAR-CIRCOT Type IV staff quarters



- Inauguration of ICAR-CIRCOT Type IV staff quarters took place at the hands of Dr. S.N. Jha, DDG (Agril. Engg.) in the presence of Dr. K. Narsaiah, ADG (Process Engg.) and Dr. P.G.Patil, Vice Chancellor, MPKV, Rahuri (Former Director, ICAR-CIRCOT) and Dr. S. K. Shukla, Director ICAR-CIRCOT along with former Directors of the Institutes namely; Dr. S. Sreenivasan and Dr. A. J. Shaikh and QRT member Dr. K. C. Patel and Dr. R. P. Nachane, former HOD, QEID on 7<sup>th</sup> June 2023.



## Outreach Activities

- Ginning Training Centre (GTC) of ICAR-CIRCOT, Nagpur organized an Awareness programme under Azadi ka Amrut Mahotsav public awareness campaign India @75 on mission Lifestyle for Environment (LiFE) under the theme “Beat Plastic Pollution” and conducted Tree Plantation campaign on 5<sup>th</sup> June, 2023 at Salaimendha village, Hingna Taluka, Dist-Nagpur. About 50 farmers participated in the program.



## International Yoga Day

- ICAR-CIRCOT, Mumbai celebrated International Yoga Day under Azadi ka Amrut Mahotsav, India @75 with the theme “Vasudhaiva Kutumbakam” on 21<sup>st</sup> June 2023. On this occasion, Yoga guru Shri. Sudhir Sawant and his team from Ambika Yoga Kutir (Ghatkopar branch) made the staff members practice yoga for about an hour.



## G20-Agricultural Ministers' meeting

- ICAR-CIRCOT, Mumbai participated in exhibition organized by Ministry of Agriculture and Farmers Welfare for G20 - Agricultural Ministers meeting, at Hyderabad during 15 -17 June 2023. Agriculture ministers of 20 member countries of G-20 group were present during the event.



## Human Resource Development

- Hindi Karyashala was organized at GTC, Nagpur on 14<sup>th</sup> June, 2023. Dr. Manoj Pandey, Assistant. Professor, Rashtrasant Tukadoji Maharaj University (RTMNU), Nagpur delivered the guest lecture on “Importance of Hindi”.



## BIS Re-certification audit for ISO 9001:2015

- The Bureau of Indian Standards organized a 3 day Re-certification audit at the institute for the license given under ISO 9001:2015 during 19-21 June 2023.

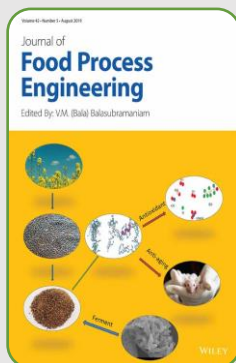
## Publications

\* S. Kale, N. Indore, P. Nath, P. Kannaujia and A. Dukare. 2023. Low-cost inorganic phase change material improves the storage conditions of on-farm storage chamber, Journal of Food Process Engineering, e14395. <https://doi.org/10.1111/jfpe.14395>

\* G. Krishna Prasad, T. Senthilkumar, P Jagajanantha, ASM Raja, N Vigneshwaran and N Shanmugam presented a paper on 'Development of Cotton Nonwoven Based High Performance Secondary Wound Dressing Material' in Second International Conference on -Integration of Advanced Technologies for Industry 4.0 (ICIATI 2023) organized by KCG College of Technology, Chennai, during 23-24 June 2023.

\* T. Senthilkumar, G.Krishna Prasad, A.S.M Raja, V.G. Arude, P. Jagajanantha and N. Shanmugam presented a paper on ‘Sustainable approach: process protocol for spinning of recycled cotton/polyester blended yarn’, in “Second International Conference on - Integration of Advanced Technologies for Industry 4.0 (ICIATI 2023) organized by KCG College of Technology, Chennai, during 23-24 June 2023.

\* A.K. Patil, N. Singh, P.S. Singha, M. Satankar, S. Kautkar, S.K. Singh and P.K. Pathak 2023. Engineering Interventions for Climate-Resilient Forage Production. In: Singhal, R.K., Ahmed, S., Pandey, S., Chand, S. (eds) Molecular Interventions for Developing Climate-Smart Crops: A Forage Perspective. Springer, Singapore. Pp 215-228. [https://doi.org/10.1007/978-981-99-1858-4\\_12](https://doi.org/10.1007/978-981-99-1858-4_12).



# Glimpses of Activities

LOKMAT TIMES

## ICAR-CIRCOT inks MoU with farmer for banana products

### Plates can be made out of banana leaf and pseudostem

BHAIRAVI SHRIVASTAV

ICAR-Central Institute for Research on Cotton Technology (CIRCOT) Mumbai has signed a Memorandum of Understanding (MoU) with Saneesh K M, a farmer-turned-entrepreneur from Kerala, to make value-added products using banana leaf and pseudostem. MoU was signed in the presence of Dr A J Shaikh, former director of the Institute. This aspiring entrepreneur wants to create unique eco-friendly serving utensils out of banana leaf and pseudostem.

Maharashtra ranks first in the country in banana productivity while having second biggest area under its cultivation. The fruit is grown over 50,000 hectares in Jalgaon district alone. Along with the fruit, its peel, flower and pseudostem are also used for cooking as they are rich in carbo-



(From L) Dr Ajinath Dukare, Dr A K Bharimalla, K M Saneesh, Dr S K Shukla, Dr A J Shaikh and Dr N Vigneshwaran during signing of MoU.

hydrates, fibre and potassium. Its leaves are traditionally used for serving food.

He is also planning to introduce plates and other serving utensils. Dr S K Shukla, director CIRCOT, told Lokmat Times, "At present pollution is a major issue. These plates will replace plastic plates. All the products that Saneesh is planning to introduce are very good alternatives to plastic materials." He said CIRCOT will do technological mentoring and incubation for Sa-



neesh's startup. The fibres extracted from the banana pseudostem are used for making handicraft, textile materials, banknotes, and sanitary pads.

Despite its several uses, much of the banana pseudostem is discarded following the harvesting of the fruit bunch and a large amount of waste is generated in banana harvesting regions. Very little of it is utilised. The full potential of the pseudostem could not be realised because of logistical issues and a lack of scalable technologies. Scientists at the ICAR-CIRCOT are addressing this issue by developing a technology to pulp banana pseudostem and transform it into eco-friendly paper plates for serving food and snacks.

Dr S K Shukla signed the MoU with Saneesh in presence of Dr N Vigneshwaran, Dr A K Bharimalla, and Dr Ajinath Dukare. Saneesh told Lokmat Times, "Kerala cultivates a lot of bananas. I cultivate bananas on my three acre land. I also run a dairy farm here. I am trying to receive funds from CIRCOT Mumbai."

Nagpur Main  
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## 'केळी बायोमास'च्या मूल्यवर्धनासाठी सामंजस्य करार केंद्रीय कापूस तंत्रज्ञान संशोधन संस्था केरळच्या सहउद्योजकासोबत करणार काम

पुणे : केळीच्या खोडा पासून लगदा बनवण्याची प्रमाणित प्रक्रिया भारतीय कृषी संशोधन परिषदेअंतर्गत केंद्रीय कापूस तंत्रज्ञान संशोधन संस्थेतील शास्त्रज्ञांद्वारे विकसित केळी जात आहे. हे संशोधन उत्पादन प्रत्यक्ष वापरकरिता रूपांतरित करण्यासाठी प्रयत्न सुरू आहेत. त्या उद्देशाने संशोधन संस्थेने केरळमधील शेतकरी सहउद्योजक सनीश के. एम यांच्यासोबत सामंजस्य करार केला आहे. 'केळीची पाने आणि छत्र खोड वापरून मूल्यवर्धित उत्पादनांची तयारी' या प्रकल्पासाठी तंत्रज्ञान मार्गदर्शन आणि उम्हाननासाठी हा करार झाला.

संशोधन संस्थेचे संचालक डॉ. एस. के. शुक्ला यांच्या उपस्थितीत सामंजस्य करारावर स्वाक्षरी करण्यात आली. या नवोदित उद्योजकाला केळीच्या पानांपासून आणि छत्र खोडा पासून नवीन पर्यावरणपूरक स्वयंपाकघरातील भांडी विकसित करण्यात रस आहे. केळीच्या बायोमासपासून पर्यावरणपूरक मूल्यवर्धित उत्पादने विकसित करण्यात स्वारस्य असलेल्या महाराष्ट्र आणि इतर विविध राज्यांतील नवोदित उद्योजकांनाही या तंत्रज्ञानाचा लाभ घेता येईल.

वैज्ञानिक सल्लागार संघाचे सदस्य डॉ.

एन. विघ्नेश्वरन, डॉ. ए. के. भारिमल्ला आणि डॉ. आजिनाथ डुकरे या वेळी उपस्थित होते.

केळीच्या फळांव्यतिरिक्त, त्याची साल, फुले आणि छत्र खोड देखील स्वयंपाकासाठी वापरले जातात. केळीचे छत्र खोड कर्बोदके, तंतू आणि पोर्टीशियमने समृद्ध आहेत. पानांचा वापर पारंपरिकपणे अन्न आणि प्रसाद देण्यासाठी केला जातो. केळीपासून काढलेले तंतू चांगल्या दर्जाचे सॅनिटरी पॅड, हस्तकला, कापड साहित्य आणि बँक नोट पेपर बनवण्यासाठी वापरले जातात.

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