



## Technology of the Month

### *ICAR-CIRCOT Compact and Energy Efficient Cotton Seed Dryer*



ICAR-CIRCOT has designed and developed a compact and energy efficient direct heating type 'Cotton Seed Dryer' on PPP basis in collaboration with M/s. Bajaj Steel Industries Ltd., Nagpur for online drying of cottonseeds in ginneries. It is designed using innovative collapsible MS belts that allow heating of cotton seed twice (one on top and another on bottom side) on each conveyor leading to development of energy efficient compact drying system. The technology has been transferred to M/s. BSIL, Nagpur for manufacturing and commercialisation. The company has sold 3 cottonseed dryers (2 dryers of 5TPH capacity and 1 dryer of 7TPH capacity) to ginneries situated in Telangana and Maharashtra. The dryer is capable to bring down the moisture content from 40% to 9-10% i.e., optimum moisture required for oil expelling. The designed heating capacities of dryers are 9 and 12 lakh kcal/kg for 5 and 7TPH capacity, respectively. It is observed that reduction of moisture in seeds to appropriate level results in increase in oil recovery by 2%, improvement in cake protein content and reduction in energy requirement in oil expelling.

## Technology Commercialization / Consultancies



\* ICAR-CIRCOT signed the Memorandum of Understanding with M/s. Biofac Inputs Private Limited, Hyderabad for commercialization of Nano-Zn suspension production technology.

\* ICAR-CIRCOT has undertaken a consultancy work to provide professional technical services to the project entitled "Hon. Balasaheb Thackeray Agribusiness and Rural Transformation (SMART)" funded by World Bank and implemented by Maharashtra State. The total cost of the project is Rs. 135.00 lakhs.

## Incubation / Start-up Programmes



• The Agripreneurship Orientation Programme (AoP) and Start-up Agri-Incubation Programme (SAIP) is being organized for 15 start-ups screened in the 6<sup>th</sup> Cohort of RKVY-RAFTAAR Agri-Business Incubation programme.

• Three Agri startups of ICAR CIRCOT RABI participated in Krishi Samridhi Mela cum National Seminar 2023 organized by Dhaanyaganga KVK, West Bengal during 12<sup>th</sup> -16<sup>th</sup> January 2023. Dr. Himanshu Pathak, DG, ICAR visited the exhibition and appreciated the progress of CIRCOT R-ABI startups.

• ICAR-CIRCOT-RABI team and startups participated in 'Krishi-Mahotsav: Pradarshani evam Prashikshan' on January 24-25, 2023 at Kota, Rajasthan organized by DA&FW, GoI in association with the Dept. of Agri., Government of Rajasthan. Mr. Om Birla, Lok Sabha Speaker and Mr. Kailash Choudhary, Union Minister of State for A&FW visited the CIRCOT R-ABI Startups stalls and appreciated the innovative products.

## Outreach Activities



- Technologies and value-added products of ICAR-CIRCOT, Mumbai exhibited in 108<sup>th</sup> Indian Science Congress held at RTMNU, Nagpur during 3<sup>rd</sup> to 7<sup>th</sup> January 2023.
- Dr. V. G. Arude and Dr. S. K. Shukla from ICAR-CIRCOT arranged demonstration of hand held cotton picker at ICAR-CICR farm, Nagpur on 9<sup>th</sup> January 2023.
- *ICAR-CIRCOT documentary* (in Marathi) was broadcasted in 'Apla Maharashtra' programme on DD Sahyadri channel of Doordarshan on 7<sup>th</sup> January 2023.
- TV talk on "RKVY-RAFTAR scheme of Central Government" (in marathi) by Dr. S. Kautkar, Scientist was broadcasted on 'Krishidarshan' programme on DD sahyadri on 24<sup>th</sup> January 2023 and the same was re-telecasted on 25<sup>th</sup> January 2023.

## Important Events



- Inspection of the institute by 2<sup>nd</sup> sub-committee of Parliamentary committee on official language implementation was carried out on 17<sup>th</sup> January 2023.
- Smt. K. Anitha, Principal Secretary to Govt. of Andhra Pradesh accompanied by Smt. S. Tanuja Rani, General Manager, APCO and Sh. Jayesh Mahajan, Nodal Officer, SMART Cotton Project, visited Ginning Training Centre of ICAR-CIRCOT, Nagpur on 18<sup>th</sup> January 2023 and discussed on ways to address low cotton production and high level of contaminants in the seed cotton in Andhra Pradesh.

## Stakeholder Interaction



- Dr. Jothi Kanadaswamy, Director, M/s. Uniqlo production along with delegates from USA and Japan visited the institute on 20<sup>th</sup> January 2023 and interacted with the scientists regarding collaborative work for improvement in the quality of Indian cotton.
- Lead farmers and FPOs from Andhra Pradesh visited GTC, Nagpur on January 19, 2023 and witnessed the fibre testing facility, demonstration plants such as Ginning, Particle Board and Oil mill.

## Awards & Accolades



- Dr. N. Vigneshwaran, Principal Scientist has been elected as the *Fellow of National Academy of Agricultural Sciences*, New Delhi.
- Dr. Manoj Kumar Puniya, Scientist received the *Young Scientist Award* from National Academy of Agricultural Sciences, New Delhi.

## Research Publications



- > Kumar, A., Shakyawar, D. B., Jose, S., Kadam, V., Shanmugam, N. Nano finishing on woolens, *Fundamentals of nano textile science* 101-125, Apple Academic Press, 2023.
- > Basak S, Raja ASM, Combustion properties of paper treated with chicken egg shell: A potential solid waste. *Sustainable Chemistry and Pharmacy*, 32 (2023) 100930.



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