



ICAR-CTRI

News

**ICAR - CENTRAL TOBACCO RESEARCH INSTITUTE - 533105, A.P.**

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Dr. M. Sheshu Madhav assumed the charge as Director, ICAR-CTRI

Dr. M. Sheshu Madhav assumed the charge as Director, ICAR-CTRI, Rajahmundry on 11th November 2022, ensuing his appointment by the Indian Council of Agricultural Research, New Delhi. Prior to this appointment, he was serving as a Principal Scientist (Agriculture Biotechnology) at the Division of Crop Improvement, ICAR-Indian Institute of Rice Research (IIRR), Hyderabad. While thanking the Council for believing in his abilities and entrusting the responsibility of directing this great Institution, Dr. M. Sheshu Madhav emphasized the need for making the institute more vibrant and relevant to the present context.



He called upon all the staff of the institute to extend their willing support for making ICAR-CTRI as one of the top ranked ICAR institutes in the coming years. He promised that during his tenure, he will work with an objective of enhancing productivity and visibility of the institute while taking care of the employees' welfare. He emphasized the need for establishing mutually beneficial collaborations with stake holders, sister organisations, academic institutions, local bodies etc. for successfully fulfilling the vision, mission, and research mandate of the institute. He also stressed that the stake holder needs and aspirations are going to be taken care of while formulating research programmes. Congratulating Dr. M. Sheshu Madhav on his elevation and new responsibility, all scientific, technical, administrative, and support staff of the Institute assured their full support and co-operation for all his research and development endeavours during his tenure.

Dr. M. Sheshu Madhav was born in a small village in Telangana in the year 1972. With a strong desire for Agriculture and Agricultural Research, he completed BSc (Ag.) from the then Andhra Pradesh Agricultural University, Hyderabad; M.Sc. (Agricultural Biotechnology) from Assam Agricultural University, Jorhat, Assam; Ph.D. (Molecular Biology and Biotechnology) from National Research Centre on Plant Biotechnology, Indian Agricultural Research Institute, New Delhi, and Postdoctoral Research from Dr. G.L. Wang's Lab at The Ohio State University, Columbus, Ohio, USA. After his selection to Agricultural Research Service, he started his research career as Scientist at ICAR-CTRI, Rajahmundry in 1999 and continued till 2006. Later, he moved to ICAR-IIRR, Hyderabad and served there for about seven years as Senior Scientist (2007-2014) and eight years as Principal Scientist (2014-2022).

Dr. M. Sheshu Madhav is known for his research in the area of Plant Molecular Biology, Biotechnology, and the use of molecular genetics tools in plant breeding. He is actively involved in the establishment of fruitful research networks, building partnerships for R&D, mobilization of funds and collaborative research projects from different funding agencies in the area of Crop Improvement. He led number of multi-institutional and multi-disciplinary scientific teams in his area of specialisation. His concerted research efforts, spanning for about 21 years, in the area of rice and tobacco improvement has resulted in the development of several useful technologies and improved elite lines/varieties. His research articles published in reputed international scientific journals having high impact factor has been cited very widely (3042) with a current H-index of 30 and an I-10 index of 76. He is the recipient of large number of awards and recognitions viz., Lal Bahadur Shastri Young Scientist Award of ICAR (2012), Associate Fellow of the National Academy of Agricultural Sciences (2013), CSIR best S&T innovation for rural development Award (2013), Best Young Scientist from the Association of Biotechnology and Pharmacy (2013), Jawaharlal Nehru Award for outstanding postgraduate agricultural research from ICAR (2006), BOYSCAST Fellowship from DST (2007) etc. He is a fellow of several prestigious science academies that include Fellow of Royal Society of Biology (FRSB), London, UK and Fellow of the Rice Association (FRA), Fellow of Telangana Science Academy (TAS), and fellow of the Association of Biotechnology and Pharmacy, India. Dr. M. Sheshu Madhav executed several special assignments as a chairman and member of several National Committees/ Professional Bodies. Currently, he is serving as General Body Member of ICAR, New Delhi.

With his rich experience, leadership abilities and positive attitude of Dr. M. Sheshu Madhav, it is hoped that the Institute will successfully re-orient its research programs in tune with the vision, mission and mandate of the proposed rechristened ICAR-CTRI so as to make the Indian Agriculture more profitable and export oriented.

RESEARCH HIGHLIGHTS

Cultivar Improvement

- Tobacco cultivars submitted to SVRCs for release
- i. YB-22: A high yielding Burley tobacco variety for burley tobacco growing areas of Andhra Pradesh.
- ii. GCT-5: A high yielding (4976 kg/ha) medium early maturing Rustica tobacco variety for Rustica tobacco growing areas of North Gujarat.
- One FCV cultivar, FCR-4 and two burley cultivars, YB-37 and Burley-5 proved promising in on-farm trials.
- Five FCV cultivars (V-5142, V-5144, V-5145, V-5146 and SJ-7), after ascertaining its superiority in station trials, were advanced to AINPT for multilocation testing.
- From four replicated trials conducted for last three years, 14 FCV breeding lines (V-5147, V-5144, V-5145, V-5146, V-5143, V-5142, V-5139, RS-37, RS-40, RS-42, RS-36, RS-41, SJ-7 and NLCR-1-11) and five burley entries (YB-41, YB-38, YB-37, YB-42 and YB-43) found to be promising with 13-30% higher mean cured leaf yields than respective controls.
- **DUS Guidelines:** The Draft DUS guidelines developed by ICAR-CTRI for registration of FCV and *bidi* varieties were notified in the Gazette of India by Protection of Plant Varieties and Farmers Rights Authority of India, New Delhi.
- **Germplasm Maintenance:** As a National Active Germplasm Site for tobacco, ICAR-CTRI is maintaining a total Number of 3386 germplasm accessions of different tobacco types including wild *Nicotiana* species.

Natural Resource Management

- FCV tobacco curing barn modified with thermocol ceiled walls, cement floor, metal frame to hold the cured leaf along with collective influence of solar thermal interventions viz., polycarbonate roof chamber, solar hot air circulation, solar hot water circulation saved up to 31 -33% fuel wood. In modified barn, 2.57 - 2.62 kg fuel wood utilised for curing 1 kg cured leaf as against 3.57 - 3.60 kg in traditional barn.
- Soil fertility thematic maps of FCV tobacco growing Southern Black Soils were completed.
- Developed STCR-based online fertilizer recommendation system software for the fertilizer recommendation of the Northern Light Soil region.

Crop Intensification and Diversification

- The overall system productivity in terms of Tobacco Equivalent Yields (TEY) as well as in terms of Land Equivalent Ratio (LER) was maximum under FCV tobacco + black gram intercropping system in KLS.
- Tobacco leaf equivalent yield was significantly highest under chillies (2416 kg/ha) followed by turmeric (2172 kg/ha) than FCV tobacco based systems in vertisols.

Agricultural Extension and Economics

- Comparison of manual and e-auction system in FCV tobacco marketing in AP and Karnataka showed that price instability has significantly decreased from 40% in Andhra Pradesh and 38% in Karnataka during the manual action period (2002-2012) to 13% in Andhra Pradesh and 8% in Karnataka during the e-auctioning period (2012-2022).

Software's developed

- Two softwares viz., ICAR-CTRI Tobacco Seed Portal with URL <http://tobaccoseed.in/seeds/> and ICAR-CTRI Digital Library with URL <https://ctri.icar.gov.in/digital%20library/index.php> were developed.

Integrated Management of Biotic Stresses

- Novel insecticide molecule pyridalyl 10 EC @ 150 g a.i./ ha was found to be as effective as emamectin benzoate 5 SG @ 11 g a.i./ha in managing *Spodopteralitura* in both tobacco nursery and planted crop. Hence, pyridalyl can be used in alternation with the commonly used insecticide - emamectin benzoate to delay the development of insecticide resistance.
- IPM was identified as an efficient and eco-friendly pest management strategy for FCV tobacco which supported higher species richness, evenness and arthropod diversity as indicated by the higher effective number of species (6) and relatively higher shannon-weiner (1.78), and simpson (0.66) indices.
- New nematicide molecules were tested against root knot nematode, among which fluopyrum 400 SC was found to be significantly effective compared to fluensulfone2G in reducing root knot nematode incidence by 44% in FCV nursery and in increasing healthy transplantable seedlings by 25%.

MEETINGS/ TRAININGS/ WORKSHOPS

Workshop

Workshop was conducted at ICAR-CTRI RS, Kandukur on 11.07.2022 to the FCV tobacco growers of Southern Light Soil and Southern Black Soil regions of Andhra Pradesh to disseminate latest good agricultural practices.

IMC Meeting

The 56th Institute Management Committee meeting was held on 26.07.2022 at ICAR-CTRI, Rajahmundry and discussed about various administrative issues, equipment to be purchased and works to be carried out during 2022-23.

Tobacco Scientist-Board-Trade interface

Tobacco Scientist-Board-Trade interface was conducted on 23.09.2022 at ICAR-CTRI, Rajahmundry to identify the researchable issues related to production and quality enhancement of tobacco. The officials of Tobacco Board, trade and industry participated in the meeting.

IRC Meeting

Institute Research Committee (IRC) Meeting of the ICAR-CTRI was conducted during 23-24th September, 2022 at ICAR-CTRI, Rajahmundry under the chairmanship of Dr. D. Damodar Reddy, then Director, ICAR-CTRI. The progress of research projects carried out at CTRI and its research stations during 2021-22 was reviewed and the technical programme for the crop season 2022-23 and new research proposals were discussed and finalized during the deliberations.

Training Programme

A field level training programme on Good Agricultural Practices in Burley tobacco was organized on 24.12.2022 and provided in-season crop advisories to GPI Agronomy team at Vinukonda.



Agri-Tech Exhibition

ICAR-CTRI participated in the Exhibition 'Agri-Tech, 2022' held during 3-5 December, 2022 at Lam Farm, Guntur and a stall was set up to propagate the latest technologies on tobacco production.

Brainstorming Session

Brainstorming Session on "Yield Gap Analysis of Tobacco – Strategies and Way Forward" was conducted on 30.12.2022. Officials from Tobacco Board, trade and scientists of ICAR-CTRI participated in the Session.



CELEBRATIONS

Hindi Week

Hindi week was celebrated during 14-20th September, 2022. On this occasion, the message of Sri Narendra Singh Tomar, Hon'ble Minister of Agriculture and Farmers' Welfare and Dr. T. Mohapatra, DG, ICAR was read out. Various competitions in Hindi were conducted and prizes distributed to winning staff members.

Kisan Samman Sammelan

Live telecasting of the inauguration of the "Kisan Samman Sammelan" by the Hon'ble Prime Minister was arranged at ICAR-CTRI on 17.10.2022. A total of 302 farmers and Govt. officials participated in the programme.

Special Swachhta National Campaign

As a part of Swachhta Special Campaign, the institute organized several programmes from 02-31st October, 2022 at its headquarters and research stations. Various activities viz., Fit India Freedom Run; Disposal of Old and Obsolete files; Shramdaan and Awareness Campaign etc. were organized.

Vigilance Awareness Week

Vigilance Awareness Week – 2022 was celebrated from 31st October to 6th November, 2022 at ICAR-CTRI, Rajahmundry. An essay writing competition was conducted to the staff members with theme, "Corruption free India for a developed Nation".

World Soil Day

World Soil Day was organized at ICAR-CTRI, Rajahmundry and its Research Stations on 05.12.2022 with the theme 'Natural Farming & Soil Health'. Director, ICAR-CTRI sensitized the participants about the importance of the soil for sustainable food production, maintenance of soil health, etc.

International year of millets

International year of millets 2023 was celebrated on 15.12.2022 at CTRI and its Research Stations. On the occasion, arranged live streaming of inauguration of the curtain raiser event by Shri Narendra Singh Tomar, Hon'ble Union Minister of Agriculture and Farmer's Welfare to 200 farmers and girls. In continuation, Poshan vatika maha abhiyan and Tree plantation program was organized at the Institute premises.

LECTURES ORGANISED

Three following lectures were organised during the period.

- "Tobacco improvement activities in North-West of Iran" by Dr. Reza Darvishzadeh, Professor, Faculty of Agriculture, Dept. of Plant Production and Genetics, Urmia University, West Azerbaijan Province, Urmia, Iran on 14.07.2022.
- "Legacy Phosphorus in Agricultural Soils-Understanding and Management" by Dr. D. Damodar Reddy, the then Director, ICAR-CTRI, Rajahmundry, AP, India on 15.08.2022.
- "Genome Wide Association Mapping Studies (GWAS)" by Dr. Rupesh Deshmukh, Associated Professor, Dept. of Biotechnology, Central University of Haryana on 09.12.2022.

VISITORS

- Dr. Sevak Vijay, Chairman, AYUSH Sector, New Delhi visited ICAR-CTRI RS, Veda sandur on 22.11.2022. Possible collaboration of both the Institutes on research related to medicinal crops through external funding were discussed.
- Dr. K.N. Raghavan, IRS, Chairman, Tobacco Board visited ICAR-CTRI RS, Guntur along with Dr. A. Sridhar Babu, IAS, ED, Director Auctions and Managers on 08.12.2022. He observed the tobacco nursery, main field and barns.

TRIBAL SUB-PLAN

A training programme on 'Good Agriculture Practices in FCV tobacco' was conducted at CTRI, RS Hunsur on 16.12.2022. On this occasion, power sprayers were supplied to 100 ST tribal farmers.



SC SUB-PLAN

Three awareness programmes were conducted under SC Sub-Plan during the quarter. The details given hereunder.

- ICAR-CTRI RS, Jeelugumilli organized a programme on 'Maintenance of lactating animals' on 8.12.2022 and cattle feed was supplied as critical input to improve the productivity of lactating animals to 500 farmers from West Godavari district, Andhra Pradesh.



- ICAR-CTRI Research Station, Guntur conducted a programme on "Importance of pulses and their cultivation practices" on 10.12.2022 and supplied 5500 kg high yielding Bengal gram seed (NBeg-49 variety) to 550 SC farmers of Guntur and Prakasam District.
- ICAR-CTRI, Rajahmundry (BSR Farm, Katheru) conducted a programme on "Integrated management of *Orobanche* in Tobacco" on 14.12.2022 and neem cake was supplied as critical input to 150 farmers of Seethanagaram mandal in East Godavari district, Andhra Pradesh.



DIRECTOR VISITS

Dr. M. Sheshu Madhav, after assuming charge as Director, ICAR-CTRI, visited CTRI Research Stations, Jeelugumilli (15.11.2022), Guntur (28.11.2022), Kandukur (28.11.2022) and Hunsur (16.12.2022); BSR Farm, Katheru (16.11.2022) and KVK, Kalavacharla (22.11.2022). Research programmes and other admin related issues concerning with these units were reviewed and suggestions made for further improvement.



CTRI RS, Jeelugumilli



BSR Farm, Katheru



KVK, Kalavacharla



CTRI RS, Guntur



CTRI RS, Kandukur



CTRI RS, Hunsur

KRISHI VIGYAN KENDRAS

KVK, Kalavacharla

Organized following trainings and events during the period.

Trainings

- Training cum demonstration of 'Laser Guided Land Leveler' to 20 farmers (27.06.2022 to 28.06.2022)
- Skill Training to 15 Rural Youth (STRY) on Nursery Management-Nutri rich Terrace Gardening (02.09.2022 to 08.09.2022)

Events

- Organised National Campaign on 'Efficient and Balanced Use of Fertilizers' on 21.06.2022. A total number of 150 farmers and farm women participated.
- Conducted workshop on Farmer Producer Organizations (FPOs) on 27.06.2022. A total number of 60 FPO members participated.
- A program on Poshan Abhiyan organised on 17.09.2022. A total number of 145 women and farmers participated.
- Organised World Soil Day on 5.12.2022 and distributed soil health cards to 25 farmers. A total number of 100 farmers attended.
- Swachh Bharat Activity conducted at Z.P.H. School, Narendrapuram on 17.12.2022. Coconut saplings and vegetable seedlings were planted in the School premises.
- Review Meeting of FPOs was conducted on 20.12.2022. A total number of 120 farmers, farm women, NGO officials participated.

- On the eve of National Kisan Diwas, a Kisan Goshti on 'Natural Farming' was organised at Kalavacharla (23.12.2022) to 114 farmers and at Razole (29.12.2022) to 110 farmers.

Award

ICAR-CTRI-KVK, Kalavacharla received First Prize for Damu Project in Annual Zonal Workshop of KVKs of Zone X held at ICAR-ATARI Zone X, Hyderabad during 12-14 July, 2022.



KVK, Kandukur

- A training programme on Vermicompost making and waste decomposition was conducted on 05.12.2022. 30 members were trained in the programme.
- A training programme on 'Milky Mushroom Cultivation' was conducted on 17-18th October, 2022 at KVK, Kandukur, Prakasam district.
- Celebrated important days viz., Parthenium awareness week (16-22 Aug, 2022), Jalshakti abhiyan, Poshan vatika maha abhiyan & tree plantation (17.09.2022), Mahila kisan diwas on (15.10.2022), National constitution day (26.11.2022), World soil day (05.12.2022), Swachhata action plan (05.12.2022) and National farmers day (23.12.2022).

INTERACTION WITH OTHER INSTITUTES

In order to strengthen the linkages and to have fruitful collaborations with other institutes, Dr. M. Sheshu Madhav, Director, ICAR-CTRI interacted with Vice-chancellor and staff of Adikavi Nannayya University (14.12.2022) and Director and scientists of ICAR-IIHR, Bangalore (15.12.2022). Also visited NLS area of FCV tobacco (23.12.2022) and interacted with Tobacco Board and Trade.



Adikavi Nannayya University



ICAR-IIHR, Bangalore



NLS area of FCV tobacco

MoU

MoU signed with Tobacco Board, Guntur for Evaluation of Bio-Consortia for nutrient supplementation, nematode/ disease control for enhancing productivity and quality of FCV Tobacco in KLS region.

PERSONALIA

Retirements

Following seven employees of the Institute retired from the Council's service on attaining the age of superannuation during July-December, 2022.

SN	Name	Date
1	Dr. S.S. Sreenivas	31.07.2022
2	G. Sarveswara Rao	31.07.2022
3	Dr. U. Sreedhar	31.08.2022
4	B.V. Srinivasa Rao	31.08.2022
5	Y. Subrahmanyam	31.08.2022
6	D. Balarama Reddy	30.11.2022
7	M. Mohan Rao	31.12.2022