



IFGTB NEWS



Quarterly Newsletter on societal applications of research **Interventions in Forestry, Genetics and Tree Breeding** from the Institute of Forest Genetics and Tree Breeding, Coimbatore.

(A national institute of the Indian Council of Forestry Research and Education, Ministry of Environment, Forest & Climate Change, GOI)

◆ New insect pest in Gmelina nursery

◆ Tamarind wine

Page 2

◆ Forest soil health card

◆ Data analysis for multilocation trials

Page 3

◆ Research Advisory Group Meeting 2023

◆ Tribes India outlet in Forest Campus

Page 4

◆ Vigilance Awareness Week 2023

| Events
| Programmes

Page 5-6



From the Director's Desk



Wishing you all a happy new year! Extension and education are integral part of any research programme. IFGTB News caters to this requirement by providing updated information in the field of forestry research, extension and education. In this issue, information on an ongoing pest problem of forest nursery, soil health card, different capacity building programmes, news on opening of a Tribes India outlet in forest campus and usual programmes like celebration of different important days are provided. I hope that these information will be useful for our stakeholders like forest department, forest industries, farmers and general public. Your feedback, comments and suggestions are welcome.

Dr. C. Kunhikannan
Director, ICFRE-IFGTB



A New Threat of *Gmelina arborea* by Rare Pest *Planococcus bendovi* in Nurseries

Srijita Ganguly* and John Prasanth Jacob

Planococcus is an important genus of mealybug species like *P. citri*, *P. minor*, *P. illacinus*, *P. ficus* considered as serious pests. Being polyphagous they have a wide range of hosts that include coffee, cocoa, citrus, mango, ginger, banana, cotton, date palm, coconut, grape and many others. Additionally, a few of them act as vectors of economically important viruses such as Badnaviruses and Ampeloviruses. Recently seedlings of *Gmelina arborea* were found infested with a species of *Planococcus* in IFGTB nursery causing casualty in the mother beds. The identified species *P. bendovi* being a rare species was only

recorded twice in the past from Groundnut in Tripura, India during 2004 and from *Loranthus pentandrus* in Bengkulu province, Indonesia during 2021. *P. bendovi* infestation hits its peak during January to April. It occurs in stems, branches and leaves of *G. arborea*. Furthermore, large quantity of honeydew secreted invites sooty moulds which makes the condition worse by preventing photosynthetic activities. There is a lack of information about the species except taxonomic details. Therefore, *P. bendovi* can further be studied to expose the damage, host range and for their vector potential in tree crops.



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Tamarind Wine : Exploring Value - Added Products

A. Mayavel*, M. Akshayasri, P. Chitra, S. Makesh, G. Radha Krishnan and B. Nagarajan

Tamarind (*Tamarindus indica* L.) is an important multipurpose tree grown in the tropics and is well known for its pulpy fruits with sour-sweet taste and tangy flavor. The fruit pulp contains high levels of carbohydrates, protein, calcium, phosphorus, fiber, iron, vitamins and used in various food preparations. Tamarind trees bear fruits in a seasonal nature and processing their fruits into different value-added products is an effective way to preserve the nutritional contents. Fully matured fruits were collected from sweet, sour and red varieties assembled in IFGTB's National Germplasm Bank and wine was prepared by processing the fruit pulp. Sodium metabisulphite was added to the pulp extract as stabilizer and fermented with Belgian wit and Red wine yeasts.



Bentonite clay was used for wine clarification before bottling for maturation (ageing).

Evaluation of the nutritional aspects such as alcohol, moisture, pH, TSS, titrable acidity, carbohydrate, vitamin C, antioxidant, antimicrobial activity, and sensory attributes such as aroma, taste, consistency, flavor, and overall acceptability of the wine were evaluated. The sweet Tamarind pulp fermented with Belgian wit yeast produced the best quality wine among all the treatments and it was found on par with grape wine for various qualitative and sensory attributes. The production of wine from the sweet Tamarind pulp will capture the attention of the food and brewing industry due to their ability to add a distinctive sweet and sour taste to a variety of dishes. These products not only satisfy consumer demand but have the potential to improve the livelihoods of farmers through income generation and employment opportunities.

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Forest Soil Health Card: A Tool for Identifying Soil-related Constraints

A.C. Surya Prabha*, S. Pragadeesh, K. Parameshwaran, M. Gopalakrishnan, A. Rajkamal and K. Poornima

Soil management and forest nutrition are key factors determining the management and productivity of both natural and planted forests. Inspired by the Soil Health Card Scheme launched by the Honourable Prime Minister, the Indian Council of Forestry Research and Education, Dehradun, took the initiative to develop Forest Soil Health Cards (FSHC) for the nation.



The ICFRE-Institute of Forest Genetics and Tree Breeding, Coimbatore has prepared the Forest Soil Health Cards for two Territorial Forest Divisions in the UT of Puducherry viz., Puducherry and Karaikal. The Honourable Minister for Environment, Forest and Climate Change, Shri Bhupender Yadav released these cards on 20 May 2023 during the 29th Annual General Meeting of ICFRE Society held at Forest Research Institute, Dehradun. Soil samples collected from 42 sampling points covering major forest types following standard collection protocols were processed and analysed for 12 parameters. The

organic carbon content, available nitrogen, phosphorus and potassium in the two forest division soils was lower than the standard values. The availability of micronutrients viz., Zn, B, Mn, Fe and Cu was also low in both the forest divisions when compared to the standard values. Based on the results of the soil test, the FSHC recommends organic manures (FYM and Vermicompost) and inorganic fertilisers for each division. The Forest Soil Health Card will serve as a valuable tool for determining soil-related limitations in areas of degraded forests and for recommending suitable management strategies to improve forest productivity.

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Training on Multilocation Trials (MLT) Analysis

V. Sivakumar

A training programme on Multilocation trial (MLT) Data analysis was organized in the ICFRE-Institute of Forest Genetics and Tree Breeding, Coimbatore from 3rd to 7th October, 2023. It was funded by the Central CAMPA, MoEF&CC under All-India Coordinated Research Projects on Eucalyptus (AICRP-4) and Casuarina (AICRP-1). Ten Scientists (Dr. A. Nicodemus, Dr. Santan Barthwal, Dr. Mohammad Naseer, Dr. Adithya Kumar, Dr. Kavi Sidharthan, Dr. A. Vijayaraghavan, Dr. M.V. Durai, Dr. N.K. Bohra, Dr. Satyam Bordoloi and Dr. Archana, R.) representing eight ICFRE Institutes participated in the training programme. Dr. V. Sivakumar, Scientist G and Head of Genetics and Tree Improvement Division, IFGTB conducted the training covering the topics on introduction to



basics of statistics, normal distribution, skewness/kurtosis, conducting test, experimental designs such as CRD, RBD & row column design, correlation and regression, introduction to REML, AMMI analysis and stability analysis, linear mixed models / meta-analysis using Genstat, ASREML for progeny testing with pedigree details, factor analysis of clonal MLTs using ASREML.

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Research Advisory Group Meeting 2023

R. Yasodha

The annual meeting of ICFRE-IFGTB's Research Advisory Group was held in hybrid mode on 11 September 2023 under the chairmanship of Dr. C. Kunhikannan, Director to review the ongoing projects and recommend new project proposals. RAG consisted of members representing state forest departments of Tamil Nadu, Pondicherry, Kerala and Andaman and Nicobar Islands, eminent scientists from research institutes, subject matter specialists from universities, experts of wood based industries and NGOs. Significant research outcomes and achievements were presented. The progress under externally funded projects



including AICRPs (75 projects) and plan projects (9 projects) were tabled. Out of five new proposals presented to the expert group, four were recommended for funding support from ICFRE.

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"Tribes India"-An Outlet for Tribal Handicrafts at Forest Campus

Rekha R. Warriar

ICFRE-IFGTB, designated as a Center of Excellence by the Ministry of Tribal Affairs, Government of India, collaborated with the Tribal Co-operative Marketing Development Federation of India (TRIFED) to unveil the "Tribes India" outlet at the Product Sales Counter in the Forest Campus, Coimbatore. It was inaugurated on 15th November 2023, commemorating Janjatiya Gaurav Divas, a day dedicated to honouring the tribal hero Shri Birsa Munda, renowned for his role as a freedom fighter and social reformer. The "Tribes India" outlet showcases a diverse array of tribal handicrafts, including textiles, jewellery, paintings, metal crafts, pottery, cane/bamboo products, gifts, novelties, and organic foods. Additionally, the outlet features a counter dedicated to eco-friendly bioproducts developed by ICFRE-IFGTB, such as Tree Rich Biobooster, an organic potting medium, Tara Red jam made using a natural colourant from red tamarind, and



Royalseema soap crafted from red sanders, currently awaiting empanelment from TRIFED. Dr. C. Kunhikannan, Director, ICFRE - IFGTB inaugurated the outlet in the presence of Dr. V Thirunavukarasu, Principal, CASFOS, along with scientists, technical officials, research fellows from ICFRE - IFGTB, and officials from TRIFED. TRIFED will manage the outlet, ensuring that the proceeds from sales directly benefit the tribal communities, contributing to their economic well-being.

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Vigilance Awareness Campaign and Observance of Vigilance Awareness Week 2023

John Prasanth Jacob

ICFRE-IFGTB observed the Vigilance Awareness Campaign from 16th August to 15th November 2023 and Vigilance Awareness Week from 30th October to 5th November. As per instructions of Chief Vigilance Officer, posters reflecting Public Interest Disclosure and Protection of Informers Resolution (PIDPI) were displayed. Smt. C. Latha, Inspector of Police, Vigilance and Anti-corruption, Coimbatore delivered an interactive talk on “Corruption Free Society” on 16th October. Director, IFGTB administered the Integrity Pledge on 30th October to all the employees. An Essay Competition in

Tamil on the theme “Say No To Corruption; Commit To The Nation” was conducted for staff/research scholars of IFGTB on 31st October.

Another Essay Competition in English for the High School Students was held on 1st November. On 3rd November the Valedictory Function was conducted at the IFGTB Auditorium. Director, IFGTB gave the presidential address. Vigilance Officer, IFGTB presented the report of Vigilance Awareness Week Celebrations. Shri R.G. Shankar, Principal, Bharatiya Vidya Bhavan, Coimbatore delivered the Valedictory Address and distributed prizes to the winners of Essay Competition.



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EVENTS : OCTOBER - DECEMBER 2023

- ◆ **TRAINING :** Plus Tree selection procedure, seed collection, processing, seed treatment, storage, seed testing and seed certification (03 Oct); Biodiversity Conservation and Nature Education (07 – 09 Nov); Remote Sensing and GIS (21 Nov – 03 Dec); Refresher Course to IFS Officers on Forest Genetic Resource Management and Tree Improvement (13-15 Dec); Seed Balls (06 Dec)



- ◆ **WEBINAR / MEETINGS / CONFERENCE** : Awareness meeting to Research Scholars and Contractual Daily Workers (18 Oct)
- ◆ **OTHER EVENTS** : Special Campaign 3.0 (02 - 31 Oct); MoUs signed between ICFRE-IFGTB and three commercial tissue culture laboratories (30 Nov); World Soil Day (05 Dec); World Mountain Day (11 Dec)
- ◆ **PRAKRITI PROGRAMME** : Biodegradable waste (10 Oct); Medicinal plants and herbal garden (23 Nov); Biodiversity and climate change (29 Nov); Introduction to biotechnology (01 Dec); Climate change and agroforestry; Forest and its importance (07 Dec); Biomolecules gene in the biological system (08 Dec); Introduction of DNA fingerprinting and genetic transformation (26 Dec)
- ◆ **APPOINTMENTS** : Shri S. Narendra Babu, IFS (KL: 2012), Deputy Conservator of Forests (Nov 2023)
- ◆ **RETIREMENTS** : Dr. Syam Viswanath, Scientist G (Dec 2023)



About ICFRE-IFGTB

The ICFRE - Institute of Forest Genetics and Tree Breeding (ICFRE - IFGTB), Coimbatore, is a national institution of the Indian Council of Forestry Research and Education (ICFRE), an autonomous body under the Ministry of Environment, Forest and Climate Change, Government of India. ICFRE - IFGTB has a mandate to develop new varieties, management and silvicultural techniques to maximize productivity of natural and planted forests under different ecological considerations and changing environment.

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