

ICFRE NEWSLETTER

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Indian Council of
Forestry Research
and Education



Azadi Ka Amrit Mahotsav

- ICFRE and its institutes observed "Constitution Day" on 26 November 2021.
- FRI, Dehradun organized webinar on "Potential and Prospects of Value Addition in Wild Edibles" to extend the institutional scientific outcome and emphasize the prospects for value addition of such wild edibles on 26 November 2021.
- IFGTB, Coimbatore organized webinar on "Urban Forestry" on 12 November 2021. 250 Scientists, Technical staff and Research Scholars of IFGTB, Coimbatore participated in the programme.
- IWST, Bengaluru organized webinar on "Timber Identification & its Importance" on 12 November 2021. 180 Forest Department officials, forestry students, academicians, researchers, Wood Industries and training centres attended the programme.
- IWST, Bengaluru organized webinar on "Utilization of Plant Tissue Culture Techniques in Forestry" on 17 November 2021. 240 undergraduate and postgraduate participated in the programme.
- IWST, Bengaluru organized training cum demonstration on "Management and Harvesting of Bamboos" at IWST Research Station, Gottipura on 26 November 2021. 50 farmers participated in the programme.
- TFRI, Jabalpur celebrated the Birth Anniversary of Birsa Munda on 17 November 2021 at Rani Durgawati Samadhi Sthal, Gram Barha, Jabalpur, Madhya Pradesh.

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IFGTB, Coimbatore organized webinar on Urban Forestry



TFRI, Jabalpur celebrated Birsa Munda at Rani Durgawati Samadhi, Gram Barha

- HFRI, Shimla organized a programme on 10 November 2021 to deliberate possibilities of Sandalwood cultivation in Himachal Pradesh. 80 participants including scientists, officers and research scholars of the institute participated.
- IFP, Ranchi, organized a seminar on the topic “Bamboo Nursery and Management” at Ulgara village Latehar, Jharkhand on 12 November 2021, 36 participants from the village and surrounding areas participated.
- IFP, Ranchi organized a programme Birsa Munda Jayanti on 15 November 2021. Director, Group Coordinator (Research), all scientists, officers, staff, students, research scholar were present in the programme. The Staff of research station like ERS, Sukna & FRC, Mandar also attended the programme virtually.
- IFP, Ranchi organized Birsa Munda Jayanti on 17 November 2021. In this occasion Institute organized workshop on "Tribal Entrepreneurship" at Kutam, Khunti, a demo village of IFP. Villagers and panchayat members attended the workshop.
- IFP, Ranchi organized a seminar on “Importance of Minor Forest Produce”, at Chandwa, Jharkhand on 18 November 2021
- IFP, Ranchi organized a programme on the occasion of Birsa Munda Jayanti on 22 November 2021 with the villagers, Panchayat member in Turigadha, Torpa, Khunti .
- FRCER, Prayagraj organized training “Lac Based Agroforestry Models" in Padilla Research Nursery, Prayagraj on 18 November 2021.



HFRI, Shimla organized programme on Sandalwood Cultivation



IFP, Ranchi organized a seminar on Bamboo Nursery and Management



IFP, Ranchi organized a programme on Birsa Munda Jayanti



IFP, Ranchi organized a programme on Birsa Munda Jayanti at Kutam, Khunti



FRCER, Prayagraj organized training on Lac Based Agroforestry Models

Significant Research Findings

Variety Releasing Committee (VRC) of ICFRE was held on 18 November 2021 under the chairmanship of Director General Forests & Special Secretary (MoEF&CC) and Co-chairmanship of Director General (ICFRE). 22 Varieties/clones were released, details are as follows:

- FRI, Dehradun developed 06 varieties of Neem for commercial cultivation. These cultivars can produce on an average double the oil (34.67 to 36.75%) and *Azadirachtin* (6047 to 9755 ppm) content in comparison to base population.
- IFGTB, Coimbatore developed 06 clones of *Calophyllum inophyllum* valued for its fruit and oil content are also by for commercial cultivation in Southern States, which can give on an average upto 6 kg average fruit yield/tree after 6th year of planting compared to 4.3 kg from unimproved seed source.
- AFRI, Jodhpur developed 03 clones of *Dalbergia sissoo* for Gujarat, consistently giving high timber yield. The expected yield of total wood from these *D. sissoo* clones is 284.0 Cum/ha in 25 years, from which total income of Rs 29.40 lakhs/ha/25years can be generated as merchantable logs.
- IFP, Ranchi developed 05 clones of poplar, with high productivity and short rotation period. These poplar clones have 36.72 to 43.11 m³/ha/year productivity, which can give income of 3.21 to 3.77 lakh/ha/year. These poplar clones have outperformed over the well known industrial clone being used at present.
- IFGTB, Coimbatore had worked on interspecific hybrids from three different species namely *Eucalyptus tereticornis*, *E. camaldulensis* and *E. grandis* and developed 02 clones of Eucalyptus Hybrids having growth superiority of more than 10% over and above the best clone of IFGTB, Coimbatore.

Forest Research Institute, Dehradun

- Described new fungal species, *Pterula bambusicola* sp. nov. V. Parkash MycoBank number MB 833227 (released Nov., 2021).
- Under the project "Revision of Kanjilal's Forest Flora of the Chakrata, Dehradun and Saharanpur Forest Divisions, Uttar Pradesh for conservation and sustainable utilization". Nomenclature updates and description of 44 species were completed. The surveys have been done in the Purola, Sandra and Devta ranges of Tons Forest Division. During the survey several number of plant species collected from different localities.

- Nomenclature updates and description of 40 species were completed under the project "Revision of Osmaston's Forest Flora for Kumaon for Conservation and sustainable utilization".
- The regeneration of the FGR species were surveyed by placing the quadrants of 10 by 10 for trees and 3 by 3 for shrubs. Along with the regeneration quadrants the associated species were also sampled and identified. The major FGR species that were identified and surveyed for the regeneration were *Acacia catechu*, *Acacia leucocephala*, *Aegle marmelos*, *Albizia procera*, *Anogeissus pendula*, *Bauhinia racemosa*, *Crateva adansonii*, *Dalbergia sissoo*, *Syzyrium cumini*, *Prosopis cineraria*, *Tecomella undulata*, *Wrightia tinctoria*, *Barleriapronitis*, *Capparis sepium*, *Grewia tinx*, *Ziziphus mauritiana*, *Maytenus royleana* under the project "CAMPA – FGR (Phase-II)".
- Under AICRP on Bamboo seed quality tests were conducted for seeds of *Bambusa bambos* and *Dendrocalamus strictus* obtained from forest area of Tamil Nadu and Karnataka respectively, for developing short to medium term storage protocols. Preliminary findings of germination percentage for *B. bambos* is 67% @ 7% MC (under Room Temp.), 86% @ 7% MC (Under 50C Temp.) and for *D. strictus* is 82.5% @ 8% MC (under Room Temp.), 87.5% @ 8% MC (Under 50C Temp.)
- To study the distribution of *Pyrus pashia* and *Ficus palmata*. Survey was conducted in Mussoorie, Dhanaulti, Chakrata forest Divisions of Uttarakhand. GPS location was taken, Fruits, cuttings and soil samples were collected. Morphological data of fruits has been noted. Moisture%, ash%, acid insoluble, water insoluble ash value, extractive values, crude fibre and crude fat for *Pyrus pashia*, sample has been determined.
- Essential oil was isolated from *Thymus serpyllum* leaves, stem, flowers and whole plant and GC-MS recoding of the essential oil was done.

Institute of Forest Genetic and Tree Breeding, Coimbatore

- Generation of transgenic events of Eucalyptus using hairpin RNA constructs targeting *EcHKT1;1*: In earlier experiments using a model composite-transgenic system in Eucalyptus, it was shown that down regulation of *EcHKT1;1* gene can enhance salt tolerance. In order to take these leads further, *Agrobacterium tumefaciens* mediated transformation of Eucalyptus was carried out. Six transgenic events were generated. These were confirmed by PCR analysis for the

presence of hairpin RNA transgene targeting the sodium transporter gene, *EcHKT1;1*. These will be multiplied and evaluated for enhanced salt tolerance.



PCR confirmation of transgenic events of *Eucalyptus* harboring *EcHKT1;1*hpRNA constructs showing the desired 308 bp Hygromycin amplicon. Lane 1: Non template control, Lane 2: 50 bp ladder, Lane 3: Positive plasmid control, Lane 4: Plant control, Lane 5-8: transgenic events of *Eucalyptus* B5, B6, B8, and B9.

- Tree improvement of *Calophyllum inophyllum*, a species with potential of Tree Borne Oil Seeds (TBOs) was taken up and multilocation trials of selected clones laid out at three different locations.
- Field visits were conducted in Pichavaram, Parangipettai and Pazhayar and tagged 15 reproductively matured trees for conducting reproductive biology studies. Spatial mapping of the target species were done using ArcGIS software. *Rhizophora mucronata* is found both in hyper and hypo-saline zone, while, *R. apiculata* is mostly restricted to hypo-saline zone. Pollination studies were carried out in *R. apiculata* and *R. mucronata*. *R. apiculata* showed abnormal pollen tetrads and plenty of cytoplasm empty cells. Resident mites are the potential pollinator in *R. apiculata* and *R. mucronata*.
- Mangrove rhizosphere microbes isolated and characterized for their potential plant growth promoting properties and utilized as bio-inoculants for studies on growth improvement of tree seedlings viz., *Casuarina* sp., *Dalbergia sissoo*, *Azadirachta indica* under salinity stress.

Institute of Wood Science and Technology, Bengaluru

Field survey has been carried out in Haliyal, Yellapur, Semangala, Kushala Nagar, Anekadu, Dubare, etc. and identified 25 plus trees of *Dalbergia latifolia*.

Institute of Forest Productivity, Ranchi

- Eco distribution mapping, of *Buchanania cochinchinensis*, *Shorea robusta* and *Pterocarpus marsupium* has been done based on the occurrences data for Jharkhand state in MaxEnt Model.
- To extract pure genomic DNA of *Sal* in good quality and quantity. A protocol was standardised using CTAB method applying higher concentration of 2 mercaptoethanol and PVP after trying 10 different protocols.
- Under AICRP on Bamboo, planted 5200 seedlings of *Dendrocalmus strictus* and 2000 seedlings of *B. bamboos*. By rooting of cuttings 150 plants of *B. vulgaris*, 45 plants of *B. nutans* and 130 *B. tulda* plants were produced. Three clumps each of *D. strictus*, *B. vulgaris* and *B. bamboos* were selected from Angul, Odisha.

Consultancy

ICFRE works under 04 consultancy projects were carried out.

- Final Annual Report (Year 2020-21) of Monitoring of NTPC Accelerated Afforestation programme of Plantation of 10 Million Trees – in the states of Madhya Pradesh, Maharashtra, Assam, Karnataka, Andhra Pradesh, Telangana and Bihar (NTPC Ltd., Noida).
- Field tour for EA-EPIR works of Jhingurda, Block-B and Khadia OC mines of NCL, Singrauli, Madhya Pradesh under Environmental Audit and Environmental performance Index Ranking of 35 mines of CIL (Coal India Ltd. Kolkata).
- Field tour for Vishnugad Pipalkoti HEP works of Nanda Devi National Park and Kedarnath Wildlife Forest Division under Vishnugad Pipalkoti Hydro Electric Power Project (444 MW), District Chamoli, Uttarakhand. (THDC India Ltd. Rishikesh).

Workshops/Seminars/Meetings

S.No.	Topic	Duration	Beneficiaries
Forest Research Institute, Dehradun			
1.	Webinar on Agroforestry for Boosting Tree Cover and Livelihood Enhancement	22 to 26 November 2021	IFS officers

Rain Forest Research Institute, Jorhat

2.	Workshop on Capacity Building for State Forest Departments on Developing State REDD + Action Plans	16 and 17 November 2021	SFDs
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Arid Forest Research Institute, Jodhpur

3.	Seminar on Impact of climate change on fruit crops and their management strategies	9 November 2021	-
4.	Seminar on Effect of chemical interference on physiology of plants	15 November 2021	-
5.	Seminar on Range land management in arid areas	22 November 2021	-
6.	Seminar on Nitrogen transformation in soils under varied environmental conditions	24 November 2021	-

Himalayan Forest Research Institute, Shimla

7.	Conference on Indian Culture, Science & Tradition	13 to 15 November 2021	Graduate & PG Colleges of Himachal Pradesh and Haryana
8.	Research Advisory Committee (RAC)	15 November 2021	Officials of HFRI



RFRI, Jorhat workshop on Capacity Building for State Forest Departments on Developing State REDD+ Action Plans



HFRI, Shimla organized conference on Indian Culture, Science & Tradition

Forest Research Centre for Eco-Rehabilitation, Prayagraj

9.	Conference on Clonal Forestry in Eco-Restoration	10 and 11 November 2021	Researchers & SFD
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Training Programmes

S.No.	Topic	Duration	Beneficiaries
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Forest Research Institute, Dehradun

1.	Management of Bamboo & tree Improvement	8 to 12 November 2021	Staff of U.P. Forest Department
2.	भीमल (<i>Grewia optiva</i>) रेशा निकालने की उन्नत तकनीकी	17 November 2021	Villagers from Bhatauli, Kempty fall, Mussoorie

Institute of Forest Genetics and Tree Breeding, Coimbatore

3.	Quality Planting Material Producer	22 November to 31 December 2021	Officials IFGTB, Coimbatore
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Institute of Wood Science and Technology, Bengaluru

4.	Basics of Wood, Wood Processing & Utilization, Wood Protection & Wood Modification	17 and 18 November 2021	Students, teachers, bankers, NGOs, Nature/eco club
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Tropical Forest Research Institute, Jabalpur

5.	Cultivation, Processing Techniques and Management of Non-wood Forest Products including Medicinal Plants	22 to 26 November 2021	ICFRE Technical Staff
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Rain Forest Research Institute, Jorhat

6.	Establishment of Food Processing Unit	8 to 20 November 2021	Young entrepreneurs of Namsai district
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7.	Multiplication and conservation of orchid resources	9 November 2021	Local villagers from Tikok and Tirap Colliery
8.	Bamboo Shoot Processing and Value Addition	10 to 12 November 2021	Unemployed women
9.	Bamboo, Agarwood and Seed technology	15 and 16 November 2021	Range officers
10.	Bamboo Handicraft	23 November to 4 December 2021	Vulnerable youth of Manipur

Himalayan Forest Research Institute, Shimla

11.	चिलगोजा के संरक्षण और स्थायी प्रबंधन की आवश्यकता	22, 24, 25 and 26 November 2021	Pradhan, members of Gram Panchayats of Kalpa, Pangi, Barang and Urni
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Institute of Forest Productivity, Ranchi

12.	Computer and Internet Application	22 to 26 November 2021	Officers and officials
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IFGTB, Coimbatore conducted Awareness programme on Quality Planting Material Producer



TFRI, Jabalpur conducted training on Cultivation, Processing Techniques and Management of Non-wood Forest Products including Medicinal Plants



RFRI, Jorhat conducted training on Establishment of Food Processing Unit



HFRI, Shimla conducted training on चिलगोजा के संरक्षण और स्थायी प्रबंधन की आवश्यकता

Memorandum of Understanding

- RFRI, Jorhat signed MoU with Assam Agricultural University, Jorhat on 9 November 2021 to work in the field of Natural Resource based Sustainable Livelihood Promotion in the NE India jointly.
- A MoU has been signed between IFP, Ranchi & Central Coalfield Limited (CCL), Ranchi on 22 November 2021 for working on the topic entitled "Ecological reclamation of mined out areas".

Prakriti Programme

IFGTB, Coimbatore hosted online knowledge series, on the theme "Urban Forestry Research and Development & Overview of Carbon Foot Prints" as part of Prakriti-Student Connect Programme on 13 November 2021. 20 college students collaborated with CUBE organization of Coimbatore attended the programme.

Awareness Campaign

The ENVIS Resource Partner on Forest Genetic Resources and Tree Improvement at the IFGTB, Coimbatore organized an awareness campaign on 3 November 2021 to spread the message on celebration of Green Deepavali following mandatory protocol to contain the spread of COVID-19.

HR News

Appointment (Regular)

Name of Officer	Date
Ms. Rathna V, Scientist 'B', IFP, Ranchi	29.11.2021

Popularizing Forestry through All India Radio/Doordarshan

Programme Topic	Channel	Date
Forest Research Institute, Dehradun		
Role of bioinoculants in forestry application	Akashvani, Dehradun	16 November 2021
औषधियों पौधों की फोरेंसिक जांच के लिए आण्विक आनुवांशिकी के अनुप्रयोग		
वानिकी क्षेत्रों में जैव आवेगों का योगदान		
वानिकी की विकसित काष्ठ शोध तकनीकियों पर वार्ता		

Patron:

Shri A.S. Rawat, IFS, Director General, ICFRE, Dehradun

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