



Indian Council of  
Forestry Research  
and Education

# ICFRE

# NEWSLETTER

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### ► Significant Research Finding ►

#### Forest Research Institute, Dehradun

- Tour was performed and fifteen samples of insect larvae (*Eutectona machaeralis*, *Hyblaea puera*, Geometrid semi-looper, *Clostera fulgurita* and *Clostera cupreata* and *Apanteles* cocoons on *Hyblaea puera* larva were collected from Thano range, Rishikesh (Dehradun) on different forestry trees: *Tectona grandis*, *Murraya koenigii*, *Populus* sp., and *Dalbergia sissoo* for their laboratory rearing which was continued for emergence of *Apanteles* spp. Ten *Apanteles* spp. were screened out. Slide preparation and identification are in progress under the project "Studies on taxonomy and host range of larval Parasitoids, *Apanteles* spp. (Hymenoptera: Braconidae) from Uttarakhand and Haryana".
- A tour was performed and fifty sweeping samples of insects were collected from district: Chamoli, Pauri-garhwal, Rudraprayag, Tehri-Garhwal and Uttarkashi. Out of which 20 samples were sorted out. Twenty five samples of insect eggs were collected during a tour to different forestry trees: *Cassia fistula*, *Dalbergia sissoo*, *Holoptelea integrifolia*, *Moringa oliefera*, *Populus deltoides*, *Ricinus communis* and *Tectona grandis*. Two egg parasitoids were emerged out from the collected egg samples: *Euderus* sp. from eggs of bug on *Cassia fistula* and *Trissolcus* sp., from stink bug eggs on *Populus deltoides*, Photography and slide preparation are in progress.
- Biology of *C. annularis* is continuing. Observation on incidence and intensity of attack by borer is continuing. Experiment trial for the management of borer using preservative treatment laid down in outdoor cages in the Insectary. Recording of data of treated green and dry bamboo is continuing under the project "Epidemiology and management of *Chlorophorus annularis* Fab. (Coleoptera: Cerambycidae) –A major borer of cut and dry bamboo".
- A 9 days field survey was carried out in Bageshwar & Pithoragarh districts of Kumaona regions of Uttarakhand (Ranikhet, Siuni, Sailapani, Semal Khet, Garud, Kausani, Daramghar, Munsiyari, Shama forests) during late monsoon season. Sampling was carried out on 14 transects in 5 forest sub-types namely: 12/C1a Ban Oak Forest; 12/C2a Kharsu Oak Forest, 12/C2b West Himalayan Upper Oak/ Fir Forest; 9/C1b Upper/ Himalayan Chir Pine Forest; 12/1S1 Alder Forest. A total of 75 species were sampled and 18 specimens of uncommon butterfly species were collected and preserved. Herbarium specimens of 13 species of tree and shrubs were also collected from different forest sub-types for identification from these sites. A GIS based false colour composite map of the

Bageshwar & Pithoragarh districts taken up for survey was also generated for selecting sampling sites. Another 3 day survey was carried out in Deoban R F, Chakarata Forest Division and sampling carried out on 4 transects in 3 forest sub-types (12/C1c Moist deodar Forest; 12/C1d Western Mixed Coniferous Forest; 12/C1a Ban Oak Forest). A total of 27 species were sampled and 5 specimens of butterflies were collected under the project "Butterflies associated with different forest types/sub-types in Uttarakhand".

- Three day field survey was carried out on Kharsu, (*Q. semecarpifolia*) oak & Moru (*Q. floribunda*), forests in Deoban RF, Chakarata Forest Division, in Dehradun District of Uttarakhand for recording new pests and their extent of damage during monsoon season by laying down 15 quadrates (10m x 10m) for recording tree GBH, density & vegetation composition, incidence and infestation percentage. Larvae of four species of moths were also collected from Ban oak forests besides which were reared in the laboratory on Ban oak. 5 borer infested Kharsu oak logs were collected from infested trees and brought to the lab for experiments. Ban acorn boring weevil, *Sitophilus glandium* were also collected from infested acorns and 13 adults of primary Kharsu oak borer, *Rosalia lateria* were also collected from infested oak logs from the field. Experiments on biology of the cerambycid borer *Xylotrechus basifuliginosus* on Ban & Kharsu oak logs brought from the Deoban RF, Chakarata earlier were continued in the laboratory. One day survey was also carried out in Ban oak forest of Dalkhet village, Thanu Range, Dehradun district to study the mortality and extent of infestation by laying down 12 quadrates in infested oak tree stands besides collection of borer infested logs from live trees which were brought to the laboratory for further investigation. Ban oak acorn boring weevil, *Apoderus* sp. were also collected from infested acorns along with 2 species of sap-sucking pentatomid bugs causing damage to new oak shoots under the project "Insect pests of Western Himalayan Oaks and their Control".
- Digitized 74 types with about 450 photos. Verified names of the species in the database: 2324 unaccessioned species in cabinets 53 to 61 and 3246 species in cabinets 62-82. Checked cabinets 1-34 for final storage of images in three formats, JPEG, Tiff and reduced under the project "Digitization and enrichment of National Forest Insect Collection (NFIC) of Forest Research Institute, Phase-II (minute insects)".
- Experiment to study the biology of *Clostera cupreata* by no choice method on 33 clones of poplar has been conducted and study completed successfully and leaf weight measurement/ cm of 33 clones of Poplar have been done successfully. Experiment has been conducted to access the growth loss due to defoliation under the project "Screening of poplar clones for tolerance against poplar leaf defoliator, *Clostera cupreata* But".
- Field tour to Pinjore, Karnal, Panipat, Sonipat, Jind, Yamunanagar, Ambala of Haryana state was done to collect pteromalid parasitoid and their probable hosts. Several samples from infested twigs, leaves to gall infected plant parts were collected and also sweep net method was used for collection of parasitoids. Rearing of host collected from the field was done in the laboratory and separated the parasitoids. Emergence of Pteromalid parasitoids along with other microhymenopteran parasitoids were observed, collected, preserved and duly recorded under the project "Diversity study of pteromalid parasitoids (Hymenoptera: Pteromalidae) of Northern India with special emphasis on bio-efficacy of some selected parasitoids".
- Establishment of *G. arborea* and *E. officinalis* based agroforestry models at 4x5m and 5x5m spacing on fallow lands at Dhaluwala majbata (Haridwar), Fatehpur Pelio (Saharanpur) and Kodapur (Prayagraj) selected sites is in progress. Growth data of *G. arborea* and *E. officinalis* were compiled at selected sites. Soil samples were also analysed from the above sites. It is observed that the site at Kodapur (Prayagraj) is alkaline in nature with 8.30 pH in comparison to other sites at Dhaluwala majbata (7.12 pH) and Fatehpur Pelio (7.36 pH). It is also observed that the both species of *G. arborea* and *E. officinalis* are performing well on these fallow lands. Maintenance and monitoring of plantation of *G. arborea* and *E. officinalis* at above sites is in progress under the project "Development of *Gmelina arborea* and *Embllica officinalis* based agroforestry models on degraded lands in Uttarakhand and Uttar Pradesh".
- Growth of Kachnar, Bhimal and Kadam at both sites of Dhaluwala Majbata (Haridwar) were compiled. Analysis of soil samples is in progress under the

project Development of Kachnar (*Bauhinia variegata*), Bhimal (*Grewia optiva*) and Kadam (*Anthocephalus cadamba*) based agroforestry models on farmers land under rainfed conditions in Uttarakhand. Initially, Kadam is performing better than Bhimal and Kachnar. Maintenance & monitoring of plantation of Kachnar, Bhimal and Kadam at the above sites was also done under the project “Development of Kachnar (*Bauhinia variegata*), Bhimal (*Grewia optiva*) and Kadam (*Anthocephalus cadamba*) based agroforestry models on farmers land under rainfed conditions in Uttarakhand”.

- Determination and replication of Saponin of different types of girth and other samples of Bhimal twigs is in progress. Fibre has been taken out of Bhimal by different techniques and Bhimal twigs were placed in cow dung solution. Water bath repair is also in progress under the project “Livelihood improvement through sustainable utilization of *Grewia optiva* (Bhimal) in Uttarakhand”.

#### **Institute of Forest Genetic and Tree Breeding, Coimbatore**

- IFGTB, Coimbatore is involved in genetic improvement of *Ailanthus excelsa* Roxb. Commonly known as 'tree of heaven' is a deciduous tree belonging to family Simaroubaceae. It is native to India and Sri Lanka and is an excellent source of protein rich fodder. The wood of this species is in high demand for production of match splints due to color, wax stability, consistent burning and splinting ability. Wood transcriptome of *A. excelsa* was sequenced and 48,493 transcripts were predicted. The chloroplast genome was reconstructed and 160804 bp genome was assembled encoding 116 genes. Phylogenetic analysis using the complete chloroplast genome revealed that members of Simaroubaceae grouped with *Citrus sinensis* belonging to family Rutaceae. Mining for microsatellite repeats predicted presence of 5501 repeats in the wood transcriptome. This study presents the first genomic resource in the genus *Ailanthus* and the information generated can be used for subsequent research in diversity assessment, population structure analysis and accelerated breeding targeting improvement of wood property traits in this species.
- In an attempt to study the adaptive genetic diversity of teak populations across India, efforts were made at IFGTB to completely sequence the genome of teak to understand the distribution of gene pattern and microsatellites distributed in the genome. The study revealed repeat elements of about 11.18% in the genome and that about 600 genes are involved in timber formation. Some of the popular teak provenances were genotyped for microsatellite polymorphism and population genetic analysis distinctly showed the presence of locally common alleles ranging from 4.2 to 9.5 with a heterozygosity of 0.6 to 0.9. It indicates that robust genetic diversity exists within and among populations and population specific alleles could be used for prioritization in conservation and timber tracking.
- Growing awareness for quality planting stock of teak among the farmers brings in lot of demand for tissue culture raised plants. Conventional vegetative propagation enables the true-to-type production of planting stock but the quantity of propagules production is very less when compared to tissue culture approach. IFGTB has developed micropropagation protocols for large scale plantlet production of teak genotypes from apical buds and nodal segments. Selected stock of teak has been mass propagated through micropropagation and supplied to farmers. Other than farmers, IFGTB has supplied tissue culture teak plants to Forest Development Corporation of Maharashtra and Kerala Forest Department. Demonstration trials have been established with ten clones in Ashti, Markhanda and Allapalli Divisions in Maharashtra; and Ranni, Palode, Nilambur and Konni in Kerala. These trials will help to evaluate stable performers across sites and also site specific clones for future planting programmes of the State.
- Seed production orchards for twelve medicinally important tree species have been established with the funding support from National Medicinal Plants Board, Gol. The species included are five Dashmula tree species namely *Aegle marmelos*, *Gmelina arborea*, *Oroxylum indicum*, *Premna integrifolia*, *Sterospermum suaveolens*; two Triphala myrobalans namely *Terminalia bellirica*, *Terminalia chebula* along with *Saraca asoca*, *Pterocarpus marsupium*, *Strychnos nux-vomica*, *Strychnos potatorum* and *Santalum album*. These orchards will serve as genetic stocks required for long term sustainability of the species and will ensure continuous supply of quality seeds for further propagation of the species in addition to germplasm conservation. The orchards have been established within two Ayurvedic Industries in Kerala namely Oushadhi and Ahalia.



► Visit Abroad ►

| Name of Personnel                    | Institute       | Purpose of Visit            | Duration                 | Place               |
|--------------------------------------|-----------------|-----------------------------|--------------------------|---------------------|
| Dr. V.P. Tewari<br>Dr. B.N. Divakara | IWST, Bengaluru | XXV IUFRO<br>World Congress | 29 Sept to<br>5 Oct 2019 | Curitiba,<br>Brazil |

► Consultancy ►

Presently works on eleven consultancy projects, which are awarded by Tehri Hydro Development Corporation India Ltd; Himachal Pradesh Power Corporation Limited; Karnataka State Official Authority; MoEF&CC GoI, New Delhi; Coal India Limited, Kolkata; NTPC Ltd Noida; NMDC Ltd, Hyderabad; Singreni Collieries Company Ltd., Kothagudem; Chhattisgarh Forest Department, Raipur; Deptt. of Forest and Environment, Bhubaneswar and Khairaha UG Coal Mine of SECL M.P is in progress.

► Exhibiton/ Mela/ Kisan Mela ►

| Institute                    | Participated/ Organized              | Duration                 | Place            |
|------------------------------|--------------------------------------|--------------------------|------------------|
| HFRI, Shimla                 | Farmer's/ Kisan Mela                 | 7 to 9 September 2019    | Leh              |
| AFRI, Jodhpur                | CAZRI Mela and Krishi Navachar Divas | 16 September 2019        | Jodhpur          |
| RFRI, Jorhat and IFP, Ranchi | Bamboo Artisans Conclave-2019        | 18 and 19 September 2019 | Dumka, Jharkhand |



Kisan Mela cum Exhibition at Leh



Bamboo Artisans Conclave - 2019 at Jharkhand

► Workshops/ Seminars/ Meetings ►

| S.No.                                      | Topic   | Duration                       | Beneficiaries |
|--|---|--------------------------------|---------------|
| <b>Forest Research Institute, Dehradun</b> |   |                                |               |
| 1.   | DPR preparation of Rejuvenation of River Yamuna & its tributaries | 9,12,17 &<br>19 September 2019 | -             |



**Institute of Forest Genetics and Tree Breeding, Coimbatore**

- |  |                   |  |
|--|-------------------|--|
| 2. Molecular Breeding Approaches for Tolerance to Abiotic Stresses | 3 September 2019  | Officials and Scientist staff of IFGTB |
| 3. Plant varieties in Forest Pest Management                       | 30 September 2019 | Officials and Scientist staff of IFGTB |



Seminar on Molecular Breeding Approaches for Tolerance to Abiotic Stresses



Seminar on Plant Varieties in Forest Pest Management

**Institute of Wood Science and Technology, Bengaluru**

- |   |                   |   |
|---|-------------------|---|
| 4. DPR Krishna: "Stakeholders consultation meeting on DPR Krishna - Maharashtra | 18 September 2019 | DCF/DFOs of all Forest Divisions, PCCF, APCCF, NGOs, Officers from Agriculture Dept. Commissioner Agriculture, District Collectors, Resource persons from Universities Revenue Department |
|---|-------------------|---|

**Tropical Forest Research Institute, Jabalpur**

- |  |                   |                                     |
|--|-------------------|-------------------------------------|
| 5. Seed Orchard-Status and Management in Central India | 27 September 2019 | Scientists and other research staff |
|--|-------------------|-------------------------------------|

**Rain Forest Research Institute, Jorhat**

- |  |                          |   |
|--|--------------------------|---|
| 6. Preparation of Detailed Project Report (DPR) for rejuvenation of river Brahmaputra through forestry interventions | 11 and 20 September 2019 | People of Brahmaputra Basin, Forest department, Researchers |
|--|--------------------------|---|

**Arid Forest Research Institute, Jodhpur**

- |   |                         |   |
|---|-------------------------|---|
| 7. Preparation of DPR for Rejuvenation of Luni River through Forestry Interventions | 17 to 26 September 2019 | Forest officers, Scientists, Professors, Academician, NGOs and Technicians etc. |
| 8. RAG Meeting  | 23 September 2019       | Forest officers, Scientists, Professors, Academician, NGOs and Technical staffs |



Workshop on Preparation of DPR for Rejuvenation of Luni River through Forestry Interventions



RAG meeting

**Himalayan Forest Research Institute, Shimla**

- |   |                   |  |
|---|-------------------|--|
| 9. Role of forestry seeds in production of quality planting stock   | 27 September 2019 | Scientists, Technical staff and Researchers of HFRI  |
| 10. Preparation of Detailed Project Report (DPR) for rejuvenation of Beas river basin through forestry intervention | 3 September 2019  | Representative from Mandi Forest Circle (CF & DFOs), Municipal Committee Mandi, Municipal Councils (Sarkaghat & Rewalser), Tourism, Agriculture, Horticulture, PWD, Disaster Management, JICA Mandi and Various NGOs |

- |   |                         |  |
|---|-------------------------|--|
| 11. Preparation of DPR for Rejuvenation of Luni River through Forestry Interventions                                  | 17 to 26 September 2019 | Forest officers, Scientists, Professors, Academician, NGOs and Technicians etc.  |
| 12. Preparation of Detailed Project Report (DPR) for rejuvenation of Sutlej river basin through forestry intervention | 17 September 2019       | Representatives from HP State Forest Department, Agriculture, KVK (Horticulture), Soil Conservation, IPH, PWD and Panchayat Pradhans |



Meeting for preparation of Detailed Project Report (DPR) for rejuvenation of Sutlej river basin through forestry intervention

**Institute of Forest Productivity, Ranchi**

- |   |                   |  |
|---|-------------------|--|
| 13. Niche Model and its application in Forestry | 30 September 2019 | Scientists, Officers, Officials & Students |
|---|-------------------|--|

**Institute of Forest Biodiversity, Hyderabad**

- |   |                   |                          |
|---|-------------------|--------------------------|
| 14. Detailed Project Report for rejuvenation of Godavari, Krishna & Narmada Rivers through forestry interventions | 18 September 2019 | Maharashtra stakeholders |
| 15. RAG Meeting   | 25 September 2019 | -                        |



► Training Programmes ►

| S.No.   | Topic   | Duration                 | Beneficiaries  |
|---|---|--------------------------|--|
| <b>Forest Research Institute, Dehradun</b>                        |   |                          |  |
| 1.  | Forestry, Wildlife and Disaster Risk Reduction                                    | 16 to 20 September 2019  | Forest Officers of DCF/ACF/FRO level and other stakeholders  |
| 2.  | Cooling Tower Timber  | 17 to 19 September 2019  | -  |
| <b>Institute of Forest Genetics and Tree Breeding, Coimbatore</b> |   |                          |  |
| 3.  | Development of compost out of waste involving tribal for their livelihood support | 16 September 2019        | Malayali tribes of Vinayaga and Masani Women Self Help Groups of Anamalai range of Anamalai Tiger Reserve, Pollachi (TK), Coimbatore district. |
| 4.  | Instrumentation methods and Phytochemical analysis                                | 19 and 20 September 2019 | Students from various academic institutions, Universities and colleges.  |
| 5.  | Biological Diversity Act, 2002  | 25 and 27 September 2019 | Officials of Forest, Agriculture, Veterinary, Fisheries, Panchayath Raj etc. from Tamil Nadu and Kerala.                                       |



Training on Instrumentation methods and Phytochemical analysis



Training on Biological Diversity Act, 2002

**Institute of Wood Science and Technology, Bengaluru**

|  |                            |   |
|--|----------------------------|---|
| 6. Extraction, isolation and chemical structure identification of phytochemicals | 15 July - 6 September 2019 | Students of Integrated M.Sc. in Chemistry from Center for Basic sciences, Pt. Ravishankar Shukla University, Raipur, Chhattisgarh |
| 7. Wood Protection   | 23 and 27 September 2019   | Participants from INS, Shivaji and SQAE, Mumbai   |
| 8. Timber Identification   | 25 and 27 September 2019   | RFO Trainees The State Forestry Training Society, Kundal  |

**Tropical Forest Research Institute, Jabalpur**

|  |                                 |   |
|--|---------------------------------|---|
| 9. Carbon sequestration by Industrial Plantation | 30 September and 1 October 2019 | Officers of Madhya Pradesh Power Generating Co. Ltd. (MPPGCL) |
|--|---------------------------------|---|



Training on Carbon sequestration by Industrial Plantation

**Rain Forest Research Institute, Jorhat**

|  |                         |   |
|--|-------------------------|---|
| 10. Bamboo Charcoal Production and Briquetting | 10 to 13 September 2019 | Participants from Karbi Anglong district of Assam |
|--|-------------------------|---|



**Himalayan Forest Research Institute, Shimla**

- |   |                         |  |
|---|-------------------------|--|
| 11. Cultivation of Important Temperate Medicinal Plants: an option for Diversification and Augmentation of Rural Income | 25 to 27 September 2019 | Gram Panchayat members, NGO, Teachers, Eco Task Force Officials, Bank Personals etc. |
|---|-------------------------|--|



Training on Cultivation of Important Temperate Medicinal Plants: an option for Diversification and Augmentation of Rural Income

► **Rajbhasha Programmes** ►

- ICFRE organized Hindi Fortnight from 11 to 25 September 2019.
- Celebrated Hindi Day at IFGTB, Coimbatore on 16 September 2019. In this connection, various Hindi competitions were conducted and the employees participated in the competitions enthusiastically.
- IWST, Bengaluru observed Hindi fortnight from 14 to 28 September 2019. The program was inaugurated on 16 September 2019 and concluded on 30 Sept 2019. During this period various competitions were conducted for the staff and students of the institute.
- TFRI, Jabalpur celebrated Hindi Pakhwada from 14 to 30 September 2019.
- Arid Forest Research Institute, Jodhpur organized Hindi Week from 13 to 19 September 2019 in which competitions like noting-drafting, Hindi quiz, Hindi typing (normal & saaransh), Hindi language knowlwdge, Hindi square puzzle and self composed poetry competitions were held in addition to the opinion expression on official language Hindi.
- Himalayan Forest Research Institute, Shimla organized Hindi Fortnight from 1 to 14 September 2019.
- IFP, Ranchi celebrated 'Hindi Pakhwara' from 1 to 14 September 2019. Different competitive programmes viz., essay writing; poem recitation and quiz competition etc. were conducted during the programme.
- IFB, Hyderabad organized 'Hindi Saptah' from 14 to 20 September 2019.



Hindi Fortnight at ICFRE, HQ



► **Prakriti Programmes** ►

- The various groups of 28 students of KV, Salawala, Dehradun on 6 September 2019 led by their teachers were visited FRI, Dehradun under "Prakriti" programme.
- A groups of 54 students from Kendriya Vidyalaya No.3 Delhi Cantt, Ring Road Naraina and 41 students from Kendriya Vidyalaya, Pitampura, Delhi led by their teachers were visited FRI, Dehradun under "Prakriti" programme on 12 and 13 September 2019.
- A group of 50 students of KV Keshavpuram, New Delhi on 30 September 2019 led by their teachers were visited FRI, Dehradun under "Prakriti" programme.
- A group of 100 teachers from different Kendriya Vidyalaya of country along with Mr. M. K. Malik, Vice Principal, Kendrya Vidyalaya ONGC, Dehradun visited the FRI, Dehradun under "Prakriti" programme on 19 September 2019.
- 25 Schools participated in the *Prakriti* programme organized by IFGTB, Coimbatore. The following schools from Coimbatore district, Udumalpet, Pollachi, Tirupur, Podanur, took part in the "*Prakriti*" programme. 1309 school students and 308 College students participated in this programme.
- AFRI Jodhpur organized a lecture and exhibition under the "*Prakriti* programme" on 27 September 2019. 211 students of Kendriya Vidyalaya class 6 to 12, including the staff of the school, visited the exhibition.
- Under "Prakriti : student-scientist connect programme", Himalayan Forest Research Institute, Shimla organized an awareness programme with the objective to spread awareness about forestry & environment for the students of class 10th, 10+1 & 10+2 of Kendriya Vidhalaya, Leh (Ladakh) & Jawahar Navodaya Vidhyalaya, Leh (Ladakh) on 07 September 2019 at Kendriya Vidhalaya, Leh (Ladakh) & Jawahar Navodaya Vidhyalaya, Leh (Ladakh).
- Under "Prakriti : student-scientist connect programme", Himalayan Forest Research Institute, Shimla organized an awareness programme with the objective to spread awareness about forestry & environment for the science stream students belonging to class 10+1 & 10+2 of Jawahar Navoday Vidhalaya, Riyasi (Jammu & Kashmir) on 23 September 2019 at Jawahar Navoday Vidhalaya, Riyasi (Jammu & Kashmir).
- IFP, Ranchi organized Environmental Awareness programme' under '*Prakriti* programme' at Jawahar Navodaya Vidyalaya, Palamau and Deoghar on 6 and 17 September 2019. 675 students and teachers attended the programme.
- IFB, Hyderabad organized an awareness programme on environment, forest activities and biodiversity under Prakriti to a group of 90 students and 9 teachers of Kendriya Vidyalaya Sangathan (KVS), Tirumalagiri and Shivarampally from 12 and 13 September 2019.
- IFB, Hyderabad organised an awareness programme on Environment, Forest activities and Biodiversity under Prakriti to a group of 40 students and 2 teachers of Zilla Parishad high School, Dulapally, Hyderabad on 26 September 2019.



Students from Jawahar Navodaya Vidhyalaya, Leh (Ladakh)



Students participated in Nature Awareness Programme at IFGTB



Students from Kendriya Vidhyalaya Sanganth (KVS), Tirumalghery

➤ **Awareness and Demonstration Programmes** ➤

Research and development activities of RFRI, Jorhat, such as Nursery Management, Cultivation, Propagation & Value addition of Bamboo. Bamboo preservation techniques, Biotechnology and Tissue Culture, Lac Cultivation, Botanical Garden, Orchidarium, Vermicomposting etc. on 6 September 2019. 11 trainees from Karbi

Anglong and Members from Aranyak, Guwahati attended the programme.

IFP, Ranchi organized demonstration programme on Knowledge on different medicinal plants, Melia dubia & Poplar planted in the Ialgotwa campus on 24 September 2019. 20 B.Sc. (Faculty of Forestry) students of BAU, Ranchi attended the programme.

➤ **Miscellaneous** ➤

| Institute         | Special Day/ Theme   | Duration          |
|-------------------|--|-------------------|
| IFGTB, Coimbatore | International Day for the Preservation of the Ozone Layer 2019 | 16 September 2019 |
|                   | World Bamboo Day   | 18 September 2019 |



Observance of International Day for the Preservation of the Ozone Layer 2019



Foresters of Tamil Nadu Forest Department planting bamboo on the occasion of World Bamboo Day

➤ **HR NEWS** ➤

**Appointment**

**Name of Officer**

Smt. Richa Mishra, IFS  
CF, FRI, Dehradun

**Date**

3.09.2019

**Promotion**

**Name of Officer**

Shri Narendra K. Sharda,  
PS, AFRI, Jodhpur

**Date**

11.09.2019

Shri S. Sen Sharma  
Section officer ICFRE, Dehradun

26.09.2019

**Patron:**

Dr. Suresh Gairola, Director General, ICFRE, Dehradun

**Editorial Board:**

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