

# ICFRE

## NEWSLETTER

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**INDIAN COUNCIL OF FORESTRY RESEARCH AND EDUCATION**

P.O. New Forest, Dehradun (Uttarakhand)

# ICFRE NEWSLETTER

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January to June 2017

## Patron

Dr. Suresh Gairola, Director General

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## Front Cover

1. Dignitaries on the dais during inauguration of XIX Commonwealth Forestry Conference Guests at FRI, Dehradun
2. Chief Guest lighting the lamp to inaugurate XIX Commonwealth Forestry Conference at FRI, Dehradun

## Back Cover

1. World Environment Day at FRI, Dehradun

## Patron's Column



The Indian Council of Forestry Research and Education (ICFRE), Dehradun is a leading organization in the forestry sector addressing regional and national needs in the forestry research, education and extension. Recently the Council has come up with some important research innovations, FRI, Dehradun has worked on a procedural improvement for optimal extraction of good quality fiber and estimation of target sapogenin from the leaves of *Agave sisalana* (Sisal). The institute also conducted the first structural analysis of gum exudates from *Acacia tortilis* (Vilayati Kikar) which is extensively planted in India. The study offers a valuable utilization of *Acacia tortilis* gum exudates which is currently of minor economic importance. Natural dyes were developed from four fungus species for textile applications. Protocols for their extraction and application on silk, wool and cotton fabrics were standardized.

AFRI, Jodhpur has developed a complete protocol for rapid multiplication of *Capparis decidua* an economically important desert plant through axillary bud induction. District wise maps of carbon stock and soil characterization of different forest blocks of Rajasthan have been prepared. Users can visualize different parameters of forest soils, site, vegetation, regeneration status of different species, erosion, drainage characteristics and carbon stock by clicking on the maps. The map is available in soft copy and can be viewed in any PC using 'Google Earth' and 'TNT maps' software.

IFGTB, Coimbatore standardized seed pelleting for *Santalum album* for direct dibbling in the field. Suitable bioinoculant, *Trichoderma viride* used to vitalize sandal seedling growth was identified and incorporated in the pellet. The institute also evaluated plant products against important forest pests and found that spraying a mixture of *Justicia adathoda* 0.5% leaf extract and Pungam oil in the ratio of 85:15 and 15% neem oil emulsion could control mealy bug, *Ferrisia virgata* and red spider mite and *Tetranychus utricae* infesting *Melia dubia* in nursery.

IFGTB, Coimbatore has also developed a value added NTFP product "Tree Tea" which was released by Shri Ajay Narayan Jha, Secretary, MoEF&CC, New Delhi at IFGTB, Coimbatore. Five high yielding clones of Casuarina, developed by IFGTB, Coimbatore, three varieties of *Eucalyptus tereticornis* and ten varieties of *Melia dubia* developed by FRI, Dehradun and two high yielding varieties of *Rauvolfia serpentina* developed by TFRI, Jabalpur were released by the Variety Releasing Committee (VRC) of ICFRE in February 2017.

XIX Commonwealth Forestry Conference was held at FRI, Dehradun from 3 to 7 April 2017. About 700 participants from India and Commonwealth Countries attended the event. ICFRE Institutes organized over 70 trainings, workshops etc. The Council also participated in various other events such as 104th Indian Science Congress: Pride of India Expo from 3-7 January 2017 at Sri Venkateswara University, Tirupati, Andhra Pradesh; MSME Expo Jorhat 2017 from 22 to 23 February 2017 etc.

ICFRE is also rendering consultancy services in the field of hydro-power, reclamation of mines and other environmental aspects. The Council is also monitoring the NTPC Accelerated Afforestation programme of 10 million trees in seven states. Also, conducting a MoEF&CC, New Delhi funded CEIA study of Hydroelectric Projects in Sutlej Basin in Himachal Pradesh.

I am hopeful that this issue of ICFRE Newsletter will give to the reader a glimpse of activities of the Council in the stipulated period.

**Dr. Suresh Gairola**  
Director General



**Dignitaries on dais during inauguration of XIX Commonwealth Forestry Conference**



**Dr. K.K Paul , H.E., Governor of Uttarakhand lighting the lamp to inaugurate the XIX CFC**

Forest Research Institute, Dehradun organized the XIX Commonwealth Forestry Conference at Dehradun from 3 to 7 April 2017. About 700 participants from many Commonwealth Countries, including India, attended the event. The theme of the event was “Forests for Prosperity and Posterity”. The event was inaugurated by Dr. K.K. Paul, Hon'ble Governor of Uttarakhand while the Valedictory Function was presided over by Dr John Innes, Chair, Standing Committee of Commonwealth Forestry Association. Twelve keynote addresses in four plenary sessions, 95 oral presentations and 216 poster presentations in 19 technical sessions, four special sessions, seven side events, field excursion, exhibition and cultural events were held during the event.



**Participants of XIX CFC**

## SIGNIFICANT RESEARCH FINDINGS

### FRI, Dehradun

- A study was conducted at procedural improvement for optimal extraction of good quality fiber and estimation of target sapogenin from the leaves of *Agave sisalana* (*Sisal*). Altogether five different analytical approaches were adopted for sapogenin separation from leaf extract. The steroid mixture Hecogenin-Tigogenin was recovered from sapogenin part and isolation of hecogenin was achieved with 95 % purity.

- Fine structural analysis of the polysaccharide was done using degradative and spectroscopic methods. The polysaccharide was found to be arabinogalactan with galactose backbone having 1→3 linkage and side chains of arabinose units linked to 6-position of galactose. This is the first structural analysis of gum exudate from *Acacia tortilis* (Vilayati Kikar) extensively planted in India. The studies offer a valuable utilization of Indian *Acacia tortilis* gum exudates which is currently of minor economic importance.

- Wax was isolated from *Pinus roxburghii* (chir pine) needles in 1.64% yield and thoroughly characterized in its native state using spectroscopic methods. Reaction conditions were developed for transforming wax into macrocyclic lactones and esters of perfumery value. Thus, a chemical approach for utilization of hitherto underutilized pine needles was demonstrated.
- Natural dyes were developed from four fungus species namely *Xylaria polymorpha* (Dead man's fingers), *Pycnoporus sanguineus*, *Fusarium solani* and *Penicillium sublateritium* for textile applications. Protocols for their extraction and application on silk, wool and cotton fabrics were standardized. These dyes qualified for their application on these fabrics in terms of the shades and fastness towards light, washing, rubbing and perspiration. The outcome amply demonstrated the fungal resources as potential source of natural dyes. The fungi-derived dyestuffs qualify all standards of commercial natural dyes which can fulfil the expectations of consumers and industries.

### AFRI, Jodhpur

- A complete protocol has been developed for rapid multiplication of *Capparis decidua*, an economically important desert plant, through axillary bud induction. It was observed that season plays an important role in successful establishment of nodal explants collected from mature candidate plus trees of *Capparis decidua*. Effect of cytokinin alone and in combination with auxins was studied on axillary bud induction and proliferation. MS medium was the most effective nutrient medium for axillary bud induction than other media (WPM and B<sub>5</sub>). Roots were induced on IBA (4.92µM) supplemented with ¼ MS medium with 95% success. Tissue culture raised plantlets were transferred to bottles containing soilrite with half strength MS medium without organics for hardening. These plants were thereafter shifted to polybags containing sand: soil: FYM in 1:1:1 proportion and placed in the mist chamber for four to five weeks. Finally, hardened plants were shifted to open shade house conditions for acclimatization to outer environmental conditions. For macro-propagation effect of size of cutting for rooting was studied. Semi hard wood cutting gave the best results. Rooted stem cuttings did not survive. A complete TC protocol is now available with AFRI.
- A study was carried out to determine nutritional value of lesser known plants in arid and semi arid region and their use as food supplements. Wild edible plants can also contribute to food security in several ways and their harvesting and trading can result in rural employment and income generation. Therefore, eight species of wild were selected for nutritional analysis. Moisture, ash, total dietary fibre (TDF), crude protein, sugar (TSS) and fat were analyzed. On basis of their nutrient content, best place of collection in Rajasthan, has been identified. Products of *Cordia gharaf* (Murabba, Pickle, Squash, Candy), *Grewia tenax* (Pickle, Fruit drink), *Cassia tora* (Leaf Protein Concentrate) and

*Leptadenia reticulata* (Pickle, Mangodi) were prepared for their broad utilization.

- District wise maps have been prepared on carbon stock and soil characterization of different forest blocks of Rajasthan. Users can visualize different parameters of forest soils, site, vegetation, regeneration status of different species, erosion, drainage characteristics and carbon stock of studied forest blocks of Rajasthan by clicking on the maps. The map is available in soft copy and can be viewed in any PC using 'Google Earth' and 'TNTmaps' software.
- In a study on evaluation of growth and yield of *Cenchrus Ciliaris*-CAZRI-75 and other grasses with *Colophospermum mopane* maximum green fodder yield was observed in *S. diander* while the minimum in *Brachiaria ramosa*. *C. ciliaris* CAZRI - 75 could established on soil slope in the inter row spaces of *C. mopane* plantation to convert it in to a silvipastoral system. The Growth of *C. Ciliaris* CAZRI-75 was in the medium range as compared to performance of other grasses (less palatable). The palatability range is *C. ciliaris* > *Brachiaria ramosa* > *Dactyloctenium scindicum* > *D. aegypticum* > *S. diander* > *Choloris virgata*
- A study on the effects of tree on soil fertility and crop production in Rajasthan indicated lowest crop yield reduction in *Prosopis cineraria* based agroforestry system, i.e. 19.3% (across the crop's) as compared to the sole crops. Crop yield reduction was highest (57.1%) in *Dalbergia sissoo* based system, crop production was the highest at the edge of the canopy of *Prosopis cineraria* in Kharif season and it was lowest (56%) beneath canopy of *Mangifera indica* trees during rabi season.

### IFGTB, Coimbatore

- Seed pelleting was standardized for *Santalum album* in order to support direct dibbling in the field. Suitable bioinoculant *Trichoderma viride* used to vitalize sandal seedling growth was identified and incorporated in the pellet. *Trichoderma viride* was found to boost growth and establishment of sandal, Soaking in ga3 for 24 hours helped to overcome seed dormancy in sandal and initiated early sprouting.
- Laterite lands are in abundance in Kasargode district of Kerala that are used mainly for making bricks in building construction. To develop vegetation in these laterite lands, the soil properties of laterite was examined. It was found that the soils lack beneficial microbes and are poor in major nutrients (N, P, K). Therefore, the beneficial microbes Arbuscular mycorrhizal fungi, Azospirillum (N fixing bacteria) and Phosphobacterium were selected for reclamation along with *Ailanthus tryphysa*, *Holoptelia integrifolia* and *Swietenia macrophylla*. The laterite soils were collected and used as potting media for seedlings of selected trees in nursery. Thereafter the cultured beneficial microbes

were inoculated in to the seedlings and maintained for 6 months under nursery conditions. The beneficial microbes inoculated seedlings showed improved growth and biomass than un inoculated control seedlings. Later the seedlings were transplanted at laterite waste lands at Kasargode, (Kerala) and their growth was monitored for 18 months. The seedlings inoculated with beneficial microbes showed 90-97% survival rate and improved growth. With suitable inoculation of beneficial microbes in these tree species and transplantation at laterite lands will provide a better solution for reclamation of laterite wastelands. This study will help to convert the degraded barren laterite lands into productive lands in an eco friendly manner.

- Evaluation of plant products against important forest pests exhibited that spraying a mixture of *Justica adathoda* 0.5% leaf extract and Pungam oil in the ratio of 85:15 and 15% neem oil emulsion could control mealy bug, *Ferrisia virgata* and red spider mite and *Tetranychus utricae* infesting *Melia dubia* in nursery.
- Nutritional evaluation of *Ailanthus excelsa* Roxb., a promising multi-purpose tree species, supplemented with dietary nutrients revealed that crude protein content was found to be optimal (> 20%) and at par with the BIS standard recommended for cattle (20 % Min). Hence, *A.excelsa* leaves can be recommended as a good source of alternate protein to cattle feed/food additive.
- Exo-polysaccharide (EPS) is a complex mixture of macromolecular electrolyte contained on the outside of the bacterial cell which is excreted as mucus that contributes to soil aggregation as an adhesive. An attempt was made to identify the Exo-polysaccharide (EPS) producing bacteria from the rhizosphere soil of *Grevillea robusta* (silver oak tree) and *Artocarpus integrifolia* (Jack fruit tree) collected from Kolli Hills, Namakkal district Tamil Nadu under *in vitro* condition. Out of 20 isolates was *Bacillus cereus* was identified as the best producer of EPS.

### Tree Tea-An Antioxidant Rich Health Product

A value added product, 'TREE TEA' was developed by Dr. R. Anandalakshmi, Scientist-E, IFGTB, Coimbatore using fruits of *Emblca officinalis*, *Terminalia chebula* and *Syzygium cumini*. Tree Tea is a dry coarse mixture of the three NTFPs packed in ready to use dip bags of 3 g each @ 20 bags per box. A rejuvenating decoction can be prepared by dipping a Tree Tea bag in 100 ml. boiling water for 3-5 minutes. Adding sugar is not recommended.



Release of 'Tree Tea' by Shri Ajay Naryan Jha, I.A.S., Secretary, MoEF & CC at IFGTB, Coimbatore on 25 March 2017

### COLLABORATION

IFGTB, Coimbatore and the Arid Forest Research Institute, Jodhpur have initiated a collaborative project on Multi-locational clonal testing of *Casuarina* for multiple end uses in Gujarat State. IFGTB has so far released 19 clones of *Casuarina* that have superior traits like fast growth, straight stems, tolerance to drought, sodicity and salinity. These clones shall be tested in at least three contrasting locations (coastal, inland and salt-affected) in Gujarat State. These shortlisted clones will increase the plantation productivity and farm income of farmers of Gujarat.

### FRI, Dehradun team of Scientists visited Rashtrapati Bhavan

In March 2017, a team of Scientists from FRI visited Rashtrapati Bhavan for final assessment of the trees located in the Estate. Forecourt trees of *Ficus microcarpa* were found to be suffering from heart rot disease. Tennis court, Golf court, Dalikhana and Cheeku ground were also surveyed for diseases and insects pest attack. Girth and increment core, of the older trees were also studied to find out the age of the trees



Heart rot in *Ficus microcarpa*

## TREE GROWERS MELA/ KISAN MELA

Institute	Participated/organized	Duration	Place
IWST, Bengaluru	104 <sup>th</sup> Indian Science Congress: Pride of India Expo	3-7 January 2017	Sri Venkateswara University, Tirupati,
TFRI, Jabalpur	Kisan Mela	17 February 2017	Gram Madhabanjar of Sihora block of Jabalpur (M.P.)
		12 April 2017	Gram Pipariya Mal Block Shahpura of Dindori (M.P.)
RFRI, Jorhat	MSME Expo Jorhat 2017	22 to 23 February 2017	Ministry of Micro, Small & Medium Enterprises-Development Institute (MSME-DI), at Guwahati
AFRI, Jodhpur	Tree Growers' Mela	21 March 2017	Jodhpur
AFRI, Jodhpur	Paschimi Rajasthan Hastship Udhog Mela	3-12 February 2017	Jodhpur
AFRI, Jodhpur	Kisan Mela	7 February 2017	Agriculture Research Centre, Mandore, Jodhpur
HFRI, Shimla	Kisan Mela	20 February 2017	Shimla
IFP, Ranchi	Exhibition cum Kisan Mela	10 February 2017	Indian Institute of Natural Resin and Gum (IINRG), Ranchi



**RFRI, Jorhat showcased the Research & Development activities in the Exhibition of "MSME Expo"**



**HFRI, Shimla organized a Kisan Mela**

## CONSULTANCIES

### ICFRE, Dehradun

- Monitoring of NTPC Accelerated Afforestation programme of 10 million trees in the states of Madhya Pradesh, Maharashtra, Assam, Karnataka, Andhra Pradesh, Telangana and Bihar - funded by National Thermal Power Corporation (NTPC) Ltd.
- Additional study (less than 10 MW HEPs) under CEIA Study of Hydroelectric Projects in Sutlej Basin in Himachal Pradesh funded by MoEF&CC, New Delhi.



Monitoring of NTPC : Accelerated afforestation programme

## VISITS ABROAD

Name of personnel	Institute	Purpose of visit	Duration	Place
Dr. Shambhavi Yadav	FRI, Dehradun	8 <sup>th</sup> World Congress on Agriculture and Horticulture	2 and 3 March 2017	Amsterdam, Netherlands
Pankaj Singh	IFB, Hyderabad	Molecular Characterization of Mushroom Polysaccharide	9-24 March 2017	Zhengzhou, China
Dr. R.S. Rawat	ICFRE, Dehradun	South-South Learning Workshop on 'Forest Reference Level (FRL) Assessment Process in Asia and the Pacific'	10-12 April 2017	Pokhara, Nepal
V.R.S. Rawat	ICFRE, Dehradun	Bonn Climate Change Conference May 2017	8-18 May 2017	Bonn, Germany
Dr. Rashmi & Dr. Meena Bakshi	FRI, Dehradun	Forest Sector Innovations for a Greener future	12-16 June 2017	Vancouver, Canada
Dr. Manisha Thapliyal	FRI, Dehradun	To attend Inception Meeting of Higher Education for Mountain Agriculture Work Group (HIMALICA)	21-22 February 2017	Nepal
Dr. N.S.K. Harsh	FRI, Dehradun	Health Assessment of Heritage Trees at the Ta-Prohm Site in Siem Reap and Imparting Training to Cambodian Staff	17-23 April 2017	Cambodia
Dr. A.K. Sethy	IWST, Bengaluru	Workshop at the University of Ljubljana, Slovenia for Maria Sklodowska Curie Fellowships	30 May -1 June 2017	Slovenia
Dr. M.Z. Singzon	ACRBR, Aizwal	REDD+ Himalaya Project Partners meeting	19-20 June 2017	Kathmandu, Nepal
Dr. Ombir Singh	FRI, Dehradun	8 <sup>th</sup> World Congress of Allelopathy (WCA)	24-28 June 2017	Marseille, France

## WORKSHOPS/ SEMINARS/ MEETINGS

Sl. No.	Topic	Duration	Beneficiaries
<b>Indian Council of Forestry Research and Education, Dehradun</b>			
1.	Monitoring of NTPC Accelerated Afforestation Programme of Plantation of 10 Million plantation in Seven States	18 April 2017	-
2.	Environmental Impact Assessment Study of Hydroelectric Projects in Sutlej Basin in Himachal Pradesh	17 May 2017	-
<b>Forest Research Institute, Dehradun</b>			
3.	“ICFRE’s Initiatives towards Enhancing Country’s Green Cover and Wood Production of High Yielding Germplasm of Tree Species”	16 January 2017	FRI Scientists
4.	Medicinal plants: Cultivation and Marketing	17 March 2017	200 participants including farmers
<b>Institute of Forest Genetics and Tree Breeding, Coimbatore</b>			
5.	Scientific Writing	17 - 22 January 2017	12 scientists from various Universities and ICFRE institutes
6.	Important Timber Trees of India	9-10 February 2017	-
7.	Eucalypts Growing vs Moisture Draining: Comprehending Perceptions & Field Realities	3 May 2017	Foresters, academicians, scientists and researchers
8.	Biodiversity and Conservation - Status, Concern and Strategies	20 June 2017	-
<b>Institute of Wood Science and Technology, Bengaluru</b>			
9.	Tree Improvement Research in India: Current Trends and Future Prospects	2-3 February 2017	Forest Geneticists, breeders, scientists, managers, professional foresters
10.	Role of Wood in Climate Change Mitigation	15-16 February 2017	Industries and SFDs
<b>Rain Forest Research Institute, Jorhat</b>			
11.	Biodiversity Management plan and Regional Wildlife plan for Makum coal fields, Assam	15 March 2017	35 participants representatives from district administration, local Gram Panchayets, forest department, NGOs
12.	Dimension of Natural Resource Based Livelihood Development and Promotion in Tripura	28 March 2017	20 participants including senior officials from various departments, NGO’s, SHG’s and students
13.	REDD+ Activities	24 April 2017	ICIMOD officials
14.	Monitoring of NTPC Ltd. Accelerated Afforestation Programme on Plantation of 10 Million Trees in Seven Different States	5 May 2017	-
15.	Impact of <i>Mikania micrantha</i> on Native Forest Species and its Effective Management	18 May 2017	30 participants
16.	Assessment of Feasibility and Effectiveness of various Bamboo Preservation Techniques/Trials	24 June 2017	15 participants
<b>Arid Forest Research Institute, Jodhpur</b>			
17.	Sustainable Models of Agriculture and Tree Based Livelihoods for Western Rajasthan	22-23 February 2017	Officials of MPOWER



## TRAINING PROGRAMMES

Sl.No.	Topic	Duration	Beneficiaries
<b>Indian Council of Forestry Research and Education, Dehradun</b>			
1.	Economics & Marketing of Forest Produce at IIFM, Bhopal	13-17 February 2017	-
2.	Forest Genetics Resource Management and Conservation	13-17 February 2017	10 Scientists/RO
3.	Training on Accounts/Maintenance of Fixed Assets Registers for Ministerial S/O Assistants	20-22 February 2017	20 ministerial staff
4.	Basics of Climate Change and Carbon Sequestration	20-24 March 2017	30 research support staff from different institutes of ICFRE
5.	Germplasm Conservation and Documentation	20-24 March 2017	15 Research support staff
<b>Forest Research Institute, Dehradun</b>			
6.	Diagnosis of Soil for Production System	9-11 January 2017	Field officers/staff/stakeholders
7.	Conservation & Management of Coastal Ecosystem	9-13 January 2017	14 coast guard personnel/participants
8.	Handmade Paper	16-20 January 2017 and 6-10 March 2017	Various self groups from Kandi region of Punjab
9.	Tree Seed and Nursery Technology	20 – 24 February 2017	Personnel of State Forest Department, Odisha
10.	Artificial Cultivation of Mushroom	17 -19 April 2017	13 participants
11.	“Essential Oils, Perfumery & Aromatherapy”	12-16 June 2017	34 participants from different corners of India
12.	Agroforestry Development and Commercial Forestry	28-30 June 2017	30 participants belonging to middle and senior level staff



**Organizers and participants of Training Course on Tree Seed and Nursery Technology**



Organizers and participants of Training programme on Agroforestry and Commercial Forestry

Tropical Forest Research Institute, Jabalpur			
29.	Nursery Techniques of <i>Buchanania lanzan</i> (Chironji) and Wasteland Utilization	4 January 2017 6 January 2017	Farmers at Bangaon village Farmers/villagers at Kundalikhurd village
30.	Agroforestry Systems	9-13 January 2017	Under Graduate students of Forestry
31.	Digital Payments	12 January 2017	All officials
32.	उन्नत नर्सरी तकनिक, वृक्षसुधार, कृषि वानिकी एवं वन रोपणियों / वृक्षारोपणों के कीटों तथा रोगों का समन्वित प्रबंधन	23-24 January 2017	Farmers and frontline staff of SFDs
33.	Farmer Friendly Biopesticides, Wasteland Utilization” and “NTFPs Harvesting, Processing and Value Addition	24 January 2017	Women of Khanswada village
34.	Nutritional Potential of <i>Moringa oleifera</i> Leaves and Prospects of its Value Addition	2 February 2017	65 Anganwadi workers (women)
35.	पौध उत्पादन एवं रोपणी प्रबंधन	7-9 February 2017	20 SHG members
36.	Tree Planting (Agroforestry) and its Management	22-23 February 2017	Farmers
37.	Pollinators/Farmer Friendly Insects and Biopesticides (IPM)	22 February 2017 28 February 2017	20 farmers 16 farmers
38.	उन्नत नर्सरी, वृक्ष सुधार तकनिक, कृषि वानिकी एवं वृक्षा रोपणों द्वारा कार्बन सिक्वेस्ट्रेशन "and" महत्वपूर्ण औषधीय पौधों की कृषित कनिक, मूल्य संवर्धन तथा वन रोपणियों के कीटों तथा रोगों का समन्वित प्रबंधन	28 February - 1 March 2017	65 farmers and frontline staff of state forest department
39.	Training cum Awareness Programme Scheme on “Improved collection and processing methods of <i>Madhuca indica</i> flowers and prospects of its value addition	22 March 2017 24 March 2017	38 women participants 33 women participants
40.	Biodiversity Conservation and Environmental Awareness	15 February 2017 16 February 2017 22 May 2017 5 June 2017	120 school students of Govt. Middle School, and farmers 100 students and farmers 51 farmers and other villagers 30 participants
41.	Sustainable Harvesting, Processing and Value Addition of NTFPs	28-30 June 2017	16 participants

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

13.	Tree Cultivation and Management Techniques	5 January 2017	752 participants including Tree growers, Progressive farmers, Farmer discussion groups, Tree Grower Associations, Private Nurseries etc
14.	Vegetative Propagation	30 January 2017	30 officials of Tamilnadu Forest department
15.	Tree Improvement	30 January 2017	30 officials of Tamilnadu Forest department
16.	Implications of Biological Diversity Act, 2002	1-3 February 2017	30 participants
17.	Tree Cultivation and Management Techniques	22 February 2017	900 farmers
18.	Germplasm Conservation and Documentation	20-24 March 2017	14 Research support staffs
19.	Summer Internship	15-31 May 2017	10 students, research scholars from various colleges, University
20.	Microbiology	22-25 May 2017	11 PG students from various colleges
21.	Forest Genetic Resource Management	12-16 June 2017	18 officers

### Institute of Forest Biodiversity, Hyderabad

68.	VVK Training	2 February 2017	10 farmers participated
69.	Medicinal Plants Cultivation in Agroforestry	17 February 2017	Farmers

### Institute of Wood Science and Technology, Bengaluru

22.	Advances in Wood Production and Utilization	9-13 January 2017	14 participants from all over India
23.	Statistical Methods in Forestry	12-13 January 2017	18 participants
24.	Field Identification of Important Timber Species	6-10 February 2017	KFD, TFD and INTACH, New Delhi
25.	Sandalwood – Seed handling, Nursery & Plantation Technology	27 February – 3 March 2017	45 participants
26.	Instrumentation Techniques for Phytochemical Analysis	15-17 March 2017	For the students
27.	Sandalwood Cultivation and Other Forestry Related Aspects	16 March 2017	45 farmers participant
28.	Tissue Culture of Bamboo	5-7 April 2017	-



**Farmers training programme on Tree Cultivation and Management Techniques**



**Short term training programme on Field Identification of Important Timber Species**

### Arid Forest Research Institute, Jodhpur

55.	New Techniques in Forestry and Agroforestry	15-16 February 2017	40 Forest Guards of SFD
56.	Improvement of Fodder Productivity by Cloning Selected Female Ardu through Grafting	1-2 March 2017	32 trainees including Farmers, Forest Rangers and Foresters
57.	Wild Animal Rescue and Rehabilitation	24-26 March 2017	Veterinary doctors and field foresters

### Himalayan Forest Research Institute, Shimla

58.	Biodiversity Assessment, Monitoring and Conservation	30 January to 1 February 2017	Officials
59.	Seed and Nursery Techniques of Juniper, Conifers and High Altitude Medicinal Plants	2- 4 February 2017	21 officials
60.	Integrated Approaches towards Sustainable Management of Natural Resources and Organic Farming	20 - 21 February 2017	Farmers
61.	Mass Production of Kaphal Stock in the Nursery	27 February 2017	31 farmers
62.	Integrated Approach for Sustainable Development of Fragile Desert Ecosystem	19-23 June 2017	18 Forest Officers



**Training Programme on Biodiversity Assessment, Monitoring and Conservation at HFRI, Shimla**



**Training Programme on Seed and Nursery Techniques of Juniper, Conifers and High Altitude Medicinal Plants at HFRI, Shimla**

### Institute of Forest Productivity, Ranchi

63.	Raising, Management and Marketing of Bamboos for the Farmers of Jharkhand and its Adjoining States	23- 27 January 2017	Farmers
64.	Agroforestry and Model Nursery	6 -8 March 2017	-
65.	Bamboo Handicraft	16-17 March 2017	-
66.	15 local level trainings were organized in 9 Forest Divisions of Bihar under Agroforestry Capacity Building Project of Bihar	April 2017	631 farmers and 30 forest officials.
67.	Dissertation Training Programme on "Basics of Plant Molecular Biology Techniques"	1-30 June 2017	Kalinga Institute of Industrial Technology University (KIIT), Bhubaneswar, Orissa St. Xavier's College, Ranchi, Jharkhand Sam Higginbottom University of Agriculture, Technology and Sciences, Allahabad 211007

## Rain Forest Research Institute, Jorhat

42	Apiculture	5 January 2017	15 participants
43	Vermicomposting	10 January 2017	10 participants, SHG
44.	Community Approach towards Development of Forest based Livelihood Options	30 January to 5 February 2017	JFMC members and field staffs
45.	Bamboo Shoot and Edible NTFPs and Entrepreneurship Development	6 - 8 February 2017	20 participants
46	Lac Cultivation and Processing	9_10 February 2017	-
47.	Bamboo Propagation, Nursery Management & Bamboo Preservation Techniques	15 February 2017	Forest Guard trainees
48.	Bamboo Shoot and Edible NTFPs and Entrepreneurship Development	22 -24 February 2017	-
49.	Nursery, Plantation Management & Artificial Inoculation of Agar Trees	23-24 February 2017	Farmers
50.	Global Positioning System in monitoring Biodiversity	28 - 29 March 2017	-
51.	Value addition of <i>Manilkara hexandra</i>	16-19 April 2017	SFDs and Prabhu Foundation
52	Lac Cultivation and Processing	7- 8 June 2017	30 participants
53.	Wild Edible Mushrooms Cultivation	20- 24 June 2017	25 participants
54	Skill Development	27 June -9 July 2017	Eri Entrepreneurs



**Training on "Bamboo Propagation, Nursery Management & bamboo preservation techniques, RFRI, Jorhat**



**Skill Development training on Lac Cultivation and Processing at Chessa VVK, Arunachal Pradesh**



**Skill Development Training on Lac Cultivation and Processing at Ram Krishna Mission, Deomali, Jorhat**



**Skill Development Training for Eri Entrepreneurs at RFRI, Jorhat**

## VISIT OF DIGNITARIES

### FRI, Dehradun

- Shri Ajay Narayan Jha, Secretary, Ministry of Environment, Forest and Climate Change, Govt. of India visited FRI on 31 January 2017.
- Shri Suresh Prabhu, Hon'ble Minister of Railways, Govt. of India visited FRI on 13 May 2017.



**Shri Suresh Prabhu, Hon'ble Minister of Railway, Govt. of India at FRI Dehradun**

- H.E. Mr. Philippe Le Gall, High Commissioner of Republic of Seychelles visited FRI on 23 June 2017.

### AFRI, Jodhpur

- Dr. S.S. Negi, IFS, Director General of Forest & Special Secretary, (Ministry of Environment, Forest & Climate Change, Govt. of India) visited AFRI on 23 January 2017 and reviewed research, education and extension work and addressed scientists and officers of AFRI and gave future directions.
- Shri Ajay Narain Jha, Secretary, MoEF & CC, Govt. of India New Delhi visited AFRI, Jodhpur on 20 February 2017.
- Smt. Somita Biswas, CEO, NMPB New Delhi visited AFRI Jodhpur and reviewed the ongoing and completed projects funded by NMPB. A field demonstration was given to show the guggul gum tapping with ethephone injection method in the AFRI campus.

### HFRI, Shimla

- A 14 member high level delegation headed by His Excellency Dr. Gemedo Dalle, Minister of Environment, Forests & Climate Change and His Excellency Kebede Yimam, State Minister, Environment, Forests & Climate Change, Government of Ethiopia, visited HFRI, Shimla on 17 March 2017.
- Shri S.S. Negi, IFS, Principal Chief Conservator of Forests and Head of Forest Force, Himachal Pradesh Forest Department and Dr. V.R.R. Singh, Additional Principal Chief Conservator of Forests, Himachal Pradesh Forest Department visited the Institute for

inauguration of Kisan Mela organized by HFRI, Shimla on 20 February 2017.

## DIRECTOR GENERAL VISITS

### RFRI, Jorhat

- Dr. Suresh Gairola, IFS, Director General, ICFRE visited RFRI, Jorhat from 31 May to 1 June 2017. During his visit, he inaugurated Computer Laboratory and Digital Library of the institute. He interacted with scientists and research workers for know about the research and development activities of the Institute.



**Dr. Suresh Gairola, IFS, DG, ICFRE inaugurated Computer Laboratory and Digital Library at RFRI, Jorhat.**

### IWST, Bengaluru

- Dr. Shashi Kumar, IFS Director General, ICFRE visited

## CLIMATE CHANGE AND REDD+

### ICFRE, Dehradun

**Orientation Programme on 'Process of Developing State REDD+ Action Plan for Mizoram'** was organised at Advanced Research Centre for Bamboo and Rattan (ARCBR), Aizawl (Mizoram) in collaboration with International Centre for Integrated Mountain Development (ICIMOD), Kathmandu (Nepal) from 9 to 10 March 2017. The programme was attended by 20 participants from ICIMOD, ICFRE, Dehradun, RFRI, Jorhat Assam, Mizoram State Forest Department, ARCBR, Aizawl (Mizoram) and Mizoram University.



**Participants of the orientation programme**

## MISCELLANEOUS

Institute	Special day/theme	Duration
HFRI, Shimla	National Productivity Week	12 to 18 February 2017
AFRI, Jodhpur	World Water Day	22 March 2017
RFRI, Jorhat	World Earth Day	22 April 2017
AFRI, Jodhpur		
FRI, Dehradun	International Biodiversity Day- 2017	22 May 2017
IFGTB, Coimbatore	 <p><b>Celebration of International Biodiversity Day at FRI, Dehradun</b></p>	 <p><b>Celebration of International Biodiversity Day at RFRI, Jorhat</b></p>
RFRI, Jorhat		
IFP, Ranchi		
HFRI, Shimla		
AFRI, Jodhpur		
IWST, Bengaluru		
RFRI, Jorhat	Nature Trail	28 May 2017
FRI, Dehradun	World Environment Day	5 June 2017
IWST, Bengaluru	 <p><b>Celebration of World Environment Day at IWST, Bengaluru</b></p>	 <p><b>Celebration of World Environment Day at RFRI, Jorhat</b></p>
AFRI, Jodhpur		
TFRI, Jabalpur		
RFRI, Jorhat		
IFB, Hyderabad		
HFRI, Shimla		
IFGTB, Coimbatore		
HFRI, Shimla	International Day of Forests	21 March 2017
FRI, Dehradun	International Forestry Day	31 March 2017
IFGTB, Coimbatore	Dr. B.R. Ambedkar's 126 <sup>th</sup> Birth Anniversary	19 April 2017
FRI, Dehradun	Nation Technology Day	11 May 2017
RFRI, Jorhat	Swachh Bharat Abhiyan	14 June 2017
	 <p><b>Swachh Bharat Abhiyan at RFRI, Jorhat</b></p>	 <p><b>126<sup>th</sup> Birth Anniversary celebration of Bharat Ratna Dr. B.R. Ambedkar at IFGTB, Coimbatore</b></p>

IFP, Ranchi	Swachh Bharat Abhiyan	15 to 20 June 2017
AFRI, Jodhpur	World Day to combat Desertification	17 June 2017
HFRI, Shimla		
TFRI, Jabalpur	International World Yoga Day	21 June 2017
FRI, Dehradun		
IFP, Ranchi		
HFRI, Shimla		
RFRI, Jorhat		



**Celebration of National Productivity Week at HFRI, Shimla**



**CFLE, Agartala celebrated World Earth Day**



**HFRI, Shimla celebrated International Yoga Day**

## PUBLICATIONS

### FRI, Dehradun

- Burma Drek
- *Poplar Satavar ke Krishi Prarup ka Arthik Anklan*
- *Poplar Ganna Chari Ke Krishi Prarup ka Arthik Anklan*

### IFGTB, Coimbatore

Training, manuals on

- 'Biological Diversity Act, 2002'
- 'Forest Genetic Resource Management'.

### IWST, Bengaluru

- Ficus trees in semiarid agro-ecosystems of Karnataka
- Gem of Peninsular India: Sandalwood
- Sandalwood tree-pests and disease and their management
- Information brochure of IWST
- Pamphlets on Wood Seasoning in Kannada language
- Pamphlets on Nursery Practices in Kannada language

### TFRI, Jabalpur

#### Technical Bulletins

- Pictorial Catalogue of Insect Reference Collection
- *Boswellia serrata*
- Trees for Road-side plantation

### HFRI, Shimla

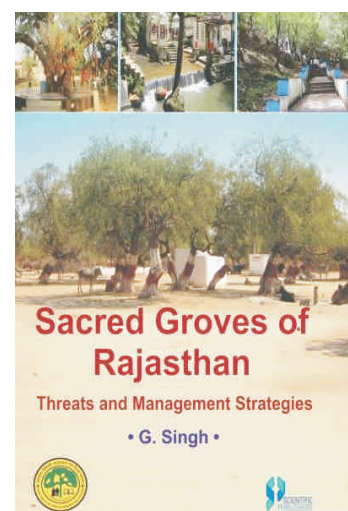
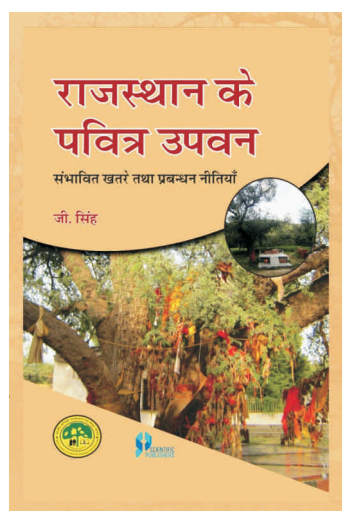
- *Saussorea costus*: A Potential Medicinal Plant.
- मकड़ालय

- Arachnarium at TFRI (English)
- *Litsea glutinosa* (English)
- मैदाछाल(Hindi)
- Forest interpretation centre & museum at TFRI
- वानिकी परिचय केन्द्र एवं संग्रहालय (Hindi)

### AFRI, Jodhpur

#### Books

- राजस्थान के पवित्र उपवन: संभावित खतरे तथा प्रबन्धन नीतियाँ। साइंटिफिक पब्लिशर, जोधपुर, राजस्थान, इंडिया। p.349.
- Sacred Groves of Rajasthan: Threats and Management Strategies. Scientific Publisher, Jodhpur Rajasthan India. p.295.





## POPULARIZING FORESTRY THROUGH ALL INDIA RADIO/DOORDARSHAN

Programme topic	Channel	Date
<b>Forest Research Institute, Dehradun</b>		
A radio talk to disseminate the research technologies developed by FRI Scientists	AIR, Nazibabad	-
A TV talk to disseminate the research technologies developed by FRI Scientists	Prasar Bharati (Broadcasting Corporation of India), Doordarshan Television	-

## ACCREDITATION OF UNIVERSITIES

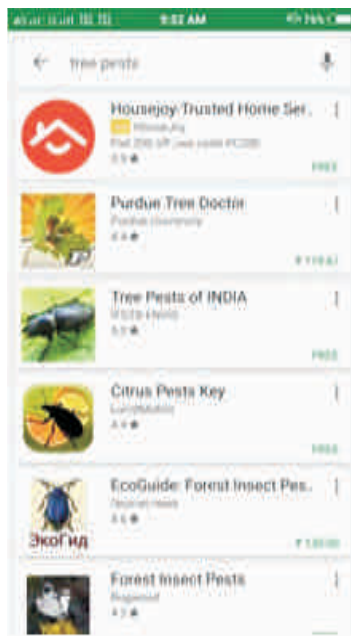
- 21 State Agricultural Universities were accredited by the Accreditation Board of ICFRE during 17 March 2017 and 9 June 2017.
- Rs. 12.60 lakhs were released to the 3 Universities i.e. Sher-E- Kashmir University, Srinagar (J&K), Navsari Agricultural University, Navsari (Guj.), HNB Garhwal Central University, Srinagar (UK) under "Networking Project on NTFP".

## INFORMATION TECHNOLOGY INITIATIVES

### Application

#### A Free Mobile APP on Tree Pests of India

An app was developed & launched to provide information on insect pests, their description, damage caused and symptoms and their managements strategies of 25 important tree species of India. Based on these information ENVIS IFGTB has developed a free mobile app on Tree pests of India.

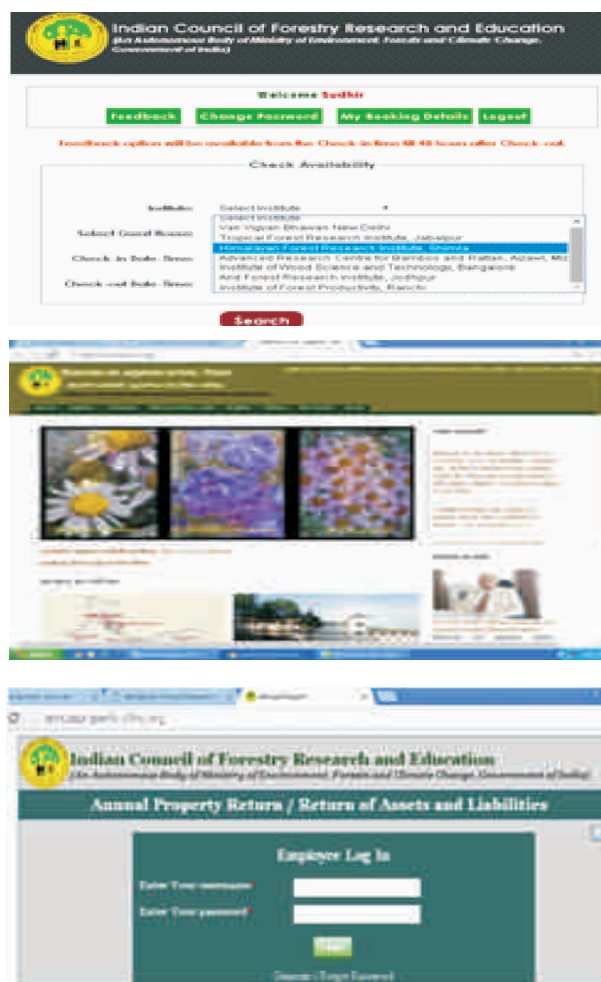


### New applications

- **Fixed Assets Database and Application:** This is developed for the keeping and viewing the data of fixed assets of all institutes including Vehicles and Scientific equipments.
- **Online Office Records (Orders/MoM/Agendas etc.) System:** This application is developed to keep and view the records related to office order, notifications, agenda, MoMs etc of ICFRE and its institutes/centers.
- **Complaint Management System:** Application is developed to lodge, track and better management of civil complaints of FRI Campus.

### New Portals:

- **Guest House Booking Portal:** Nine Guest Houses of 6 institutes of ICFRE were added to the Guest House Booking Portal for online booking of rooms during January-June 2017. URL of this portal is <http://bookingsystem.icfre.org/>.
- **Hindi website of HFRI (<http://hfrihindi.icfre.org/>):** New Hindi website of HFRI similar to English was designed and developed by IT Division, ICFRE and made live in March 2017.
- **Annual Property Returns Portal:** (<http://annualproperty.icfre.org/>): Portal is being used to upload and view the Annual Property return of all GROUP 'A' and 'B' officers of ICFRE and its institutes/centres.



## SCIENCE EXPRESS CLIMATE ACTION SPECIAL (SECAS)

- The Science Express Climate Action Special (SECAS) was stationed at the Karur Railway Station in Tamilnadu from 20 to 22 June 2017. The ENVIS stall witnessed more than 50,000 visitors during the three-day exhibition including students from various schools, colleges, teachers, railway employees and general public.

## AWARENESS AND DEMONSTRATION PROG. |||

### TFRI, Jabalpur

- TFRI Jabalpur and CFRHRD Chhindwara organized 18 demonstrations cum awareness programmes for various stakeholders including forest guard and students during 2 January 2017- 25 April 2017.

### AFRI, Jodhpur

- A demonstration cum training programme for three days from 16 to 19 April 2017 was organized for Small Help Group, Bhurki Devi Mahila, Jamboori (Constituted by SFD, Rajasthan and Prabhu Foundation, Sirohi) on value addition of *Manilkara hexandra* (Rayan) fruits. Training was imparted for collecting, cleaning, washing, maceration and drying of fruits.

### IFGTB, Coimbatore

- “Tree Rich Biobooster/ Coir Pith Disc Making Machine” procured to transfer the technology developed by IFGTB to the Irular tribal Women Self Help Groups (WSHG) of forest fringe villages in Coimbatore; train them to develop biobooster disc/pellet and establish marketing channel for their livelihood support. The programme was inaugurated by Shri. R.S. Prashanth, IFS, Director, IFGTB, Coimbatore on 9 May 2017 at IFGTB, Coimbatore. Coir pith disc, an alternate to potting mixture (Sand soil and FYM) is light weight, cost effective, usage less water and is, easy to transport as compared to the conventional potting mixture



Irular tribal Women Self Help Groups (WSHG) of Forest fringe villages in Coimbatore

## NEW VARIETIES RELEASED |||

The Variety Releasing Committee (VRC) of ICFRE was held under the Chairmanship of Dr. S.S Negi, DGF & SS, MoEF & CC, Government of India at New Delhi on 27 February 2017. The VRC considered the proposal from FRI, TFRI and IFGTB for release clones/varieties of *Melia dubia*, *Eucalyptus*, *Rauwolfia* and *Casuarina* respectively. Accordingly the following varieties were released :

- Five clones of *Casuarina* hybrids viz. IFGTB-CH-1, IFGTB-CH-2, IFGTB-CH-3, IFGTB-CH-4 and IFGTB-CH-5 developed by IFGTB, Coimbatore. The new clones will increase wood production by 30% in farmers' plantations with no additional input cost.
- Three varieties of *Eucalyptus tereticornis* namely FRI-Et-031, FRI-Et-032, FRI-Et-035 and ten varieties of *Melia dubia* developed by FRI, Dehradun were released.
- Two high yielding varieties of *Rauwolfia serpentina* namely TFRI-RS 1 and TFRI-RS 2 developed by TFRI, Jabalpur were released.



Variety Releasing Committee meeting at New Delhi

## HR NEWS

### Name & Designation

### Date

#### Appointments

#### Deputation

Dr. Rajeev Kumar Tiwari, C.F., ICFRE	02.01.2017
Smt. N. Usha, A.O., IFGTB, Coimbatore	02.02.2017
Shri J.S. Saxena, A.O., FRI, Dehradun	08.02.2017
Shri Narendra Kumar, A.O., ICFRE, Dehradun	08.02.2017
Shri Narendra Kumar Shringi, A.O., AFRI, Jodhpur	20.02.2017
Shri Shivakumar C.M., C.F., ICFRE, Dehradun	24.03.2017
Dr. S.C. Gairola, IFS, DG, ICFRE, Dehradun	28.03.2017
Shri Ramesh Kumar Malpani, DCF, AFRI, Jodhpur	11.04.2017
Smt. Neelima Shah, IFS, DCF, FRI, Dehradun	26.04.2017
Shri Rampal Singh, DCF, ICFRE	01.05.2017
Shri Chaturbhuj Behra, IFS, CF, TFRI, Jabalpur	01.05.2017
Shri G. Rajesh, IFS, C.F., IFGTB, Coimbatore	29.05.2017

#### Promotions

Shri Kartar Singh, FRO, HFRI, Shimla	18.01.2017
Shri Sangat Ram, FRO, HFRI, Shimla	19.01.2017
Smt. Poonam Pant, S.O., FRI, Dehradun	16.03.2017
Shri Jawahar Singh, S.O., FRI, Dehradun	16.03.2017
Shri Kuldeep Singh, S.O., FRI, Dehradun	16.03.2017
Shri Shiv Kumar, S.O., FRI, Dehradun	16.03.2017
Smt. Seema Rana, P.S., ICFRE, Dehradun	16.03.2017
Shri Rajendra Singh Bisht, ACF, FRI, Dehradun	23.03.2017
Shri Girish Chandra Bhandari, S.O., ICFRE, Dehradun	01.04.2017
Shri Vijay Kumar, ACF, FRI, Dehradun	01.04.2017
Shri V.K. Aahuja, S.O., FRI, Dehradun	03.04.2017
Shri Dalip Singh, S.O., FRI, Dehradun	01.05.2017
Shri R.K. Verma, S.O., ICFRE, Dehradun	01.06.2017
Shri Neeraj Kumar Gupta, S.O., FRI, Dehradun	07.06.2017
Smt. Archana Joshi, Sr. P.S., ICFRE, Dehradun	23.06.2017

#### Repatriation/Relieving from ICFRE

Dr. T.P. Singh, IFS, ADG(BCC), ICFRE, Dehradun	06.01.2017
Shri Surendra Pal Singh, FRO, FRI, Dehradun	10.01.2017
Dr. Alakjot Kaur, Sr. Medical Officer, FRI, Dehradun	31.01.2017
Shri Naresh Pal Singh Nain, DCF, TFRI, Jabalpur	31.01.2017
Shri Khem Singh, DCF, IWST, Bengaluru	17.02.2017
Shri Parmod Pant, ADG(IT&FS), ICFRE	08.03.2017
Shri Manoj Kumar Shukla, Director, CSFER, Allahabad	28.03.2017
Shri Atanu Shah, DCF, CFLE, RFRI, Jorhat	31.03.2017
Dr. G.S. Goraya, DDG(Research), ICFRE, Dehradun	05.04.2017
Shri Raja Ram Singh, ADG(M&Extn.), ICFRE, Dehradun	24.04.2017
Dr. K. Murugesan, IFS, DCF, IWST, Bengaluru	13.05.2017
Shri P. Subramanyam, IFS, CF, TFRI, Jabalpur	June 2017

#### Retirement

Dr. Y.P. Singh, Scientist-E, FRI, Dehradun	31.01.2017
Shri Deepak Das, R.O. Gd. I, IFP, Ranch	28.02.2017
Dr. T.S. Rathore, Scientist-G, AFRI, Jodhpur	31.03.2017
Ms Rashma Dewan, Under Secretary, FRI, Dehradun	31.03.2017
Shri Rajendra Singh Bisht, ACF, FRI, Dehradun	31.03.2017
Shri Ramesh Pal, S.O., FRI, Dehradun	31.03.2017
Dr. N.S.K. Harsh, Scientist-G, FRI, Dehradun	30.04.2017
Shri Jawahar Singh, S.O., FRI, Dehradun	30.04.2017
Dr. Parmod Kumar, Scientist-D, FRI, Dehradun	31.05.2017
Shri Dalip Singh, S.O., FRI, Dehradun	31.05.2017
Shri V.K. Sharma, S.O., FRI, Dehradun	30.06.2017
Shri K.L. Shindey, S.O., TFRI, Jabalpur	30.06.2017
Shri Chetan Swaroop, R.O. Gd. I, FRI, Dehradun	30.06.2017

#### Promotions under FCS (As on 1 January 2017)

##### From Scientist-B to Scientist-C

Dr. Swaran Lata, HFRI, Shimla
Shri Pitamber Singh Negi, HFRI, Shimla
Shri M.B. Honnuri, IFB, Hyderabad
Shri K.S. Venkataramanan, IFGTB, Coimbatore
Dr. Gaurav Mishra, RFRI, Jorhat
Shri Ajay Kumar, RFRI, Jorhat

Shri Dinesh Kumar Meena, RFRI, Jorhat

Dr. Krishna Giri, RFRI, Jorhat

Dr. Indrani P. Borah, RFRI, Jorhat

##### From Scientist-C to Scientist-D

Dr. Nawa Bahar, FRI, Dehradun

Shri Chandrashekar B.S., IWST, Bengaluru

Shri R. Raja Rishi, IWST, Bengaluru

Dr. N. Ravi, IWST, Bengaluru

Shri N.C.M. Rajan, IWST, Bengaluru

##### From Scientist-D to Scientist-E

Dr. Rashmi, FRI, Dehradun

Dr. Rakesh Kumar, FRI, Dehradun

Dr. Y.M. Dubey, FRI, Dehradun

Dr. Vijender Pal Panwar, FRI, Dehradun

Dr. Sangeeta Singh, AFRI, Jodhpur

Dr. A. Vijayaraghavan, IFGTB, Coimbatore

Smt. D. Venmalar, IWST, Bengaluru

Shri Ritesh Kumar D. Ram, IWST, Bengaluru

##### From Scientist-E to Scientist-F

Dr. Ashok Kumar, FRI, Dehradun

Dr. A.K. Sharma, FRI, Dehradun

Dr. Manisha Thapliyal, FRI, Dehradun

Dr. A.N. Singh, ICFRE, Dehradun

Dr. C. Bhuvaneshwaran, IFGTB, Coimbatore

Dr. Sanjay Singh, IFP, Ranchi

##### From Scientist-F to Scientist-G

Dr. Amit Pandey, FRI, Dehradun

Dr. V. Mohan, IFGTB, Coimbatore

Dr. Pankaj Kumar Aggarwal, IWST, Bengaluru

#### Transfer:

Name of Officer	From	To
Dr. Shailesh Pandey, Scientist-C	RFRI, Jorhat	FRI, Dehradun
Dr. S.C. Biswas, Scientist-C	RFRI, Jorhat	TFRI, Jabalpur
Dr. M.V. Durai, Scientist-B	IFGTB, Coimbatore	IWST, Bengaluru

#### FRI, Dehradun

- In the 11<sup>th</sup> Uttarakhand State Science and Technology Congress held at Vigyan Dham, Dehradun from 2 to 4 March 2017. Young Scientist Award was given to the following:
  - Research paper entitled "Utilization of Perilla Frutescens (L.) Britt. Aerial Biomass as a Source of Natural Dyes for Textile Applications" by Anita Pal, Rakesh Kumar and Y.C. Tripathi.
  - Research Paper entitled 'Chemical characterization of polysaccharide from Acacia tortilis gum exudates' by Ajeet Kumar Lakhera and Vineet Kumar was awarded the 'Young Scientist Award' in the 11<sup>th</sup> Uttarakhand State Science and Technology Congress held at Vigyan Dham, Dehradun from 2 to 4 March 2017.

#### RFRI, Jorhat

- Dr. R.K. Borah received the best paper award in International Conference on Natural Resources Management and Technology Trends (ICNRM-2017) held at Manipur University, Imphal from 27 to 29 March 2017 for the paper "An Innovative Approach of Artificial Induction in Aquilaria malaccensis Lamk. - the wonder tree of North-East India."

## Obituary

The ICFRE family deeply condoles the sudden and sad demise of Shri Yash Pal Bajaj, Senior Private Secretary, ICFRE, Dehradun on 19.05.2017 and Shri Ashwani Kumar Srivastava, Section Officer, CSFER Allahabad on 04.05.2017 and prays for the peace of the departed souls.

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# WORLD ENVIRONMENT DAY 2017

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