



**Indian Council of  
Forestry Research  
and Education**

# ICFRE NEWSLETTER

**Vol. 18 No. 5  
May 2018**

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### SIGNIFICANT RESEARCH FINDINGS:

#### Forest Research Institute, Dehradun

- Soil microbial biomass analysis of the restored sites is in progress under the project entitled "To act as technical advisor/expert for the ecological restoration works being undertaken by BCCL on OB dumps/mined out areas".
- Twenty five specimens of *Apanteles* spp. mounted on slides and five species of *Apanteles*: *A. creatonoti*, *A. ruidus*, *A. artonae*, *A. calyciniae*, *A. neocajani* have been identified up to species level. Slide preparation and species identification of other *Apanteles* spp. are in progress under the project "Studies on taxonomy and host range of larval *Parasitoids*, *Apanteles* spp. (Hymenoptera: Braconidae) from Uttarakhand and Haryana".
- Study on Biology and rearing, control measure, incidence & intensity of attack by *Chlorophorus annularis* continuing. Infested bamboo species collected from the field, examined and caged in wooden, chimney and outdoor cages. Survey and collection of damaged bamboo species are continuing under the project "Epidemiology and management of *Chlorophorus annularis* Fab. (Coleoptera: Cerambycidae) –A major borer of cut and dry bamboo".
- Investigation on the status of different beneficial microbes associated with the rhizosphere of *Gmelina arborea* and to determine their efficacy for plant growth promoting (PGP) traits and bio-control abilities against the soil borne plant pathogen, *Fusarium oxysporum* under in vitro revealed the association of five Actinomycetes, ten Bacteria and nine Fungi with different morphological characters. These microbes were screened for different Plant Growth Promoting (PGP) traits, such as phosphate solubilization efficacy and phyto hormone (IAA) production under in vitro. Maximum phosphate solubilization efficacy was recorded with 2 Actinomycetes isolates, 2 bacterial isolates and 1 fungal isolate. Similarly, significant amount of IAA production was also observed with Actinomycetes followed by Fungi and Bacteria. Based on these findings, the potential isolates were further screened to test their bio-control efficacy against selected plant pathogenic fungus,
- 150 species of beetles were digitized. Database was updated for editing species holding data in the database and work on eulophid species which made vein galls on the leaves of *Madhuca longifolia* continued under the project "Digitization and enrichment of National Forest Insect Collection (NFIC) of Forest Research Institute, Phase-II (minute insects).
- Poplar clones of different organizations (GB Pant University and WIMCO) have been collected. Nursery range is prepared and maintenance of clones is continued under the project "Screening of poplar clones for tolerance against poplar leaf defoliator, *Clostera cupreata* But".

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

- "*Gmelina Arborea* rhizomicrobiome a potent plant growth promoter and antagonistic agent against the plant pathogenic fungus, *Fusarium Oxysporum*".

*F. oxysporum* and it was found that the Actinomycetes isolate exhibited maximum inhibitory effect (A3- 76%), followed by fungal isolate (F9-70%) and bacterial isolate (B3-51%). The potential isolates were identified as *Streptomyces* sp. (A3); *Penicillium* sp. (F9) and *Rhizobium* sp. (B3) based upon their morphological and biochemical characters. These potential isolates as bio-fertilizer and bio-control products will be tested in nursery and field conditions for management of soil and root borne pathogens as well as to improve the growth and survival of economically important trees and other medicinal plants.

#### Arid Forest Research Institute, Jodhpur

- Data analysed for six male and female (each) Ardu leaflet trichomes revealed that male have higher average number of trichomes per unit area ( $\text{mm}^2$ ) in all portion of leaf (Approx  $18.5 \pm 1.1$ , Middle  $17.7.4 \pm 0.9$  and Basal  $9.0 \pm 1.2 \text{ mm}^2$ ) as compared to female (Approx  $11.0 \pm 0.5$ , Middle  $22.0 \pm 0.6$  and Basal  $10.6 \pm 0.6 \text{ mm}^2$ )
- Soil pH, electrical conductivity, soil available phosphorus, ammonium nitrogen, nitrate nitrogen and exchangeable potassium in upper 0-30 cm soil samples (collected along Jojri, Bandi and Luni Rivers) were 8.62 unit,  $4.01 \text{ dSm}^{-1}$ ,  $16.21 \text{ mg kg}^{-1}$ ,  $2.83 \text{ mg kg}^{-1}$ ,  $1.21 \text{ mg kg}^{-1}$  and  $219.2 \text{ mg kg}^{-1}$  respectively. The respective value in 30-60 cm was 8.33 unit,  $2.46 \text{ dS m}^{-1}$ ,  $9.65 \text{ mg kg}^{-1}$ ,  $1.60 \text{ mg kg}^{-1}$ ,  $0.75 \text{ mg kg}^{-1}$  and  $189.9 \text{ mg kg}^{-1}$ . Soil pH, electrical conductivity and soil available  $\text{PO}_4\text{-P}$  were highest in the soils along Bandi River, whereas available ammonium nitrogen, nitrate and potassium were highest along Jojri River. Soil pH was lowest along Jojri river, EC,  $\text{PO}_4\text{-P}$  and K were lowest along Luni Rivers, and available  $\text{NH}_4\text{-N}$  and  $\text{NO}_3\text{-N}$  were lowest along the Bandi River. This indicates a wide variability of soil parameters influenced by the effects of flowing effluents and climatic conditions along these rivers in western Rajasthan.

#### Himalayan Forest Research Institute, Shimla

- Surveys conducted during the current year for the collection of moth samples in different parts of Chirpine forest of Jammu province, brought the total collection to 203 specimens in all under the externally funded project. This collection, when sorted out revealed the presence of 57 different species of Noctuid moth for the region. Data on distributional status when subjected to statistical analysis reflected

the presence of *Helicoverpa armigera*, *Plusiodonta auripicta*, *Euproctis witella*, *Thysanoplusia nigrisinha*, *Asota caricae*, *Trichoplusia orichalcea*, *Aemene taprobanis*, *Cretonotos traniens*, *Dichromia pullata*, *Spilosoma oblique*, *Calyptera emarginata*, *Dysgonia latifascia*, *Euxoa aequalis*, *Agrotis ipsilon*, *Hypocala deflorata*, *Olipa ricini*, *Digama hearseyana*, *Aloaspp.*, *Hypena abussimilis*, *Fadina pullula*, *Lyphmna attarnes*, *Argina astrea*, *Eupterote* spp., *Cyana puella*, those are the most prominent ones in the area.

#### PROJECT CONCLUDED DURING THE MONTH:

##### FRI, Dehradun

- "Integration of Hybrid Solar Thermal Energy Storage System in a Booster Reflector Augmented Green House type Solar Timber Dryer" funded by Science and Engineering Research Board (SERB).
- "Studies on natural durability of plantation grown species with conventional/eco-friendly preservatives ZiBOC". FRI-598/FPD(WP)-91

#### PUBLICATION:

- IFGTB, Coimbatore released brochure on "Precious Trees of India- Series II", made by the ENVIS Centre on Forest Genetic Resources and Tree Improvement on 22 May 2018.

#### VISIT OF DIGNITARIES:

- Shri Siddhanta Das, IFS, Director General of Forest & Special Secretary, MoEF&CC, Dr. S.C. Gairola, IFS, Director General, ICFRE, Dehradun and Dr. Savita, IFS, Director, FRI, Dehradun visited IFGTB, Coimbatore on 7 May 2018.

#### CONSULTANCIES:

**Indian Council of Forestry Research and Education, Dehradun**  
Presently works on 11 consultancy projects, which are awarded by Tehri Hydro Development Corporation India Ltd; Himachal Pradesh Power Corporation Limited; Karnataka State Official Authority; Uttarakhand Jal Vidyut Nigam Limited (UJVNL); MoEF&CC Gol, New Delhi; Coal India Limited, Kolkotta; NTPC Ltd Noida and CMPDI Ranchi, NMDC Ltd. Hyderabad and are in progress.

**WORKSHOPS/ SEMINARS/ MEETINGS:**

Sl. No.	Topic	Duration	Beneficiaries
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**Forest Research Institute, Dehradun**

1.	Biodiversity conservation and its utilization	29 May 2018	41 Participants
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**Seminar on Biodiversity conservation and its utilization at FRI, Dehradun**

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

2.	Towards Resilient Ecosystems: The Role of Forestry Research	8 and 9 May 2018	-
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**Arid Forest Research Institute, Jodhpur**

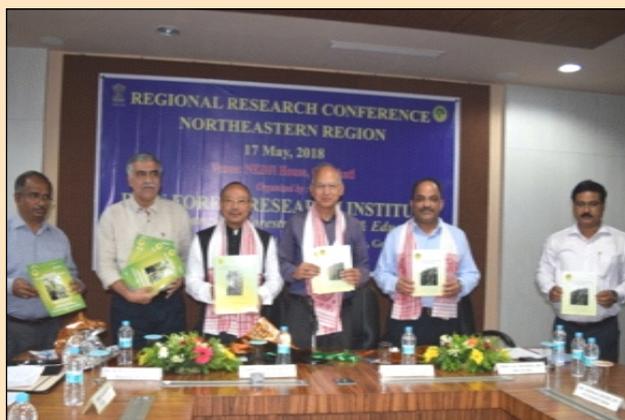
3.	Environment and Plastic Pollution	1 day	Staff of AFRI, SFD Rajasthan and NGO's
4.	Stakeholders' Consultation Workshop	12 May 2018	55 delegates, Forest officers, wood Industries, farmers, NGO's Researchers, etc.



**Workshop on Stakeholders' Consultation at AFRI, Jodhpur**

**Rain Forest Research Institute, Jorhat**

- |    |                              |             |  |
|----|------------------------------|-------------|--|
| 5. | Regional Research Conference | 17 May 2018 | members of Academia, Government and Non-Government Institutions related with forestry research and development |
|----|------------------------------|-------------|--|



**Regional Research Conference at RFRI, Jorhat**

**Himalayan Forest Research Institute, Shimla**

- |    |  |                   |   |
|----|--|-------------------|---|
| 5. | Nursery Development and Seed Technology for Junipers                           | 16 May 2018       | officers and field staff of Sarahan Wildlife Division               |
| 6. | Managing Forest and Forest Products for Livelihood Support and Economic Growth | 4 and 29 May 2018 | scientists, officers including research and technical support staff |

**Institute of Forest Productivity, Ranchi**

- |    |   |             |   |
|----|---|-------------|---|
| 7. | Identification of research needs for Eastern Regions        | 15 May 2018 | State Forest Officer, Scientists, NGOs, Progressive Farmers, Researchers from Institutions and Academicians |
| 8. | Propagation and conservation of vulnerable medicinal plants | 30 May 2018 | All Officers/ Scientists/ Technical Staffs/ Research Scholars, etc.   |

**Forest Research Centre for Livelihood Extension, Agartala**

- |    |                      |             |                                |
|----|----------------------|-------------|--------------------------------|
| 9. | Consultation meeting | 28 May 2018 | stake holders in bamboo sector |
|----|----------------------|-------------|--------------------------------|

**TRAININGS:**

Sl. No.	Topic	Duration	Beneficiaries
<b>Institute of Forest Genetics and Tree Breeding, Coimbatore</b>			
1.	Microbiology, GIS & Remote sensing	14 to 30 May 2018	-
2.	Bioprospecting module and Molecular and biochemical characterization of FGR species	28 to 30 May 2018	-
3.	Forest Seed Technology	29 and 30 May 2018	41 trainees of ACF, CASFOS, from SFD
<b>Rain Forest Research Institute, Jorhat</b>			
4.	Wild Edible Mushroom Cultivation	1 to 5 May 2018	About 17 participants
			
<b>Training on Wild Edible Mushroom Cultivation at RFRI, Jorhat</b>			
<b>Institute of Forest Productivity, Ranchi</b>			
5.	Livelihood Generation Through Agroforestry	2 May 2018	40 Farmers and 01 Forest Official of Araria Forest Division, Araria
6.	Agroforestry Systems and livelihood generation	5 May 2018	26 Farmers and 01 Forest Official of Tirhut Forest Division, Tirhut

**VISIT ABROAD:**

Name	Institute	Purpose of Visit	Duration	Place
Dr. V.P. Tewari, Director	HFRI, Shimla	Forest Ecosystems Spring Workshop 2018	22 -25 May 2018	Beijing, China

**DIRECTOR GENERAL VISIT:**

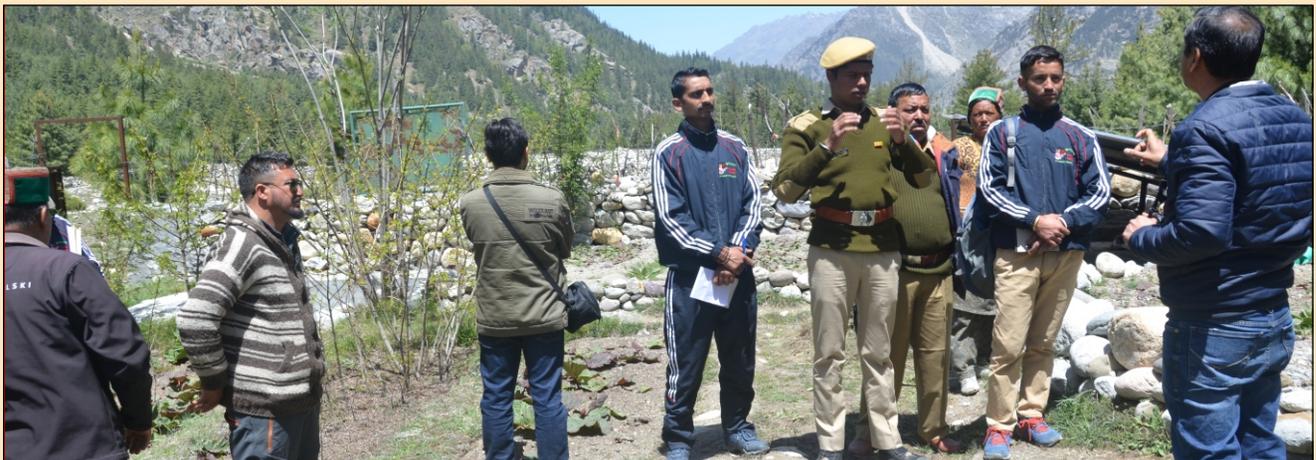
- Dr. S.C.Gairola, IFS, Director General, Indian Council of Forestry Research & Education, Dehradun & Chancellor of Forest Research Institute University, Dehradun visited IFP, Ranchi on 14 May 2018.



Dr. S.C.Gairola, IFS, Director General,ICFRE, Dehradun visited IFP, Ranchi

**DEMONSTRATION PROGRAMMES:**

- Demonstration on “Forest Meteorological Observatory” was given by FRI, Dehradun to B. Sc. Agriculture Students of Dolphin PG College Dehradun. These student were also exposed to Soil Museum and Labs.
- HFRI, Shimla organized demonstration programme on Macro-proliferation technique of Kutki Multiplication at Forest Nursery Rakcham, Kinnaur (HP) on 17 May 2018 for the benefit of Field staff of Sarahan Wildlife Division.



Demonstration programme on Macro-proliferation technique of Kutki Multiplication at Forest Nursery Rakcham, Kinnaur (HP)

**MISCELLANEOUS :**

Institute	Special day/ Theme	Duration
FRI, Dehradun	National Technology Day	11 May 2018
FRI, Dehradun		
AFRI, Jodhpur		
RFRI, Jorhat	International Biodiversity Day	22 May 2018
HFRI, Shimla		
IFP, Ranchi		
FRC-LE, Agartala		
IFP, Ranchi		18 May 2018
HFRI, Shimla	Swachh Bharat Abhiyan	30 May 2018
FRC-BR, Aizawl		31 May 2018



Celebrate International Biodiversity Day at FRI, Dehradun



Celebrate International Biodiversity Day at RFRI, Jorhat



Observed Swachh Bharat Abhiyan at FRC-BR, Aizawl

**HR NEWS :**

**Repatriation**

Name of Officer	Date of Joining
Ms. Praneetha Paul, IFS, DCF, IWST, Bengaluru	31.05.2018

**Retirement/ Voluntary Retirement**

Name of Officers	Date of Retirement
Shri Ram Bahadur Singh, ACTO, FRI, Dehradun	31.05.2018
Shri P. K. Kapoor, Section Officer, ICFRE, Hqr.	31.05.2018

**Voluntary Retirement**

Dr. Ashutosh Srivastava, Sci. - E, IWST, Bengaluru	12.05.2018
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**Transfer**

Name of Officer	From	To
Dr. Geeta Joshi, Sci. - F	IWST, Bengaluru	TFRI, Jabalpur
Dr. Yogeshwar Mishra, Sci.- F	TFRI, Jabalpur	IFP, Ranchi
Dr. N. Bala, Sci.- F	AFRI, Jodhpur	FRI, Dehradun
Dr. Arun Kumar A.N., Sci. - E	IWST, Bengaluru	TFRI, Jabalpur
Dr. S. Saravanan, Sci. - E	IFGTB, Coimbatore	TFRI, Jabalpur
Dr. Parveen, Sci.- E	FRI, Dehradun	AFRI, Jodhpur
Dr. Maheshwar T. Hedge, Sci.- E	IFGTB, Coimbatore	AFRI, Jodhpur
Dr. Mala Rathore, Sci.- E	AFRI, Jodhpur	FRI, Dehradun

Name of Officer	From	To
Dr. Rashmi, Sci.- E	FRI, Dehradun	AFRI, Jodhpur
Dr. Rakesh Kumar, Sci.- E	FRI, Dehradun	IWST, Bengaluru
Dr. Neelu Singh, Sci.- E	TFRI, Jabalpur	FRI, Dehradun
Dr. Harish Kumar, Sci.- E	ICFRE (Hqr.)	FRI, Dehradun
Dr. R. Ezhumalai, Sci.- D	IWST, Bengaluru	FRI, Dehradun
Dr. Pawan Kumar, Sci.- D	HFRI, Shimla	TFRI, Jabalpur
Dr. Subhash Chander, Sci.- D	TFRI, Jabalpur	HFRI, Shimla
Sh. Neelesh Yadav, Sci.- D	FRI, Dehradun	TFRI, Jabalpur
Sh. A.K. Sinha, Sci.- D	AFRI, Jodhpur	ICFRE (Hqr.)

**Patron:**

Dr. Suresh Gairola, Director General

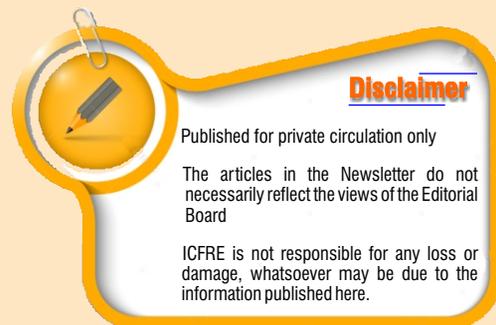
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