Indian Council of Forestry Research and Education

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ICFRE NEWSLETTER

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CONTENT

SIGNIFICANT RESEARCH FINDINGS:

Forest Research Institute, Dehradun

- Studies on life history of one species of butterflies was carried out in the laboratory by rearing them in cages. Plants collected from the sampling sites were identified for trees & shrubs as herbarium, besides, butterfly specimens preserved and identified under the project "Butterflies associated with different forest types/sub-types in Uttarakhand".
- 23 species defoliating (19 species of *coleoptera* & 4 species of Lepidoptera) infesting ban oak trees were collected and reared. Experiments were continued for one species of seed pest and two species of cerambycid borers in the laboratory. All the insect specimens were preserved, labelled, and identified up to family level, besides their photography. The database on insect pests of western Himalayan oaks was updated and 15 more species were incorporated under the project "Insect pests of Western Himalayan Oaks and their Control".
- Concept of drying kiln quilt was explored for minimizing heat losses. The results indicate that the glass wool kiln quilt helped in reducing the heat losses from the solar kiln.
- Two populations of *Myrica esculenta* grown in the Chakrata and Dhanaulti Forest Divisions were characterized for the first time for total phenolic contents (TPCs) determined in their bark.
- Quaternisatiom of guar gum was carried out and samples submitted to industry for their evaluation.
- Report on the health status of *Dalbergia sisso*, *Mangifera indica* and *Gravillea robusta* trees dying in Arcadia Tea Estate, Prem Nagar, Dehradun was prepared after a field survey.

Institute of Forest Genetic and Tree Breeding, Coimbatore

- Screening and selection of potential bio-control bacterial isolate, *Bacillus velezensis* against stem wilt pathogen, *Trichosporium vesiculosum* of *Casuarina equisetifolia* .
- *Casuarina equisetifolia* is a multipurpose actinorhizal fast growing evergreen tree species grown by state forest

Annual General Meeting:

The 24th Annual General Meeting of the ICFRE Society was held on 18 April 2018 at New Delhi under the Chairmanship of Dr. Harsh Vardhan, Hon'ble Minister of Environment, Forest and Climate Change and President of ICFRE Society. A handbook entitled "Forest Fires in India" published by the FRI, Dehradun was released by the Hon'ble Minister of MoEF&CC. ICFRE Annual Report 2016-17 was also adopted by the society the meeting.

24th Annual General Meeting of the ICFRE Society

departments, forest development corporations, farmers, tree growers and wood based industries in Tamil Nadu and other parts of India. Large scale mortality of this tree species is caused by a stem wilt or blister bark disease pathogen, *Trichosporium vesiculosum* (=*Subramanianospora vesiculosa*) in 3-year and above aged trees in field. The main objective of the study was to isolate and identify potential bio-control agent against this dreadful pathogen. In this context, an experiment was conducted to determine bio-control potential of effective bacterial isolate, *Bacillus velezensis* against *Trichosporium vesiculosum*, under in vitro condition. The fungal pathogen *T. vesiculosum* was isolated from 2 to 3 year old naturally infected Casuarina plants and effective bacterial isolates were isolated from rhizosphere soil of 2-3 year old healthy Casuarina plantation in Tamil Nadu and they were used for antagonistic study. Thirty isolates of bacteria isolated from rhizosphere soil of healthy Casuarina plantation were screened against stem wilt disease pathogen, *T. vesiculosum* by adopting dual culture method using PDA medium and recorded Percentage Inhibition of Radial Growth (PIRG) of the fungal pathogen. It was observed that out of thirty bacterial isolates screened, nine isolates showed >55% inhibition of mycelial growth of fungal pathogen. Among these nine isolates, the isolate (SKM01) gave the best suppression of mycelial growth of the fungal pathogen and it was identified as *Bacillus velezensis* based on molecular characterization. It was concluded that formulation of bio-control agent using this potential bacterial isolate, *B. velezensis* or its bio-products will be tested in nursery and field conditions and the results of the study will be much useful to Casuarina growers to overcome the dreadful disease.

Arid Forest Research Institute, Jodhpur

- In the comparative study of soil organic carbon (SOC) there was an increase in SOC by 42.30% during September 2013 and July 2017 under treated wastewater irrigation. The increase in SOC due to tree species ranged from 9.02% in the soil under *P. cineraria* to 233.4% in the soil under *A. indica*. The increase in SOC was 29.68%, 46.43%, 36.71% and 56.93% in the soils irrigated with tube-well water at ½ PE (pan evaporation), wastewater at ½ PE, wastewater at ¾ PE and wastewater at 1 PE level respectively.
- India is the largest timber importing country and Jodhpur handicraft industry in Rajasthan is known for its woodwork. It can be beneficial from carbon market point of view when addressed by energy efficient innovative technologies that reduce waste, improve quality of supply and sourcing wood from sustainably managed and certified forests and trees outside forests. Identification of alternate tree species as source of wood for making handicrafts in arid region, reducing the cost by using unutilized/plantation grown wood and to improve the life of wood by simple chemical/preservative treatments can make handicraft industry sustainable for long term. To explore other lesser known timber species, studies on *Azadirachta indica* and *Acacia senegal* are presently undergoing in AFRI, Jodhpur. *A. indica* wood treated with Copper sulphate, Potassium dichromate and *Prosopis juliflora* extract was converted to Coffee table in April 2016 that is still resistant (tested in April 2018) indicating its potential for use in handicraft industry. Display board, bookshelf and small Almirah as other value added product are also prepared with Neem wood treated with Biflex TC. Display boards are prepared in which carving like Rohida wood species was done enhancing its utility. Photo frames with carving (Hand tools) in Nov 2016 and Side Table with carving (November 2017) from *A. senegal* wood were also prepared. These findings are offering handicraft industry more options of alternative wood sources.

Himalayan Forest Research Institute, Shimla

- *Scleroderma polyrhizum* -a mycorrhizal fungi- has been identified/recorded in *Pinus gerardiana* forests which dots the part of Distt. Kinnaur in Himachal Pradesh. The results revealed better growth in artificially inoculated seedlings helping in reducing retention period of the seedlings in nurseries and better chances of their subsequent survival in the field also. The outcome is useful for the State Forest Departments in large-scale production of seedlings and plantations of the tall and healthy plants in the field.

PUBLICATIONS:

- TFRI, Jabalpur published 4 technical bulletins on Status of *Dalbergia latifolia* (Rose wood, Kala shisham), an important vulnerable tree in central India, Clonal propagation of *Bambusa vulgaris* var. green through mini cuttings, Insect pests of *Gmelina arborea* (linn.) and their control measures, Birds of TFRI Campus and 10 pamphlets also published on घृतकुमारी, कालमेघ, कलिहारी, तिखुर, गुडमार, दीमक का प्रकोप एवं प्रबंधन, टीएफ़आरआई ट्राई को कार्ड द्वारा सागौन के निष्पत्रक कीटो का जैविक नियंत्रण, वन रोपणियों में सफेद गिडार का प्रकोप एवं प्रबंधन, वानिकी परिचय केन्द्र एवं संग्रहालय एवं TFRI Forest Interpretation Centre and museum.

WORKSHOPS/ SEMINARS/ MEETINGS:

Sl. No.	Topic	Duration	Beneficiaries
	Indian Council of Forestry Research and Education		
1.	Commercialization and dissemination of ICFRE technologies	2 March 2018	-
2.	Centre for Forest Policy Research	24 April 2018	15 Officials

Advisory Committee Meeting Centre for Forest Policy Research

	Forest Research Institute, Dehradun		
3.	NTFPs as Livelihood Resource – Opportunities and Challenges	27 April 2018	66 participating stakeholders
	Institute of Forest Genetics and Tree Breeding, Coimbatore		
4.	Pre conference seminar on Forest and Climate change	11 April 2018	Officers, Scientists, Staff of IFGTB, Research fellows
	Himalayan Forest Research Institute, Shimla		
5.	North India Regional Research Conference (RRC)	20 April 2018	SFD's,NGOs, Farmers, forestry research institutes, universities, officers, scientists, and students
6.	REDD^{+} and forest and climate change policy for the state of Himachal Pradesh	26 April 2018	3 member attended the programme

7.	Himachal Pradesh Forests for Prosperity	26 April 2018	8 Participants
	Forest Research Centre for Bamboo and Rattan, Aizawl		
8.	Preparation of State REDD+ Action Plan	25-26 and 28 April 2018	-

Expert Consultation workshop at FRC-BR, Aizawl

TRAININGS:

Sl. No.	Topic	Duration	Beneficiaries
	Forest Research Institute, Dehradun		
1.	Shingles preservation, truss design and panel of chir- pine needles	2-7 April 2018	-
2.	Tissue Culture of Trees, Bamboos and medicinal plants	25-27 April 2018	Officials of BSS College, Supaul Bihar
	Institute of Wood Science and Technology, Bengaluru		
3.	Forest Utilization	3-4 and 6 April 2018	33 trainees
	Institute of Forest Productivity, Ranchi		
4.	E. procurement training	9 April 2018	Director/ Officers/ Scientists/ Scientific Staff/ Ministerial Staff & others

RAJBHASHA NEWS:

- हिमालयन वन अनुसंधान संस्थान, शिमला की राजभाषा कार्यान्वयन समिति की त्रैमासिक बैठक दिनांक 27.04.2018 को डॉ. वी. पी. तिवारी, निदेशक तथा अध्यक्ष, राजभाषा कार्यान्वयन समिति की अध्यक्षता में हुई। बैठक के दौरान संस्थान द्वारा राजभाषा कार्यान्वयन के क्षेत्र में की गई प्रगति की समीक्षा की गई।

DG VISIT:

- Dr. S. C. Gairola, IFS, Director General, ICFRE visited TFRI, Jabalpur during 11-12 April 2018 and reviewed different research activities going on.

VISIT OF DIGNITARIES:

- Shri C. K. Mishra, Secretary, MoEF &CC, Govt. of India, New Delhi visited FRI, Dehradun on 21 April 2018.
- Mr. Made Mangku Pastika, Governor of Bali, Republic of Indonesia visited FRI, Dehradun on 23 April 2018.
- Khongsak Pinyopusarerk and Dr David Bush, Scientists from the CSIRO Australian Tree Seed Centre visited IFGTB, Coimbatore from 16 to 20 April 2018 to review and revise the Casuarina breeding programme under implementation in IFGTB since 1997.
- A team of officials comprising of Mr. Arto Raty, Executive Vice-President, Fortum (Finland), Ms. Ulla Rehall, Head, Sustainability, Fortum (Finland), Mr. Awdesh Jha and Mr. Faizur Rahman, Fortum, India visited RFRI, Jorhat (Assam) on 18 April 2018 along with Sri Rajib Changkakati, Chief Manager, Bio Refinery, Numaligarh Refinery Limited, Golaghat, Assam.

Shri C. K. Mishra, Secretary, MoEF &CC, New Delhi visited FRI Dehradun

MISCELLANEOUS :

Institutes	Special Day/ Theme	Durations
IFGTB, Coimbatore	Swachhata hi Seva	10 April 2018
IFGTB, Coimbatore	Ambedkar Jayanthi	16 April 2018
RFRI, Jorhat	Earth Day 2018	22 April 2018
FRC-LE, Agartala		
RFRI, Jorhat	Swachh Bharat Abhiyan	25 April 2018
TFRI, Jabalpur		5, 13, 19 and 26 April 2018

HR NEWS:

Appointment

Name of Officer	Date of Joining
Shri S.D. Sharma, IFS, DDG (Res.)ICFRE	02.04.2018
Dr. Ratnaker Jauhari, IFS,CF, IFB, Hyderabad	24.04.2018

Promotion

Name of Officer	Date of Retirement
Shri C.M. Nagaraja Murthy, Librarian, IFGTB, Coimbatore	13.04.2018

Retirement

Name of Officer	Date of Retirement
Shri Gajendra Singh Bisht, Private Secretary, FRI, Dehradun	30.04. 2018
Dr. Rupnarayan Sett, Scientist-D TFRI, Jabalpur	12.04.2018