



TFRI NEWSLETTER



From the Director's Desk

GREETING FROM TFRI FAMILY,



I take pride in sharing the third issue (May - June, 2022) of TFRI Newsletter, showcases, significant research activities, events organized, participated and publications. The state of art facilities are also mentioned in this issue.

I hope this newsletter will be helpful for researchers, different stakeholders, and policy makers concerned with forestry research.



Dr. G. Rajeshwar Rao, ARS
Director, TFRI Jabalpur

Major Events

Regional Research Conference (RRC)

To discuss "Status of Forestry Research" in the states (Madhya Pradesh, Maharashtra, Chhattisgarh, Gujarat, Rajasthan and Dadara Nagar Haveli Union territory) under Jurisdiction of TFRI, Jabalpur and AFRI, Jodhpur, RRC was jointly organized by Arid Forest Research Institute, Jodhpur and Tropical Forest Research Institute, Jabalpur on 22.6.2022 through virtual mode. Director General of ICFRE Inaugurated RRC. GCR, AFRI and TFRI Jabalpur respectively presented overview of Research of institutes during the RRC-2022.

One session was exclusively focused on Dry area Agroforestry and Director, TFRI delivered a talk on Agroforestry systems of different regions.



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"World Environment Day"

"World Environment Day" was celebrated on 5 June, 2022 with series of activities on the theme "Only one Earth". The institute conducted various events for children from Kendriya Vidyalaya, TFRI and Delhi Public School, Neemkheda, to train them in making 'Recycle Waste Paper' and eco-friendly 'Charcoal and Leaf Plates - Dona' evoking concerns about environmental issues and actions for its protection.

Dr. G. Rajeshwar Rao, ARS, Director, TFRI interacted with the students and rewarded outstanding submissions with eco-friendly prizes. During the occasion, TFRI officials and children of employees also participated in plantation programme of native trees and bamboo species in the campus. Director, TFRI also distributed saplings of tree species to children and encouraged them to plant trees as well as to nurture them. The program concluded with plantation and cleaning of Gour river, one of the tributaries of river Narmada adjacent to the campus of TFRI. Sh. M. Rajkumar, Nodal Officer, Narmada DPR, Head of Divisions, other senior scientists, officers and staffs of the institute actively participated in the programme.

FRC-SD, Chhindwara also celebrated with the 24 MPBN, NCC cadets. Cadets were from Seoni, Chhindwara, Bichhua, Umamala, Navegaon, Sausar, Pandhurna and Junardeo area of Madhya Pradesh. During the period, saplings were planted in the office campus by employees and project staffs. Quiz competition was organized on environment related issues. All cadets actively participated in the programme and made the event successful.





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Science, Technology and Innovation News

Management of Forest fire through Scientific Interventions

To estimate the losses due to forest fire in 5 carbon pools (AGB (tree, herbs, shrubs), below ground biomass (BGB), deadwood, litter, and soil), and terrestrial flora, a team of scientists and project staffs recently visited 2 forest divisions (Sawantwadi and Kolhapur) and 4 ranges (Amboli, Kudal, Sawantwadi and Patane) of Maharashtra to collect data during May-June 2022 of the current fire season under ongoing research project 'Forest Fire Research & Knowledge Management' (AICRP-14) funded by CAMPA, MoEF&CC, New Delhi. This will help to quantify the immediate losses due to forest fire in terms of carbon stock (5 pools) and terrestrial flora.

Dheeraj Kumar Gupta
Scientist-D

Forest Ecology and Climate Change



Vegetation survey and litter collection in the laid



Soil collection during field survey

Conservation of Forest Genetic Resources



A total of seven seed populations identified in Rewa, Sidhi and Satna forest divisions of Madhya Pradesh for FGR mapping and seed collection. Selected population includes *Acacia catechu*, *Buchnanian cochinchinensis*, *Anogeissus latifolia*, *Boswellia serrata*, *Sterculia urens* and *Azadirachta indica*.

Manish Kumar Vijay
Scientist-B
Forest Extension Division

Weed, Assessment of Lantana invasion

For effective management of Lantana in forest areas a tour was conducted to Rewa, Sidhi, and Satna district for collection of phyto-sociological data, status of lantana invasion and soil quality. On site trials to assess impact of lantana removal on regeneration have been initiated in different densities of lantana dried biomass of different experimental plots has been converted into charcoal to utilize lantana biowaste into useful products.

Neeraj Prajapati
Scientist-B

Silviculture, Forest management and Agroforestry Division





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Field testing of Eucalyptus and Casuarina clones in central India

To evaluate the performance of Eucalyptus and Casuarina clones under Tropical region of central India, multilocation trials of *Eucalyptus camaldulensis* and *Casuarina* hybrid clones were established at Jabalpur, Umariya and Balaghat district. Based on the growth performance, best performing clones will be indentified for cultivation in Central India.

Dr. Naseer Mohammad
Scientist-D

Forest Genetics and Tree Improvement Division



Selection of superior germplasm of *Haldina cordifolia* (Haldu)



CPT of Haldu

Single fruit of Haldu

Haldu is an important woody species having high medicinal value. Due to over exploitation, population is decreasing rapidly in forests and is likely to fall in threatened Category.

Approximately, ten million seeds are found in one kg seeds of Haldu. As the seeds are very small and light in weight, it is very difficult to collect the seeds.

A study has been initiated for selection of superior germplasm for Central India (Madhya Pradesh, Maharashtra and Chhattisgarh) for further multiplication as well as conservation.

Nikhil Verma
Scientist-B

Forest Genetics and Tree Improvement Division

Teak (*Tectona grandis*) improvement activities at TFRI

Institute is executing Teak (*Tectona grandis*) improvement activities including plus tree selection and establishment of progeny trial, germplasm bank, seedling seed orchard and clonal seed orchard. More than 200 plus trees have been selected in 4 states viz. Madhya Pradesh (MP), Chhattisgarh (CG), Maharashtra (MS) and Odisha (OR). These trees were selected by comparison tree method on the basis of morphometric data of phenotypic growth traits like height, GBH, clear bole height, crown diameter, disease incidence, branch angle, etc. Half sib progenies of some of the selected trees were raised and a progeny trial was established in 2019 representing 29 families of MP, CG, MS and OR. A germplasm bank representing 31 tree accessions of MP, CG, MS and OR was established in 2020. A Seedling Seed Orchard (SSO) was established in 2019 representing 33 families of MP, CG, MS and OR and a Clonal Seed Orchard (CSO) was established in 2021 representing 15 clones from five nearby agro-ecological zones of Madhya Pradesh.



Plus trees of *Tectona grandis*



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Progeny trial of *Tectona grandis*



Seedling Seed Orchard of *Tectona grandis*



Germplasm Bank of *Tectona grandis*



Grafted clonal plants of *Tectona grandis*



Clonal Seed Orchard of *Tectona grandis*

Dr. Pramod Kumar
Scientist-D
Forest Genetics and Tree
Improvement Division



Kandhi Singh, ACTO
Silviculture, Agroforestry &
Forest Management Division

Observation of fern patch in Chhattisgarh

During visits to Chhattisgarh, Fern species (height of about 2-3 meters) were observed on the way to the Bailadila iron official mine in Dantewada forest division of Chhattisgarh state. Generally, the species has scattered occurrence in bush/shrub form.



New projects

- ❖ Project initiated “Capacity Building of Nursery staff on preparation of Bio fertilizers, Organic Fertilizers & its application in Teak and Bamboo” approved by Madhya Pradesh Van Vikas Nigam (Bhopal).

Biological Control of Teak (*Tectona grandis* L.f.) Pests : TRICHOCARDS



Smt. Shashi Kiran Barve
Technical officer
Forest protection
Division



Egges of *Corcyra cephalonica*



Spreading of eggs on
Cards



Packing of TRICO CARDS



TRICO CARDS



Teak is an important timbers species in central India but due to severe infestation of defoliator and skeletonizer, about 40% loss in bole increment have been reported by the researchers.

To control teak Defoliator, *Hyblaea puera* and teak leaf Skeletonizer, *Eutectona machaeralis*, through biological means, entomologist Dr. K.C. Joshi (Retd.), Dr. Nitin Kulkarni and Shri Subash Chandre standardized mass-rearing technique and release methods of locally available egg parasitoid, *Trichogramma raai* (Hymenoptera: Trichogrammatidae) and developed TRICO CARDS .

The technique of biological control by the parasitic insect, Trichogramma has proved to be very useful in the management of teak insect.

Trichogramma which is a microscopic egg parasitic insect (Egg Parasitoid) lays its eggs on the eggs of various types of insects and completes its life cycle on those eggs, due to which they become parasitized and destroyed.

Steps of Trico card preparation

- ❑ Multiplication of the rice Moth (*Corcyra cephalonica*) in the laboratory.
- ❑ Collecting eggs of rice moth and chilled it for -5°C for 1 hour.
- ❑ Chilled eggs of rice moth pasted on a thick paper with the help of glue (25%).
- ❑ Insert rice moth card, release *Trichogramma* parasitoids card and seal in polythene bags .
- ❑ *Trichogramma* parasitic wasp laying its eggs on the eggs of rice moth and these eggs are destroyed and they continue multiplied on egg of rice moth. This parasitized card is called **TRICHO CARD**.
- ❑ These trichocards are ready to release into the infested are as in four seasons where they destroy the eggs of harmful insects (1.25 lakh/ha.)
- ❑ Size of Tricho card – 11cm.* 15 cm. A card contains 25,000 parasitized eggs. Cost of one card is approximately Rs.-200.



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Insect Museum

The Insect Museum of Tropical Forest Research Institute, Jabalpur was established by Dr. K. C. Joshi, Head of Forest Entomology Division under the guidance of Mr. R. K. Namdev (IFS), Director, Deciduous Forest Research Institute, Jabalpur (Year - 1988-1990),

At present the museum has about 763 identified species of insects, which are arranged with accession number including insects of the order Lipodoptera, Coleoptera, Hemiptera, Homoptera, Hymenoptera, Orthoptera and Diptera etc.

Most of the insect samples were collected from different states of the country including Central India, Assam, Arunachal Pradesh of North east etc. The insect specimens collected from Achanakmar Amarkantak Biosphere Reserve under project “ Entomological Survey of Kanha National Park” (2003-04) also have been identified and preserved in the repository.

Scientists Dr. Mohammad Yusuf, Dr. N. Roy Choudhary, Dr. N. Kulkani, Dr. P. B. Meshram, and Shri Subash Chandre and Shri Rambhajan Singh, Shri R.K. Malviya, Smt. Shashi Kiran Barve technical offices had contributions to upgrade the insectary.

This museum is useful for identification of insects, knowledge enhancement of researchers, students and visitors.



Smt. Shashi Kiran Barve
Technical officer
Forest Protection Division



Fungarium

The Fungarium of Tropical Forest Research Institute, Jabalpur was established by Forest Pathologist Late Dr. Jamaluddin, Dr. N. S. K Harsh, Dr. R. K. Varma, Dr. K..K. Soni, Dr. V. S. Dadwal, Dr. C . K. Tiwari and Technical Officer Shri P. S. Rajpoot, Shri H. L. Asati, Shri Dashrath Turkane, and Shri A. K. Thakur (retd), had contributed in collection of various types of molds from different jurisdictional states Madhya Pradesh, Maharashtra, Orissa and preserved in the fungarium. Presently, the number of identified fungal species are 251, which are used for identification purpose, enhancing the knowledge of researchers, students and visitors.

Dasharath Turkne
Technical Officer
Forest Protection Division



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Events organised

“International Yoga day”

Yoga Utsav on occasion of International Yoga Day, 2022 on 6th May 2022.
 As per the orders of the Ministry of Ayush (GOI), TFRI, Jabalpur and FRC-SD, Chhindwara actively participated to mark the 50-days countdown of To commemorate the **International Yoga Day, 2022** event Scientists, officers and staff members performed various yoga asanas, pranayamas and meditation under the guidance of Dr. Rajesh Mishra, ACTO, Yoga expert at TFRI, Jabalpur.



International Yoga Day, 2022 on 21st June, 2022
 Tropical Forest Research Institute, Jabalpur and its satellite centre Forestry Research Centre for Skill Development, Chhindwara organized International Yoga Day 2022 on 21st June 2022.
 To celebrate the event, scientists, officers and staff members performed various Yoga asanas, Pranayamams and Meditation under the guidance of Dr. Rajesh Mishra, ACTO, Yoga expert at TFRI and Smt. Arpita Shukla of Patanjali yogpeeth, at Chhindwara.
 Dr. G. Rajeshwar Rao, *ARS*, Director TFRI wished healthy life to all the employees and exhorted them to do yoga as part of their daily routine to lead healthy life and simultaneously improve work efficiency. He also presented a biodegradable Bamboo memento to the Yoga expert as token of respect.

“Tribal Fair”

Participated in the 5th Aadi Utsav (Tribal Fair) organized by Ministry of Tribal Affairs at village Ramnagar in Mandla district of Madhya Pradesh.
 This mega event was chaired by the Hon'ble Governor of the state Shri Mangu Bhai Patel. Event was graced by the presence of Shri Arjun Munda, Union Minister of Tribal Affairs, Shri Faggan Singh Kulaste, Union state minister of Steel & Rural Development, Smt. Renuka Singh, Union Minister of state for Tribal Affairs, Shri Kunwar Vijay Shah, Forest minister, MP, Shri Vishnu Dev Singh, Dy CM, Tripura, Smt. Sampatiya Uike, Member of Parliament and other dignitaries from Central, State and local Administration.
 Hon'ble minister Shri Kulaste also mentioned TFRI in his speech regarding its contribution in uplifting the livelihoods of Tribal people through Forestry interventions.



“Anti terrorism day”

To commemorate the day on 20th may 2022, all the scientists, officers and staff members of the institute unitedly pledged to oppose all forms of terrorism and violence, there by promoting harmony and peace.

“International Day for Biological Diversity”



In line with the 2022 slogan—“**Building a shared future for all life**”, Forest Ecology and Climate Change Division of TFRI, Jabalpur, installed earthen water pots on different avenue trees in the campus. Around 20 such earthen water pots were installed to quench the thirst of birds and other arboreal wildlife.

Also, habitat of Indian Rock Python (*Python molurus*), an IUCN Red list Near Threatened species and Schedule I species under Wildlife (Protection) Act 1972 was demarcated in TFRI campus and mooted for conservation.

FRC-SD, Chhindwara conducted field visit for the 10th and 11th class students of Jawahar Navodaya Vidyalay, Singodi, Chhindwara. 74 Students participated in the afore said programme to create awareness towards protection of Mother Earth at Singodi Chhindwara.

Visits of Dignitaries



Shri Ramesh Shrivastava, IFS, Chief Executive Officer, CAMPA, Madhya Pradesh visited Tropical Forest Research Institute, Jabalpur. Shri Shrivastava appreciated the work done by the Institute. He reminisced his work experiences at TFRI and interacted with the Scientists.

Dr. R. K. Wadhwa, Senior Doctor, ADLMS, New Delhi visited Tropical Forest Research Institute, Jabalpur. He visited museum and appreciated the work done by the Institute.



Exposure Visits

Exposure visit of Students from RDVV University Jabalpur on 27/05/2022



Dr. Nanita Berry, Scientist-F and Shri Manish Kumar Vijay, Scientist-B Demonstrated Museum and Agroforestry models to the group of B.Sc. Agriculture Students, RDVV University.





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Training and Capacity Building

Shri A.J.K. Asaiya, Scientist- C and Dr. Darshan K, Scientist- B Tropical Forest Research Institute Jabalpur delivered lectures in regional workshop organized by Madhya Pradesh Van Vikas Nigam (Bhopal) at Seoni to nursery officials on "**Organic fertilizer and biofertilizer applications in nursery**". Hands on practical demonstration for preparation of "**Jivaamrut**" were also given.

A total of 50 participants from four forest divisions *i.e.* Betul, Seoni, Chhindwara and Balaghat attended the training programme.



FRCSD, Chhindwara conducted internship programme from 9.5. 2022 to 13.5. 2022 for M.H.Sc (Final year) of Govt. Girls College, Chhindwara

Awards and Recognition

- ❖ **Dr. K.G. Tejwani Award for "Excellence in Agroforestry Research and Development"**, 2020 presented to Dr. G Rajeshwar Rao, Director, TFRI, Jabalpur for his outstanding contribution in the field of Agroforestry research and development.
- ❖ Dr. Mohan C, Sci- B, was conferred with "**H.S. Pruthi Award in the field of Entomology**" on the occasion of International Conference on "Global initiatives in Research, Innovation and sustainable development of Agriculture and allied Sciences", held during 06- 08th – June, 2022 (Virtual mode), Guru Kashi University, Talwandi, Punjab.
- ❖ Dr. Mohan C, Sci- B, Awarded "Best oral Presentation Award in National Virtual Conference on Post-Harvest Management under the theme I- Technologies for reducing post-harvest loss, held at NIFTEM, Thanjavur, Tamil Nadu.



Chief Guest | Guest Speaker

- ❖ **Dr. G. Rajeshwar Rao, Director, TFRI, Jabalpur** delivered a lecture (virtual mode) on "Impact of Climate Change on Agro-Forestry: Adaptation strategies" in "Session-IV: Impact of Climate change on Aquaculture, Poultry and Animal food resources" at ICAR- ICAR-Indian Institute of Millets Research, Hyderabad on 14th May, 2022
- ❖ **Smt. Neelu Singh, GCR, Scientist-G, TFRI, Jabalpur** delivered lecture (Virtual Mode) on "**Overview of research work at TFRI**" during AFRI-TFRI Joint Regional Research Conference " Status of Forestry research with Special reference to Agroforestry of Dry Regions" on 22 June 2022.
- ❖ **Dr. G. Rajeshwar Rao, ARS, Director, TFRI, Jabalpur** delivered lecture (Virtual Mode) in Technical Session on "**Agroforestry of Dry Region**" during AFRI-TFRI Joint Regional Research Conference on " Status of Forestry research with Special reference to "Agroforestry of Dry Regions" on 22 June 2022.
- ❖ **Dr. Nanita Berry, Scientist-F and Head, Forest Extension Division, TFRI** delivered lecture on Agroforestry to the stakeholders during one day workshop on Agroforestry and its importance, organized by KVK, Mandla.



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Workshop/ Seminar/ Important meetings

One day Hindi workshop organised for Officers of TFRI on 23.06.2022.

In compliance with the official language policy of the Union & the directions contained in the Assistant Director General, Media and Extension Division, Directorate of Extension, Indian Council of Forestry Research and Education, Dehradun, a one-day Hindi workshop was organized at Tropical Forest Research Institute, Jabalpur on 23rd June, 2022 for Technical Officers and Senior Technical Officers of the institute under the chairmanship of the Director, Dr. G. Rajeshwar Rao, ARS.

The workshop started with the inaugural address of the Director. There after Shri Vijayakumar, Assistant Director (Official Language) made the participants aware of the official language policy, Act and Rules of the Union and encouraged to practice Hindi.



- ❖ Dr. G. Rajeshwar Rao, ARS, Director, TFRI attended meeting of 46th RAC of SFRI at Satpuda Bhawan, Bhopal on 13.05.2022.
- ❖ Dr. G. Rajeshwar Rao, ARS, Director attended a workshop conducted by State Forest Research Institute (SFRI), Jabalpur on “Rehabilitation of Degraded Forest Ecosystems in Madhya Pradesh: Emerging Scenario & Way Forward” on 9th – 10th June, 2022.
- ❖ Dr. G. Rajeshwar Rao, ARS, Director attended a Regional Research Conference on “Forestry Research in Sourhtern States of India with special focus on Agroforestry issues” in Hybrid mode conducted by Institute of Wood Science & Technology (IWST), Bengaluru on 10th June 2022.
- ❖ The Quarterly meeting of the Official Language Implementation Committee, April-June 2022 meeting was held on 23-6-2022 under the chairmanship of the Director.
- ❖ Smt. Neelu Singh , Scientist-G and GCR participated in “Science, technology and Innovation policy of MP (MP-STIP:2022): Consultation meeting at Jabalpur on 29.06.2022 .
- ❖ Dr. G. Rajeshwar Rao, ARS, Director, TFRI and Dr. Avinash Jain, Scientist-F and Head, Forest Ecology and Climate Change Division attended Chintan Satra at ICFRE, Dehradun on 30.06.2022.



Dr. G. Rajeshwar Rao, ARS, Director, Dr. Nanita Berry, Scientist-F and Shri Rathod Digvijaysinh Umedsinh, Scientist-B visited ICRAF, New Delhi on 30-31 May to discuss programmes to be initiated under TOFI project with other partner of the project.





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New Initiated

As per the direction of Govt. of India to avoid use of plastic in office, preparation of dona plates and mementoes from leaves and bamboos have been utilized at the institute during official programmes.



Inauguration of Soil Testing Laboratory of Agroforestry discipline

Dr. G. Rajeshwar Rao, ARS, Director, TFRI, Jabalpur, inaugurated renovated Soil testing laboratory of Agroforestry on 3.6.2022 TFRI, Jabalpur (under AICRP-30).





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NEW PUBLICATIONS

Books/ Chapter

- Singh, Neelu and Rao, G. R., (2022). Scope of medicinal plants in agroforestry and livelihood opportunities through value addition. Page 1-74.



- Akshay Kumar H.M., Mehulee Sarkar, Darshan, K, Thungri Ghoshal, Kaavya B.S, Bishnu Maya Bashayl, A. J. K. Asaiya and Nanita Berry. Ganoderma: Biodiversity, Ecological significances, and its Management. Fungal Biology, Vijay Rani Rajpal *et al.* (Eds): Fungal diversity, ecology and control management. 978-981-16-8876-8, 516623_1_ In Springer Nature.

Research papers

- Bhadrawale, D., Shirin, F., Patel, K., Panika, S., Hardaha, P., Gupta, T., Mohhamad, N. and Rao, G R. (2021). Effect of different plant growth regulators and additives on *in vitro* culture establishment of *Pseudoxytenanthera stochsii*. *Indian Journal of Tropical Biodiversity (Special Issue on Bamboo)*, 29(1) 202132-39.
- Kumar, P., Shirin, F. and Rao, G.R. (2021). Enhancement of productivity of bamboo plantations through selection of superior clumps and management interventions. *Indian Journal of Tropical Biodiversity (Special Issue on Bamboo)*, 29(1) 202166-71.
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- Saudagar, I.A., Jahan, F., Shirin, F., Tiwari, A., Pal, A., and Maravi, S., (2022). Investigation of phytochemicals and determination of compounds of *Phyllanthus emblica* Linn. and *Citrus limon* (L.) Burm. through proximate analysis and in-vitro antimicrobial activity against pathogenic fungi *Aspergillus flavus*. *World Journal of Advanced Research and Reviews*. 14 (3), 203-213.
- Shirin, F., Saudagar, I. A., Mehra, V., Maravi, S., Sonkar, M. K., Kumar, P. and Rao, G. R. (2021). Influence of genotype on adventitious rhizogenesis through macropropagation in *Bambusa vulgaris* and *Bambusa nutans*. *Indian Journal of Tropical Biodiversity (Special Issue on Bamboo)*, 29(1) 202147-53.
- Vijay, M. K., Sharma, R.S., Maloo, S.R., Jain, V., and Sharma, A., (2022). *Buchanania lanzan* Spreng (Chironji): An endangered socio-economic forest tree species of Central India. *The Pharma Innovation Journal*. SP-11(6): 336-342.
- Vijay, M. K., Berry, N., Prajapati, N., and Rathod, D.U., (2022). Conservation and Seed Quality enhancement of *Buchanania lanzan* Spreng: an endangered NWFP species of Madhya Pradesh. *Biological Forum – An International Journal*. 14(2): 1111-1116.



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General Articles

- Banerjee, S. and Banerjee, S. (2022). Overpopulation and its impact, *Van Sangyan*, 9(5) :19-24.
- Jangam, D. (2022). Assessment of soil erosion – Physical, empirical and remote sensing methods. *Van Sangyan*, 9(4) :17-20.
- Mohan, C. (2022). Termite damage and their control in forest nurseries and young plantations. *Van sangyan*. 9(4):22-25.
- Mohan C. (2022). Insect Pests of Forest Seeds and Their Management. In National Virtual Conference on Post-Harvest Management under the theme I- Technologies for reducing post-harvest loss, held during 18-19th May, 2022, NIFTEM, Thanjavur, Tamil Nadu. (Abstract). In *National Virtual Conference on Post-Harvest Management proceedings*.
- Mohan, C. (2022). Eucalyptus gall insect *Leptocybe invasa* (Hymenoptera; Eulophidae) and their integrated management. *Agriculture and food e Newsletter* . 4:511-512.
- Mohan, C. (2022). Leaf gall forming insect *Trioxa obsoleta* (Psyllidae; Homoptera) on *Diospyros melonoxylon* and their Management. *Times of Agriculture - e magazine*, (25):130-131.
- Mohan, C. (2022). Occurrence of Sal Heartwood borer *Hoplocerambyx spinicornis* infestation in Chhattisgarh. In international conferences on "Global initiatives in Research, innovation and sustainable development of Agriculture and allied Sciences", held during 06-08th –June, 2022 (virtual mode), Guru Kashi University, Talwandi, Punjab. (Abstract).
- Rajkumar, M., Sekhar, A., and Jain, A., (2022). United Nation's Post- 2020 Global Biodiversity Frame Work: Opportunities for Local Action. *Van Sangyan*, 9(3) :37-40.
- Sekhar, A. and Rajkumar, M., (2022) .Wetlands: Not wastelands. *Van Sangyan*, 9(5) :25-29.
- Vijay, M. K., and Berry, N., (2022). Bamboo seed propagation: Challenges and solutions. *Van Sangyan* ,Vol. 9(5): 8-13.
- Sekhar, A. (2022). Peatlands and Paludiculture for the Indian Subcontinent. *ENVIS Newsletter. Sarovar Saurabh: Wetland Ecosystems including Inland Wetlands*. 17(4): 1-3. ISSN: 0972-3153.
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- राजकुमार, एम., गुप्ता, डी., बैनर्जी, एस., जैन, ए., (2022). वर्ष 2021 में उष्णकटिबंधीय वनों की हानि. *वन संज्ञान*, 9(5):14-18.
- मोहन, सी. एवं मालवीय, आर. के. (2022). वन रोपणी एवं रोपण में व्हाइट ग्रब एवं दीमक का प्रकोप एवं उसका नियंत्रण. *वन संज्ञान*. 9(5): 30–34.





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Plant Species and number Available for Sale at Genetics and Tree Improvement Division, TFRI, Jabalpur

Improved Varieties- Cost per plant- Rs. 50/ plant

S. No.	Species	Number of Plants
1.	<i>Rauvolfia serpentina</i> TFRI RS-1 (Sarpagandha)	200
2.	<i>Rauvolfia serpentina</i> TFRI RS-2 (Sarpagandha)	150



Bamboos Species- Rs. 25/plant

S. No.	Species	Number of Plants
1.	<i>Bambusa bambos</i> (Katang bans)	1350
2.	<i>Bambusa vulgaris</i> (var. green)	110
3.	<i>Bambusa nutans</i>	75
4.	<i>Dendrocalamus strictus</i> (Lathi bans)	940
5.	<i>Dendrocalamus longispatus</i>	100



Tree Species and Medicinal Plants- Rs. 25/ plant

S. No.	Species	Number of Plants
1.	<i>Tectona grandis</i> (Teak, Sagoan)	200
2.	<i>Dalbergia latifolia</i> (Kala shisham, Rosewood)	200
3.	<i>Celastrus paniculatus</i> (Malkagini, Jyotishmati)	100
4.	<i>Plumbago zeylanica</i> (Chitrak)	100
5.	<i>Oroxylum indicum</i> (Shivnag)	50
6.	<i>Tamarindus indica</i> (Imli)	150
7.	<i>Azadirachta indica</i> (Neem)	50



Guest House facilities and Charges

S.No.	Category of Person	Rent per day while on Govt. Duty (Rs.)		Rent per day while not on Govt. Duty (Rs.)	
		Room	Suit	Room	Suit
1	A) Officials of ICFRE and in institutes B) Consultants and research Fellow at ICFRE and its institutes and FRI Deemed Universities C) Officials and experts of MoEF&CC, New Delhi D) Officials of SFDs E) Ex- employees of ICFRE and Ex-Deputationist	150	200	200	200
2	Family members of present /ex a) ICFRE Employees b) ICFRE Deputationist			200	300
3	a) Officials of Autonomous bodies , Universities under thtas FRI Deemed University b) Officials of Central/State Government other than SFDs	200	300	400	500
4	Others			800	750



Maintenance charged in addition to above rent will be applicable as follows

Accommodation type	Maintenance charge including A/C /Heater Charges
Room	200
Suit	250



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ABOUT THE INSTITUTE

Tropical Forest Research Institute ,Jabalpur (Madhya Pradesh) came into existence in April 1988,to provide strong research support to sustainable development of forest and forestry sectors in central India comprising the states of Madhya Pradesh.

It is one of the nine Regional institutes under the Indian Council of Forestry Research & Education , Dehradun (Uttarakhand) .

Forest Research Centre for Skill Development ,Chhindwara , came into existence on 30th March 1995.It was declared on 3rd January 1996,a satellite Centre of Tropical Forest Research Institute, Jabalpur.

CORE RESEARCH AREAS

- ❖ Eco-restoration of Vindhyan, Satpura and Maikal hills and Western Ghats, Rehabilitation of mined areas.
- ❖ Development and Demonstration of Agroforestry Models
- ❖ Forest Protection
- ❖ Biofertilizers and Biopesticides
- ❖ Non-Wood Forest Products
- ❖ Biodiversity Assessment, Conservation and Development
- ❖ Sustainable Forest Management
- ❖ Planting Stock Improvement
- ❖ Climate Change & Environment amelioration
- ❖ Forest Products Development

