

Report on the Monthly seminar held on 23rd January 2020 at Extension Hall, IWST, Bengaluru.

Topic: “Tissue culture techniques for forestry species-way forward” by

Mrs. Tresa Hamalton. Scientist -C

In continuation of the series of monthly seminar, a talk on Tissue culture techniques for forestry species-way forward was delivered by Mrs. Tresa Hamalton, Scientist- C, SFM division on 23rd January 2020 at Extension Hall, IWST, Bengaluru.

Director, GCR (R), Forest Officers, all the Scientists, Officers and Students were present during this seminar. Subject expert Dr. Tejavathy, Botany Department, Bangalore University was also present during this seminar.

The Director, Dr. M.P. Singh, IFS chaired the seminar. Dr. V.P. Tewari, Group Co-ordinator (Research) welcomed the Director and all the participants. The seminar was started by giving a brief introduction of the topic and its significance. The speaker briefed about tissue culture techniques and its applications. She also explained about the work done in IWST till date by Dr. T.S.Rathore and his team, which consisted of Scientists, Technical staff, Research Scholars and students either as projects or out of projects (dissertation work). The species covered by them are Sandal, Teak, 12 species of Bamboo, *Mappia foetida*, *Melia dubia*, *Ailanthus excelsa*, *Eucalyptus tereticornis*, *Tecomella undulata*, *Wrightia tinctoria*, *Garcenia indica*, *Madhuca insignis*, *Embelia ribes* and some orchids.

The speaker also told about the ongoing work on the species: *Ebony*, *D.longispathus*, Sandalwood and Bamboo species. She explained her plan for future research in tissue culture at IWST. The speaker also mentioned about constraints in tissue culture, for which the subject expert Dr. Tejavathy provided her suggestions.



Suggestion from Subject expert

After the plants have been transferred from lab condition, use of Arbuscular Mycorrhizae can be considered during hardening to increase survival and growth.

Prevention of *in vitro* phenolic leaching can be controlled using various agents in medium, for which the speaker replied that it has already been experimented.

Limitation in availability of explant due to pest and insect infestation needs to be looked into.

Outcome of the seminar:

A. Identification of research needs:

- ❖ Refinement of protocols for sandalwood micropropagation, with respect to increasing rooting %, survival after planting etc.
- ❖ Protocols developed for Sandalwood and *Melia dubia* need to be validated for other economically important genotypes of those species
- ❖ Red Sanders – rooting of micropropagated shoots yet to be achieved.
- ❖ R & D protocols require scale up / refinement before large scale production.
- ❖ Protocol for tree species require long period with low success rate.

B. Formulation of future strategies/road map

- ❖ Future research to be focused only on species under our mandate e.g. Sandalwood and *Melia dubia*
- ❖ To contact Dr. Yashodha of IFGTB regarding certification and accreditation of TC labs.
- ❖ To contact Dr. Rekha Warriar of IFGTB regarding clonal propagation of *Melia dubia*. MoU with pvt. TC labs for mass production using our technology can be explored.



C. Networking research identified

Collaboration with academic institutes like Bangalore University, IISc etc. for future developments.

Director requested the expert also to collaborate with IWST.

D. Future research directions discussed for implementation and opportunities for funding.

Refinement of sandalwood micropropagation techniques to increase rooting % and survival, to be covered in AICRP-Sandalwood project.

Proposal for Infrastructure development to be submitted to Karnataka Bamboo Mission

Finally the Director appreciated the presentation made and thanked speaker of the day. In the end, GCR thanked the Director, IWST, Bangalore and Chairman of the seminar, subject expert- Dr. Tejavathy, speaker and all participants for their active participation.