



MONTHLY SEMINAR

28.07.2020

THEME – TREE IMPROVEMENT

TOPIC – Problems in Tree Tissue Culture

Speakers :

1. Dr. Animesh Sinha, Scientist – E and Head, Genetics and Tree Improvement Division, Institute of Forest Productivity, Ranchi.
2. Sh. Atanu Sarkar, Technical Assistant
3. Sh. Mainak Chakraborty, JPF;
4. Ms. Munmun Mitra, JPF;
5. Mrs. Phallo Kumari, JPF;
6. Ms. Rakhi Nandy, JRF;
7. Ms. Runam Kumari, JRF;
8. Sh. Sanjiv Kumar Mahto, JPF.

The Monthly Seminar/Webinar started with the welcome address by the Head, Genetics and Tree Improvement Division, Institute of Forest Productivity, Ranchi. He said that Clonal forestry is now gaining increasing recognition as a quicker alternative in tree improvement. *In vitro* techniques are being increasingly applied to supplement conventional methods of vegetative propagation. Tissue culture of tree species in India began in 1960s. It is journey of sixty years; still the sound of success is not whispering surrounding us. Very few areas are planted with tissue culture raised forest species. Challenges faced by tissue culturist for *in vitro* propagation as well as their probable solution are the major concern in these days.

Dr. Animesh Sinha, Senior Scientist initiated the presentation on the topic "Problems in Tree Tissue Culture." Elaborately he described why tree tissue culture is required and status of clonal forestry in the world. Challenges for *in vitro* propagation were discussed. Other speakers described about the problems and probable solutions on following points:

- Contamination of Cultures
- Browning of the Medium
- Shoot tip necrosis
- Rooting
- Acclimatization
- Juvenility-Maturity Problem
- Vitrification
- Difference in Culture Response between Genotypes
- Precocious Falling of Leaves

➤ Cost Effectiveness

The seminar ended with critical discussion on the presentation and formulation of future strategies and networking under the chairmanship of Dr. Nitin Kulkarni, Director, Institute of Forest Productivity, Ranchi.

Expected outcome of the seminar:

1. Identification of research needs:

- i. Techniques to be developed for *in vitro* propagation of species lacking effective rejuvenation methods.
- ii. Refinement in existing procedures for commercializing *in vitro* propagation of forest trees.
- iii. The mechanism should be developed so that the cost of plantlet production by tissue culture techniques can be brought down considerably to match with or less than the conventional methods of propagation.

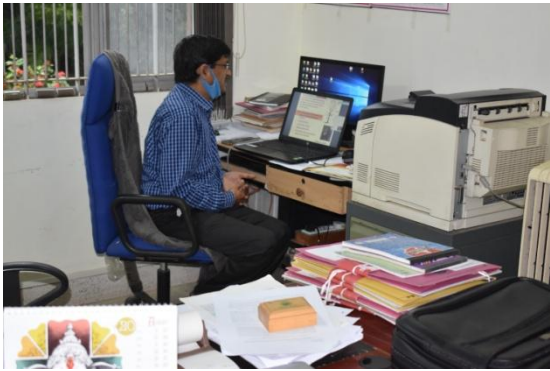
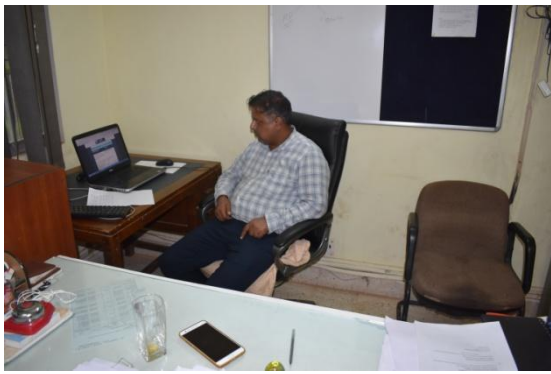
2. Formulation of future strategies/road map

- i. Research to be initiated on *in vitro* propagation of important tree species, particularly which have threat perceptions.
- ii. In AICRP – teak project, sufficient number of tissue cultured plantlets of 5 - 10 clones should be produced so that the target of 20 ha plantation of teak plants can be meet up.
- iii. In FGR programme, initiative would be taken to established culture of 8 woody perennials for experimentation of *in vitro* conservation.

3. Networking research options & opportunities

The networking with State Forest Departments in eastern India as well as other research institutions and universities in relevant field to be promoted.





Glimpses of the Participants through Webinar



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