Project Profile

Project Code:	IFGTB / RP 172 / 2017-2021
Project Title:	Genetic improvement of Thespesia populnea.
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Funding Agency	ICFRE
Project Approval Date by	RAG 2016 RPC 2017 ICFRE 201
Date of commencement of the project:	01. 04. 2017
Date of completion of the project:	31. 03. 2021
Total Budget of the project:	16.09 lakhs

Objectives

Short term objectives of the project

1. To test the available clones under multilocations.
2. To identify superior and stable clones.

Long term objectives of the project

1. Production of superior quality planting stock of Thespesia populnea for improving productivity.

Summary:

Thespesia populnea (L.) Soland ex Correa is a valued multipurpose tree species. The species has been planted throughout the tropics and is naturalized in tropical climates throughout the world. The timber is of great local utility, being suitable for furniture, agricultural implements, carts and carriages, musical instruments, wheel-spokes, boat building and also for turnery. It is tough, durable and resists termites. The wood is highly preferred because it does not split. The available information indicate that the research programmes on this species are limited to medicinal uses / therapeutic values. The major problem with T. populnea is that the stem is often crooked. The tree grows in short twists and turns with numerous limbs, therefore lumber is generally found in short lengths. No systematic tree improvement programmes have been undertaken in this species and no efforts have been put for identification of superior germplasm through variability studies except the research undertaken by the Institute of Forest Genetics and Tree Breeding (IFGTB) since 2011. Germplasm assemblage and evaluation of different provenances or seed sources to understand the variability is fundamental to any tree improvement research. The current project envisaged to establish multilocation clonal trials of T. populnea.Leafy cuttings from the select Plus Trees were collected and kept for rooting in the Model Nursery of IFGTB. Bud sprout could be observed in all the cuttings and the average rooting percentage was 70. Three clonal trials (Panampully Field Research Station, near Palakkad, Kerala, Gudalur Field Research Station, near Chennai, Tamil Nadu and Thalavaipettai, near Bhavani, Tamil Nadu (Farm field)) were established with the hardened ramets of 40 select clones. The trials were established in Randomized Complete Block Design with five replications (3 tree plot) at 3 x 3 m spacing.Biometric data (total height, collar diameter and volume index) recorded at age 1 from the clonal trial at Panampully Field Research Station were subjected to statistical analyses. The Analysis

of Variance revealed that the data are non-significant at 5% level of significance. Total height ranged between 73.27 cm to 106.20 cm. Clone 40 recorded the maximum value for total height whereas Clone 28 registered the minimum value with a mean and standard deviation of 90.57 and 15.84 cm respectively. Clone 36 recorded the maximum value for collar diameter (17.95 cm) and Clone 37 registered the minimum value (14.54 cm). The mean and standard deviation were 16.18 and 1.79 cm respectively. Volume Index varied from 160.30 cm3 to 322.00 cm3 with a mean and standard deviation of 244.31 and 83.09 cm respectively. The maximum value for volume index was registered by Clone 5 and Clone 37 registered the minimum value.