

PROJECT PROFILE

Title of the Project: Field performance of micro and macro propagated planting stock of selected five commercially important bamboo species

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Duration of Project: 2004 -2009

Objective: 1. To evaluate the field performance of micro- and macro-propagated planting stock of five commercially important species of bamboos viz., *Bambusa bambos*, *Dendrocalamus strictus*, *Dendrocalamus asper*, *Pseudoxytenanthera stocksii* and *Ochlandra travancorica* in multi-locational plots to be established in Kerala, Tamilnadu, Karanataka and Andhra Pradesh.

Funding agency: Department of Biotechnology, Govt. of India

Summary:

- Bamboo germplasm garden with 37 genotypes belonging to 19 species was established.
- Twenty five hectares field plantations were established to study the performance of micropropagated plants of three species of bamboos, *B.bambos*, *D.strictus* and *P.stocksii*.
- Among the three species tested, *B.bambos* showed better growth than *P.stocksii* and *D.strictus*, however the utility value of the culms vary among the species.
- Micropropagated, seed raised and cuttings propagated plants show similar growth in the field conditions. Initially, cuttings raised plants showed lesser mean number of shoots, however, no significant variation was noticed after 3 years of planting. It may be due to the number of rhizomes developed during the initial phase of establishment.
- Bamboo propagules over 8 months old at the time of field planting were escaped from rabbit damage; hence to avoid the damage of the shoots by rabbits it is essential to plant 8-12 months old plants. If the newly produced culm is thick, vulnerability to

rabbit damage is less.

- Bamboos prefer well drained loamy soil and growth and production of new culms was highly affected in poor soils like gravel and rocky types.
- In irrigated conditions, the mean height of the tallest culm of micropropagated *B.bambos* at the age of 1.5 years was 4.2 m, whereas under unirrigated conditions, 4.5 year old plants showed 3.1m height.
- In unirrigated but good soil type (Bharathiar University campus) micropropagated *D. strictus* was growing well than *B.bambos* and *P.stocksii*.
- Enough care need be taken for the plants during the initial years of establishment especially watering and weeding. Farmer's field is preferable for bamboo cultivation than unmanaged areas. Fire hazards are not uncommon in bamboo fields and to avoid the same regular weeding is essential during the establishment stages.
- Watering to the bamboo plants once in 15 days is essential in low rainfall areas at least for initial three years. Number of shoots produced was similar among the propagule types and culm growth is determined by the water availability.
- Supply NPK along with farmyard manure promoted the growth of bamboo plants than providing farmyard manure alone