

PROJECT PROFILE

Project Title: Association analysis of adventitious rooting traits using STS markers in *Eucalyptus tereticornis* and DNA profiling of eucalypts clones

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Start and Completion dates : April 2008- March 2011

Objectives:

1. Association analysis and tagging of DNA marker for the adventitious rooting traits.
2. RAPD profiling of selected eucalypt clones

Funding Agency: Indian Council of Forestry Research and Education (ICFRE)

Summary:

- Species-specific SSR markers were identified after analyzing the most common alleles among the species and landraces. The individuals belonging to *E.tereticornis* and/or *E.camaldulensis* could be differentiated, which was not possible so far using dominant markers.
- Significant genotypic LD was found in *E. camaldulensis*, wherein out of 135 significant pairs, 17 pairs showed $r^2 \geq 0.1$. Similarly, in *E. tereticornis*, out of 136 significant pairs, 18 pairs showed $r^2 \geq 0.1$.
- The extend of LD decayed very quickly showing the significance of association analyses for higher resolution markers.
- The loci Embra40 was significantly associated ($P=0.0012$) with low rooting percent in *E.tereticornis* accessions. Similarly, Embra7 was correlated with shoot length.
- The loci Embra167 and 39 were correlated with root length and shoot length of the vegetative propagules in *E.camaldulensis* accessions.