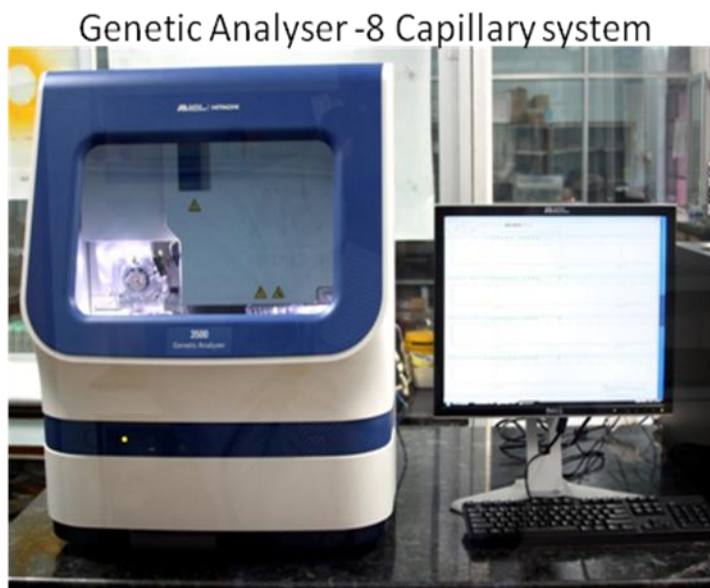


## **IFGTB acquires state of art facility for forest tree genome analysis**

The magnitude and structure of the genetic diversity of a population determine the success of that population and its sustained existence in the constantly changing biotic and abiotic components of its ecosystem. The essence of breeding depends on the understanding of the genetic diversity which is important to devise mechanisms to develop tailor made trees for specific end use. Molecular markers are the tools of choice for both characterizing forest genetic resources and tracking the inheritance of target regions of genomes in tree breeding programs. Automated laboratory facilities for genome analysis such as genotyping and DNA sequencing make possible the precise and accurate estimation of data to accelerate tree breeding process.

Institute of Forest Genetics and Tree Breeding (IFGTB) Coimbatore has established a capillary based automated genotyping facility for the development of trait targeted DNA marker identification in eucalypts. The facility is presently utilized for SSR genotyping in eucalypts mapping population for the development of genetic linkage maps. Financial support for the genotyping facility was obtained through the Department of Biotechnology, Government of India.



In the ongoing QTL mapping program, the mapping population of eucalypts consists of F1 inter-specific hybrids from *E. camaldulensis* x *E. tereticornis* and *E. tereticornis* x *E. grandis*. The genomic DNA was used for genotyping of the mapping populations and 48 SSR loci were completed. Fluorescence tagging was carried out for allele identification following M13 tailed primer strategy. Multiplexing of the loci was done either by size or by fluorescent dye color. Four dyes, such as, FAM, VIC, NED, PET with LIZ size standard (orange) were used. The system is currently used to genotype up to 96 samples in a day.