

Tanarat K.Jantapanon 2010: DNA Fingerprinting of Eucalypt Clones using
Microsatellite Markers. Master of Science (Genetics), Major Field: Genetics,
Department of Genetics. Thesis Advisor: Associate Professor Surin Peyachoknagul,
Dr.Agr. 58 pages.

Microsatellite marker was used to verify 25 eucalyptus clones. Thirty nine primer pairs were selected. Twenty eight primer pairs could amplify DNA in which 18 of them showed polymorphic band pattern among 25 eucalyptus clones. One hundred and fifty-two distinct DNA bands were scored and calculated for the genetic similarity and cluster analysis using simple matching and UPGMA (unweighed pair group method using arithmetic average). The constructed phylogenetic tree divided these eucalytus into four clusters. Two pairs of primer each, EMBRA 2 and 22, 2 and 63, 22 and 69 or 63 and 69, were selected to amplify DNA in the same reaction as a duplex PCR. In addition, five DNA fragments were cut from the gel, cloned, and sequenced. Six primer pairs were designed from these sequences. Three primer pairs, NEM 1, 3 and 6, showed multi-locus DNA bands and another one, NEM 2, showed single-locus DNA band. The result showed that these microsatellite markers could be used to examine and compare the genetic resources among closely related samples.

Student's signature

Thesis Advisor's signature