



Standardization of Fast, Efficient and Improved Genomic DNA Extraction Protocol for *Melia dubia* Cav. using RAPD and ISSR Marker Assay

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Abstract: *Melia dubia* Cav. is an important fast growing multipurpose tree species and recently, it is recognized as prominent species for pulp and paper. Due to its demand, farmers have started planting this species. In order to improve the growth and yield, tree improvement work has already initiated in the country. In the present study, DNA extraction techniques have been standardized by modifying available protocol using RAPD and ISSR marker assay for assessment of genetic diversity in *M. dubia*. The standardized protocol yielded 301-961 ng/ μ l of quality genomic DNA with 1.77 to 1.90 absorbance ratio 260/280 nm. The quality of isolated DNA was also assessed by 0.8% agarose gel electrophoresis which evidenced a single compact band without shearing. Further, it was successfully tested for PCR amplifications using RAPD and ISSR markers assay. The isolated DNA from this method can be used in approximately 3000 PCR reactions for molecular studies in *M. dubia*.

Keywords: *Melia dubia*, Multipurpose tree species, DNA isolation, RAPD and ISSR markers
