Section D

401/D

Comparison of the efficiency of different Genomic DNA extraction methods for selected rice varieties of Sri Lanka

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Rice is a staple food for people of many Asian countries. The rice genome is already mapped and characterized, and it is the smallest of the major cereal crop genomes. DNA extraction is a very important step nowadays in the genomic studies of rice. An efficient, unique and less time consuming DNA extraction protocol is needed for the molecular level study of most rice varieties. Extracted DNA should be very pure and of high quality too. Therefore, this study was targeted to compare the efficiencies of various DNA extraction techniques available to isolate DNA from selected rice varieties in Sri Lanka. The DNA extraction methods developed by Bousquet *et al*., Cheng *et al*., Doyle *et al.*, and Michiels *et al*. were applied to five different local rice varieties, grown in different parts of Sri Lanka, namely, Mooddaikaruppan, H4, Periyavellai, 500-1 and IR8. Based on the quantity and quality of the extracted DNA, tested by measuring the absorbance of DNA at 260 nm using a Nanodrop® ND-1000 spectrophotometer and measuring the ratio of A260 / A280 and electrophoresis on an agarose gel, the efficiency of the extraction method chosen varied among these selected five rice varieties. Among the methods used, the method introduced by Cheng *et al.*, yielded an acceptable quality of amplifiable DNA with satisfactory concentrations for all the selected five Sri Lankan rice varieties.

Keywords: DNA extraction, rice varieties, gel electrophoresis

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