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## Section B

201/B

### **True- to-type conformity of coconut (*Cocos nucifera* L.) plants regenerated through somatic embryogenesis**

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Coconut (*Cocos nucifera* L.) is a major plantation crop in Sri Lanka. *In-vitro* vegetative propagation of coconut is highly suitable to increase homogeneity in coconut fields. Genetic variations occur due to somaclonal variations in regenerated plantlets and use of molecular markers plays an important role in determining the genetic integrity in *in-vitro* cultured plantlets. The objective of the study was to evaluate the genetic homogeneity of coconut plantlets derived from unfertilized ovary explants through somatic embryogenesis. Plantlets which were ready to be transferred into the acclimatization process were selected for the study while in the modified Eeuwens Y<sub>3</sub> liquid medium containing 6 % (w/v) sucrose, 0.25 % (w/v) Phytigel supplemented with Gibberellic acid 0.45 µM. Total genomic DNA from randomly selected plantlets along with the two hybrid mother palms of CRIC 65 (Palm number DT-2) and CRISL 98 (Palm number TSR-12) was isolated from 100 mg fresh leaves in a total of 42 samples. Extracted genomic DNA was subjected to PCR based simple sequence repeat marker analysis by using four microsatellite lociprimer pairs (CNZ04, CNZ06, CNZ12 and CNZ44) and PCR products were electrophoresed in polyacrylamide gels. The bands were visualized by silver staining and data were visually scored. The primers produced clear and scorable amplification DNA patterns with monomorphic bands. Primer CNZ 44 produced high resolution DNA bands. Visual observations of polyacrylamide gel images proved the genetic equality among the *in-vitro* plantlets and the genetic equality to the respective mother palm. These results suggest that there was no somaclonal variation in unfertilized ovary-derived plantlets of coconut and the micropropagation protocol used in this study is appropriate and applicable for clonal mass propagation of coconut plants.