

RAPD Marker Analysis Reveals High Genetic Stability in High Frequency Somatic Embryogenesis-derived Plants of Robusta Coffee (*Coffea canephora*)

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SUMMARY

This paper reports high frequency somatic embryogenesis, plant regeneration and high genetic stability in somatic embryo-derived plants (SEPs) of CxR cultivar of robusta coffee (*Coffea canephora* Pierre) as assessed by RAPD markers. High frequency embryogenic calli were induced from the leaf explants from a 15 year-old superior plant (TL1) on MS medium supplemented with IAA (1 mg/l) and kinetin (5 mg/l). Somatic embryos were matured on MS medium with ABA (1 mg/l) and germinated on half strength MS medium supplemented with kinetin (0.1-1 mg/l). After hardening in netpots in a polytunnel and further growth in polybags in nursery, the SEPs were planted in the field. There was no detectable morphological variation in the SEPs. Fourteen SEPs established in the field were used for RAPD analysis. Genomic DNA was isolated from the fresh leaves of the mother plant (TL1) and one year-old SEPs by a modified SDS method. After initial screening of 25 arbitrary 10-base primers, 16 primers that gave distinct RAPD bands were used for further study. In total, 121 RAPD markers were obtained from 16 primers, out of which 120 markers were monomorphic across all the SEPs and the mother plant. One polymorphic marker of 1.4 kb size was obtained with the primer OPA-14 in one SEP.