

DNA Typing of Dessert Banana Cultivar 'Kolikuttu' ('Silk') Accessions by Microsatellite Markers

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Abstract

Banana plays an important role as a widely consumed fruit in Sri Lanka. "Kolikuttu" (AAB) is one of the most highly priced dessert cultivars in the local market. Being a traditional cultivar, "Kolikuttu" shows some apparent morphological variation in the field but its genetic variation that could be used for genetic improvement has not been identified in depth. "Kolikuttu" is highly susceptible to *Fusarium* wilt. Fourteen *Kolikuttu* accessions showing variation in morphology and tolerance to *Fusarium* wilt were collected from different locations in Sri Lanka. DNA extracted from young leaves was subjected to PCR using six SSR (Microsatellite) primers. PCR products were separated by Polyacrylamide Gel Electrophoresis and bands were detected by Silver Nitrate Staining. Then bands were scored and statistically analyzed by using POPGENE 1.32 version and their genetic distance matrix and a dendrogram were derived. Out of 19 SSR alleles amplified, 12 were polymorphic resulting 63% loci polymorphism. Based on the dendrogram three different *Kolikuttu* accessions were clustered separately. The three accessions could be considered as different genotypes were "Athdath Puwalu" (genetic distances with the accession 11 is 0.1112), the accession collected from Telijjawila (genetic distances with the accession 13 is 0.1719) and accession collected from Angunakolapelassa which was not affected by *Fusarium* wilt for a long time.

Keywords: banana *Kolikuttu*, genetic distance, genetic diversity, SSR primers