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Fingerprinting of different cultivars of Banana *Musa sp* L using microsatellite DNA marker

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Banana is an important crop grown worldwide and is one of the most important food crops after maize, rice, wheat and cassava globally. Despite the importance of the crop, production is threatened by various constraints such as pests and by a multitude of serious bacterial, viral and fungal diseases. Banana breeding programs are currently focused on the introgression of diverse traits that range from disease resistance/tolerance to yield and fruit quality. Molecular genetic studies are of fundamental importance for increasing our knowledge base and resources for accelerated genetic improvement of the Banana, by allowing the analysis of genetic diversity. The present investigation was demonstrated the potential use of SSR markers for assessment of genetic diversity and relationship among forty ecotypes of four genotypes of Banana (Elakki, Rajapuri, Red Banana and Rasabale). Suckers were collected from different geographical regions of southern part of India (Karnataka, Kerala and Tamil Nadu). In order to see the inter-relationship among the Banana ecotypes, a phylogenetic tree was constructed from the pairwise distance matrices. Genetic diversity of Banana genotypes was analyzed using Darwin's software with 10,000 boot straps. The dendrogram based on UPGMA cluster analysis separated the genotypes into four major clusters but the distinctiveness between the ecotypes was not observed. The cluster I consisted of all the Elakki ecotypes, whereas, Rajapuri ecotypes were located in cluster II, and Red banana ecotypes were located in cluster III and cluster IV consisted of Rasabale ecotypes. This revealed that there was close relatedness between ecotypes, which could not differentiate them irrespective of their different places of origin and utilization of less number of primers for screening the ecotypes.

Speaker Biography

S R Mulla did his Ph.D. from University of Agricultural Sciences, Bengaluru, India. He is presently serving as Assistant Professor, Department of Biotechnology and crop improvement, University of Horticultural Sciences, Bagalkot, India. He has published more than 10 papers in reputed journals.

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