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**USE OF RAPD MARKERS FOR ASSESSMENT OF MOLECULAR DIVERSITY IN  
SUGARCANE GENOTYPES**

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**ABSTRACT**

Genetic diversity in 22 sugarcane genotypes was analyzed by Random Amplified Polymorphic DNA analysis. Selected 15 primers generated 129 bands of which 108 were found to be polymorphic with an average polymorphism 83.32 %. The number of amplification products ranged from 4 to 12 for different primers. The size of amplification products ranged from 325-2858 bp. The genetic similarity among sugarcane genotypes ranged from 0.27 to 0.98. UPGMA cluster analysis with NTSYSPC programme placed these genotypes into different groups. The parentage of the varieties did not contribute significantly to the grouping pattern. Genotypes belonging to common parentage were placed under different groups while genotypes from different parentages were under same group. Among the genotypes, Co 6907 was found to be distinct and divergent from rest of the genotypes. The study revealed that the limited genetic base of the popular varieties and the need to diversify the genetic base by using new sources from the germplasm.

**Keywords:** Sugarcane *Saccherum* spp., RAPD Markers, Genetic Diversity

**INTRODUCTION**

Sugarcane (*Saccherum* spp. Hybrids) is a genetically complex crop of major economic importance in tropical and sub tropical

countries. It is cultivated under a wide range of agroclimatic conditions in India. The individual locations differ considerably with