Molecular Diversity of Tomato Germplasm (*Lycopersicum esculentum* L.) using Lycopene Specific Markers

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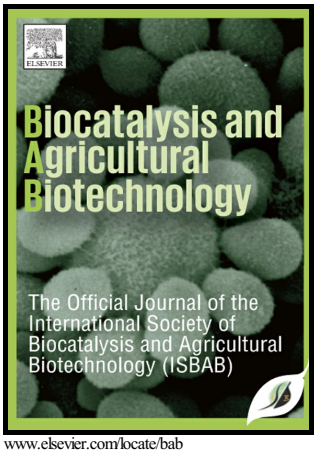

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Molecular Diversity of Tomato Germplasm (*Lycopersicum esculentum* L.) using Lycopene Specific Markers

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Abstract

Phenotypic and genetic diversity of genotype collections are important for germplasm conservation of a species. Characterization of morphologically much diversified materials with molecular markers offers a unique opportunity to define significant marker-trait associations of biological and agronomical interest. Twenty four genotype of tomato were collected and screened with four lycopene gene specific primers in order to determine the genetic diversity. Cluster analysis based on lycopene gene specific marker and morphological traits showed two distinct groups. In both the dendrograms, the second cluster did not show any similarity with each other. Lycopene gene specific marker and phenotypic traits based dendrograms revealed that some of the genotypes were closely related while the others were placed at distance in both the dendrograms. The lycopene specific primers similarity coefficient based similar genotypes in a cluster, and fruit yield and related phenotypic traits based clusters of different genotypes may be screened in quality genetic breeding programmes.