

Multivariate Analysis of Genetic Diversity in Upland Cotton (*Gossypium hirsutum* L.)

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ABSTRACT

Fifty genotypes of upland cotton (*Gossypium hirsutum* L.) collected from different research centers across the country were subjected to Mahalanobis' D^2 statistic, cluster analysis and principal component analysis based on sixteen characters. Eight and 8 clusters were obtained for D^2 statistic and cluster analysis, respectively. Divergence studies indicated that ginning out-turn, 2.5% span length, oil content, number of monopodia plant⁻¹ and seed index contributed maximum to genetic diversity. Multivariate analysis revealed that wider genetic diversity existed among the genotypes GSHV-155, GJHV-448 and LK-861, revealing the scope for exploitation of heterosis.

Key words : Cluster analysis, Cotton, D^2 analysis, Principal Component Analysis