

## **Genetic Divergence in Sesame (*Sesamum indicum* L.)**

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### **ABSTRACT**

Sixty genotypes of sesame were evaluated for 10 quantitative characters to study genetic divergence by using Mahalanobis'  $D^2$  statistic, cluster analysis and principal component analysis. Based on these clustering methods, 7 and 8 clusters were formed in  $D^2$  statistic and cluster analysis, respectively. 1000- seed weight contributed maximum towards diversity in  $D^2$  analysis. PCA identified 4 components with eigen value more than one which contributed 90.55 per cent of cumulative variance. Highest inter-cluster distance was observed between VI and VII followed by cluster IV and VI in  $D^2$  statistic. Where as cluster IV and VI followed by IV and V showed maximum inter-cluster distance in hierarchical cluster analysis. For varietal improvement strains from these clusters were important on the basis of their genetic distance and highest cluster means. No relationship between geographic origin and genetic diversity was observed among all the divergence methods.

**Key words :** Cluster Analysis, Genetic Diversity, Principal Component Analysis, Sesame