

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

**G Vijaya Lakshmi, V Chenga Reddy, C Panduranga Rao, J Satish Babu and R Srinivasulu**  
Department of Genetics and Plant Breeding, Agricultural College, Bapatla 522 101, Andhra Pradesh

## **ABSTRACT**

Genetic divergence was assessed among 72 genotypes of cotton based on 18 traits using Mahalanobis'  $D^2$  statistic, cluster analysis and principal component analysis. Eight and nine clusters were obtained for Mahalanobis'  $D^2$  statistic and cluster analysis, respectively. In PCA seven principal components were identified, out of which first five principal components explained 76.5% of variability in cotton. The principal component analysis (PCA) enabled loading of similar type of variables on a common principal component.

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