Studies on Genetic Divergence in Upland Cotton (*Gossypium hirsutum* L.).

K Bayyapu Reddy, V Chenga Reddy, M Lal Ahmed, T C M Naidu and V Srinivasarao
Department of Genetics and Plant Breeding, Agricultural College, Bapatla- 522101, Andhra Pradesh

ABSTRACT

Genetic divergence was studied among 63 genotypes of American cotton (*Gossypium hirsutum* L.) using D^2 technique for seventeen characters. The 63 genotypes were grouped into 8 clusters containing 1 to 23 genotypes. The random distribution of genotypes indicated absence of parallelism between geographical diversity and genetic diversity. Cluster VI is the largest with 23 genotypes and Clusters IV, V, VII and VIII were lowest with one genotype each. In D^2 analysis, lint index (24.99) followed by micronaire (21.76), seed index (21.51), days to 50% flowering (16.64) contributed maximum for the divergence. The inter-cluster distance was maximum between clusters V and VIII (329.865), followed by clusters IV and VII (329.019) and was minimum between cluster I and V (27.135). Based on these studies crosses can be made between genotypes of distant clusters to obtain desirable transgressive segregants.

Key words : Clusters, D^2 statistic, Genetic divergence, *Gossypium hirsutum*