Selection of Parents through Genetic Diversity Studies for Improvement of Yield and Yield Components in Mungbean (*Vigna radiata* L. Wilczek)

M Paramesh, D M Reddy, M Shanthi Priya and P Sudhakar
Department of Genetics and Plant Breeding, S.V. Agricultural College, Tirupati 517 502, A P

ABSTRACT

The present investigation was undertaken to select the parents through genetic divergence studies in thirty one mungbean genotypes for sixteen morpho-physiological traits by using Mahalanobis D^2 statistic. The genotypes were grouped into ten clusters. Cluster one was largest with nineteen genotypes followed by cluster II with four genotypes. The clusters III, IV, V, VI, VII, VIII, IX and X possessed one genotype each. Cluster I had maximum intra-cluster distance while inter-cluster distance was highest between clusters VII and X. Based on mean performance and divergence studies it was concluded that, hybridization between genotypes belonging to different clusters *viz.,* PUSA VISHAL x EC 396117 (cluster VII x cluster X), ASHA x EC 396117 (cluster III x cluster X), LGG 450 x EC 396117 (cluster I x cluster X), KM 122 x EC 396117 (cluster I x cluster X), MGG 347 x EC 396117 (cluster I x cluster X) and MGG 295 x EC 396117 (cluster VI x cluster X) could be suggested for the exploitation of transgressive segregants for both yield as well as yield components. Chlorophyll content contributed relatively maximum towards genetic divergence followed by relative injury, days to 50% flowering, days to maturity and seed yield.

Key words : D^2 analysis, Genetic divergence, Morpho-physiological traits, Mungbean.