RESEARCH ARTICLE

STUDIED ON DIVERGENCE ANALYSIS, HERITABILITY AND GENETIC ADVANCE FOR QUANTITATIVE TRAITS IN BLACK GRAM (*VIGNA MUNGO* L.)

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Abstract: The present experiment entitled "Studied on divergence analysis, heritability and genetic advance for quantitative traits in black gram (*Vigna mungo* L.) was conducted at Field Experimentation Centre, Department of Genetics and Plant Breeding, Sam Higginbottom University of Agriculture Technology and Sciences, Allahabad during *kharif*2017 in Randomized Block Design with three replications. The present investigation was prevailed to examine the 41Blackgram genotypes along with one check (T-9) to study the variability, heritability, genetic advance and divergence. Analysis of variance showed highly significant differences among 41 Blackgram genotypes all the 13 quantitative characters studied. Maximum GCV and PCV were recorded for harvest index,seed yield/plant, clusters per plant. High heritability was recorded for days to maturity, pods/plant, days to 50% flowering, seeds yield/plant,biological yield /plant. High heritability coupled with high genetic advance as percentage of mean was recorded for harvest index. Genetic diversity estimated in 41Blackgram genotypes using Mahalanobis's D^2 statistic. Forty-one genotypes were grouped into seven clusters by tocher method (Mahalanobis Euclidean Distance) cluster analysis. The maximum inter-cluster distance was observed between cluster VI and cluster VII. The maximum intra-cluster distance was observed in cluster VI. Cluster VI showed maximum cluster mean value for seed yield per plant among all characters cluster per plant, seeds per pod, harvest index contributes maximum.

Keywords: Divergence analysis, Genetic Diversity, D^2 statistic, Cluster

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