Genetic Divergence of Selected Mung Bean Germplasms Under Salinity

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ABSTRACT

In the present study an attempt has been undertaken to compare the interrelationship of 11 morpho-biochemical characters and assessment of genetic diversity of 18 selected germplasms of mungbean under saline soil condition during the summer season, 2014. The experiment was arranged as factorial analysis in a Randomized Block Design with three replications. PCA and Cluster analysis were done using NTsys pc (Ver. 2.2). The mean performances of almost all the genotypes with respect to their morpho-biochemical traits were found to be decreasing when they were subjected to grow in the saline soil. Multivariate analysis showed in saline condition, the first four components collectively contributed to 76.49% of the variability among the 18 germplasms for 11 morpho-biochemical characters. The range of Euclidean dissimilarity coefficient for 18 genotypes was between 1.96 to 6.93 in saline condition. The maximum dissimilarity coefficient in saline condition was found between KM-12-46 and Sonali (6.93) followed by KM-12-37 and Sonali (6.69) and the minimum was between KM-12-39 and SM-12-56 (1.96) followed by KM-12-39 and Pm-02 (2.22). Findings of the PCA and cluster analysis have shown that the germplasms KM-12-37, PM-02, KM-12-15, KM-12-46, Meha, KM-12-37, SM-12-78, SM-11-67 and KM-12-46 could be considered as the resource base materials which may contribute in greater way in the development of salt tolerant genotypes of greengram in future.

Keywords: Genetic diversity, greengram, PCA and Cluster analysis.