

Phenotypic Stability Analysis in Blackgram [*Vigna mungo* (L.) Hepper] Using Eberhart and Russell and AMMI Models

K Naresh Babu, A Sudarshanam, J V Ramana, V Srinivasa Rao and C Panduranga Rao
Department of of Genetics and Plant Breeding, Agricultural College, Bapatla 522 101, Andhra Pradesh

ABSTRACT

Twelve blackgram genotypes were evaluated for several characters over six environments (3 sowing dates with 2 fertility levels). The analysis of variance of Eberhart and Russell (1966) indicated that GXE (linear) was significant for characters viz., days to maturity, pod length, number of seeds per pod and seed yield per plant under study and that genotypes differed significantly. AMMI is a useful tool for interpreting genotype x environment interaction in multi-environment trials. Among the AMMI components first four IPCA axes were explained most of the portion of G X E interaction than other IPCA axis for the five characters under study. According to AMMI analysis the genotypes like the genotypes 1 and 6 (plant height); 5, 11, 12 and 8 (number of pods per plant); 5, 9 and 10 (number of seeds per pod); 2, 5 and 3 (for 1000 seed weight); 1, 3 and 7 (seed yield per plant); 12,5 and 3 (protein content) are more stable because they are having IPCA score near zero i.e. they show less interaction with environments. According to Eberhart and Russell the genotypes like 6 and 7 (plant height); 2, 4 and 10 (number of pods per plant); 6 and 7 (number of seeds per pod); 4, 5,11 and 12 (1000 seed weight); 6 and 10 (seed yield per plant); 4,5,9 and 10 (protein content) showed desirable performance.

Key words : AMMI, Blackgram, Stability