

# Phenotypic Stability Analysis in Greengram [*Vigna radiata* (L.) Wilczek] Using Eberhart and Russell and AMMI Models

K Pratap, A Sudarshanam, V Satyanarayana Rao, V Srinivasa Rao and C Panduranga Rao

Department of Genetics and Plant Breeding, Agricultural College, Bapatla 522 101, Andhra Pradesh

## ABSTRACT

Twelve genotypes of greengram [*Vigna radiata* (L.) Wilczek] were studied under six environments for nine characters to assess the stability, using Eberhart and Russell (1966) and AMMI methods. Based on pooled ANOVA genotypes showed significant differences for all characters under study except thousand seed weight when tested against both pooled error and pooled deviation. The GXE (linear) was significant for characters viz., plant height, number of pods per plant, seed yield per plant and protein content. While the non-linear component of interaction was predominant for all characters except for days to maturity and plant height. The magnitude of non-linear component of interaction was higher than linear component for most of the traits under study. AMMI model explained 98.43% of the total genotype environment interaction component for number of clusters per plant, 95.48% of total genotype- environment interaction component for number of pods per plant, 93.73% of the total genotype- environment interaction component for 1000 seed weight, 98.65% of total genotype environment interaction component for seed yield per plant and 99.04% of the total genotype- environment interaction component for protein content. Based on both AMMI and Eberhart and Russell (1966) model genotypes LGG 407 and LGG 450 for seed yield per plant; MGG 295 and MGG 351 for number of clusters per plant and number of pods per plant; genotype MGG 341 for 1000 seed weight and genotypes MGG 341 and ML 267 for protein content were identified as stable genotypes.

**Key words :** AMMI, Greengram, Mungbean, Stability