

Phenotypic Stability Analysis in Sesamum (*Sesamum indicum* L.) utilizing Regression and AMMI models

P Sumalatha, P V Rama Kumar, C Panduranga Rao and R Srinivasulu

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

ABSTRACT

Genotype-environment interaction was studied for seed yield in 10 genotypes of sesame during *kharif* 2006 and *rabi* 2006-07. Significant genotype and environment interaction was observed for all the characters except harvest index and oil content. Both linear and non-linear components of GXE interaction were found to be significant for all the characters. None of the genotypes exhibited stable performance for all the traits, however, genotypes Nellore Brown Local and Madhavi were stable for both seed yield per plant and seed yield per plot. The analysis of variance exhibited that all the three sources *i.e.*, genotype main effect, environmental additive effect, GXE (non-additive effects) and IPCA 1 have significant effects for days to 50% flowering, 1000-seed weight, seed yield per plot and harvest index. In AMMI 1 biplot, the genotypes BPT Local and Nellore BrownLocal for days to 50% flowering, YLM-11 and EC 358022 for 1000-seed weight, Madhavi and Nellore Brown Local for seed yield per plot and harvest index were stable. In AMMI 2 biplot, genotype Vinayak for days to 50% flowering, EC 358022 and Vinayak for 1000-seed weight, Nellore Brown Local for seed yield per plot and harvest index were nearer to the IPCA origin hence, these genotypes were stable over environments.

Key words : AMMI, Sesamum, Stability.