Stability of Ethanol Yield and Related Traits in Sweet Sorghum (*Sorghum bicolor* (L.) Moench) Over Environments

Ch Rani, K HariPrasad Reddy, A V Umakanth and I Vemanna
Department of Genetics and Plant Breeding, S V Agricultural College, Tirupati 517 502, A P

ABSTRACT

Genotype × environment interaction was studied for ethanol yield and their component characters in eleven parents and their 30 hybrids of sweet sorghum under three environments during *kharif* 2010. The environment + (genotype × environment) was significant for all the characters except brix (%) indicating distinct nature of environments and genotype × environment interactions in phenotypic expression. The genotype × environment (linear) interaction component showed significance for the characters plant height, TSS, TSI, total biomass, juice yield and ethanol yield studied. This indicated significant differences among the genotypes for linear response to environments (b_i) behaviour of the genotypes could be predicted over environments more precisely and G × E interaction was outcome of the linear function of environmental components. Based on stability parameters and over all mean, the hybrid NSS 1007A × CSV 19SS was found stable in performance for total biomass, juice yield and ethanol yield. The male parents SSV 84 and RSSV 120 can be used for developing stable hybrids over the environments.

Key words : Ethanol, Genotype × Environment interaction, Stability, Sweet sorghum.