Grain Yield Stability of Pearl Millet (*Pennisetum glaucum* (L.) R. Br.) in Scarce Rainfall Region of Andhra Pradesh under Rainfed Situation

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ABSTRACT

Genotype x environment interaction in pearl millet (*Pennisetum glaucum* (L.) R. Br.) was studied for grain yield by growing a total of ten genotypes including both public and private bred cultivars (six released hybrids and four released open pollinated cultivars). Studies were conducted during rainy season in three years *viz.,* 2011, 2012 and 2013 at AICRP on Pearl Millet, Agricultural Research Station, ANGRAU, Ananthapuram center. The analysis of variance indicated that significance of environments suggesting the presence of considerable influence of differential environments on grain yield. Environment (linear) was significant and larger in magnitude, suggesting its importance in expression of grain yield performance in pearl millet and indicating the prediction of performance across the environments is possible. The significant pooled deviation (non-linear component) mean sum of squares for grain yield indicated that the genotypes differed considerably with respect to their stability for this character. Considering the environmental indices, the environment 1 (*kharif* 2011) is observed to be more favourable environment for grain yield in pearl millet. Based on performance of ten genotypes studied, over the three years of study, the genotypes *viz.,* ICMH 356, ICMV 221 and ICTP 8203 were found stable for grain yield, since these genotypes showed regression coefficient 'bi' nearer to one and values for deviation from regression is as small as possible, mean is higher than the general mean (1370.189 kg/ha).

Key words : Grain yield, Pearl Millet, G x E interaction, Pennisetum glaucum (L.), Stability, Scarce rainfall region of A.P.