

Genetic Variability Studies in Maintainer Lines of Pearl Millet (*Pennisetum glaucum* (L.) R. Br.)

P Shanthi, B Sahadeva Reddy and M Subba Rao

Scientist (Plant Breeding), AICPMIP, ARS, DCMS Buildings, Kamalanagar, Ananthapuram–515 001

ABSTRACT

Genetic variability studies were conducted with forty-two maintainer inbred lines of pearl millet developed at ICRISAT, Patancheru, Hyderabad, India to assess the magnitude of variability, heritability and genetic advance as *per cent* of mean for thirteen yield and yield contributing characters at Agricultural Research Station (Dry Land Agriculture), ANGRAU, Ananthapuram, Andhra Pradesh during *rabi* 2011-12. The field trial was planted with a spacing of 50cm x 15 cm between rows and between hills. Analysis of variance manifested highly significant differences among the inbred lines for all the traits except for number of days taken for germination. Variability for genetic potential was highest (four to five fold) for fodder yield per plant, weight of total panicles per plant and grain yield per plant. The phenotypic coefficient of variation (PCV) was in general higher than the genotypic coefficient of variation (GCV) except for number of days taken for germination for which values of PCV and GCV were observed to be equal. High to moderate estimates of broad sense heritability coupled with high estimates of genetic advance as *per cent* of mean was noticed for the traits single panicle weight (Main tiller panicle), grain yield per single panicle, fodder yield per plant, weight of total panicles per plant and grain yield per plant, suggesting to go for simple direct selection for the improvement of the genotypes for these characters. Among forty two inbred lines studied based on *per se* performance eight best inbred lines were selected *viz.*, 81 B, ICMB 91444, ICMB 92111, ICMB 96666, ICMB 97111, ICMB 01888, ICMB 04111 and ICMB 04777 with higher values for fodder yield per plant, weight of total panicles per plant and grain yield per plant.

Key words: *GCV, Genetic advance as per cent of mean, Heritability and Pearl Millet, PCV.*