

GENETIC STUDIES ON HERITABILITY AND GENETIC ADVANCE FOR DROUGHT TOLERANCE IN PEARL MILLET GERMPLASM

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Abstract: The present study aims to reveal the importance of quantitative traits and genetic variability existing in the 76 pearl millet germplasm accessions. The coefficient of variation at phenotypic and genotypic levels were high for root dry weight followed by green fodder yield per plant, root volume, dry fodder yield per plant, grain yield per plant, ear bearing tillers per hill, green fodder yield per plot, dry fodder yield per plot, grain yield per plot, relative injury, leaf area duration, number of grains per ear head, ear head length and plant height and moderate for test weight, harvest index, ear head girth and root spread while the traits, specific leaf area followed by chlorophyll stability index, days to 50% flowering SCMR, leaf temperature and days to maturity showed low PCV and GCV. From the results, high heritability coupled with high genetic advance observed for relative injury, dry fodder yield per plot, ear bearing tillers per hill, dry fodder yield per plant, root volume, grain yield per plant, leaf area duration, root dry weight, green fodder yield per plot, green fodder yield per plant, number of grains per ear head, ear head length, plant height, test weight and grain yield per plot which indicates the preponderance of additive gene effects in controlling these traits, early and simple selection could be exercised due to fixable additive gene effects.

Keywords: Drought, Pearl Millet, Variability, Heritability, Genetic Advance

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