

Genetic Variability and Association Studies of Yield and its Components in Little Millet (*Panicum sumatrense* L.)

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ABSTRACT

In this study, 28 little millet genotypes were evaluated at the Regional Agricultural Research Station, Nandyal, in Andhra Pradesh, India during *Kharif*, 2022. The results revealed significant genetic variability for the studied traits with moderate to high ranges of phenotypic and genotypic coefficients of variation and low environmental coefficient of variation, indicating the potential for genetic improvement of little millet genotypes. Almost all traits exhibited high heritability and genetic advance, with the exception of plant height, which had a moderate heritability and low genetic advance as a percentage of the mean. It indicates the preponderance of additive gene action in the controlling all the traits except plant height, allowing for advancement through effective selection. Correlation analysis identified significant relationships between traits. The number of productive tillers per plant, 1000-grain weight and fodder yield has positive correlations with grain yield, suggesting that these traits may be utilised as selection criteria to improve the productivity and performance of little millet.

Keywords: *Little millet, Genetic variability, Heritability, Genetic advance and Trait association*