Studies on Genetic Variability and Character Association in Sweet Sorghum (*Sorghum bicolor* (L.) Moench)

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ABSTRACT

The genotypic and phenotypic coefficients of variation, heritability, genetic advance and the relationship between ethanol yield and its components were estimated in eleven genotypes of sweet sorghum. The genotypes exhibited considerable amount of variability for all the traits. The traits such as plant height, fresh stalk yield and grain yield exhibited high heritability estimates coupled with high genetic advance indicating that heritability of these characters was most likely due to additive gene effects. Correlation studies revealed that selection could be practiced for days to 50 per cent flowering, days to maturity, plant height, brix percent, total soluble solids, total sugar index, total biomass, fresh stalk yield and juice yield. Path coefficient analysis showed that plant height, total sugar index, juice yield and fresh stalk yield were the main contributors for ethanol yield. Hence, it was concluded that ethanol yield could be increased by improving plant height, total sugar index, juice yield and fresh stalk yield.

Key words : Correlation, Genetic advance, Heritability, Path analysis, Sweet sorghum Variability.