

## ASSESSMENT OF GENETIC VARIABILITY, CORRELATION AND PATH ANALYSIS FOR CANE YIELD WITH ITS COMPONENT TRAITS IN EARLY MATURING SUGARCANE CLONES

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**Abstract:** Twenty five early maturing sugarcane clones were evaluated in randomized block design with three replications at research farm of CCS Haryana Agricultural University, Regional Research Station, Uchani, Karnal during *spring season*, 2020-21. The objective of the investigation was to study genetic variability, correlation and path analysis for seventeen characters among twenty five diverse early maturing sugarcane clones. Significant differences were observed among the genotypes for all the characters studied. The higher magnitude of genotypic (GCV) and phenotypic coefficients of variation (PCV) was recorded for traits like number of tillers at 120 DAP, single cane weight, cane length, CCS (t/ha) and cane yield. High heritability coupled with high genetic advance as percentage of mean was recorded for number of tillers at 120DAP, single cane weight, cane length, CCS (t/ha) and cane yield suggesting preponderance of additive gene action in the expression of these characters. Cane yield showed significant and positive correlation with number of tillers at 120DAP, number of shoots at 240DAP, number of millable canes at harvest, single cane weight, cane length, cane girth and CCS (t/ha.) at both genotypic and phenotypic level. Path analysis revealed that sucrose % at 8 months showed highest positive direct effect on cane yield followed by CCS % at 10 months, CCS (t/ha), single cane weight, number of millable canes at harvest, purity % at 8 months and number of tillers at 120DAP. These characters merit special attention in formulating selection strategy in sugarcane for developing high yielding and early maturing sugarcane clones.

**Keywords:** Sugarcane, Genetic variability, Heritability, Correlation, Path coefficient analysis

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