

# **Selection Indices at Three Stages of Selection in Sugarcane**

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## **ABSTRACT**

Selection indices were constructed in a study comprising 38 biparental crosses and 18 GCs in seedling and clonal stages. Weighing coefficient values estimated were observed to be high for single cane weight in all the three stages of selection. Expected genetic advance and relative efficiency were found low, when the characters were studied individually over direct selection for cane yield alone. A progressive increase in genetic advance and relative efficiencies were noted when the number of characters included were increased. Among the parameters studied, shoot population at 120 DAP, NMC, cane length, cane diameter, single cane weight and brix per cent were found relatively more important. Selection indices involving more than one character resulted in higher genetic gain and relative efficiency. Sequential selection indices constructed indicated that genetic advance and relative efficiency were increased linearly with simultaneous inclusion of component characters viz., cane yield, sugar yield, number of green leaves, leaf area index, shoot population at 120 DAP, NMC, single cane weight, cane length, cane diameter, brix, sucrose, CCS and purity per cent in a combination suggesting that multi trait selection may be useful in bringing improvement in cane and sugar yields.

**Key words** : Genetic advance, Relative efficiency, Selection indices, Weighing coefficient  
Sugarcane.