

# Effect of Different Implements for Improving the Productivity and Quality of Sugarcane Ratoons (*Sacharum Officinarum L.*)\*

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## ABSTRACT

Ratooning is a practice of growing a crop from the stubbles of previous crop. It saves the cost of preparatory tillage and planting material. It gets the benefit of residual manure and moisture and also it matures earlier than the plant crop and gives more or less same yield as that of plant cane. The objective of this study was to investigate biometric observations of growth parameters, yield attributes and yield. Accordingly, the effect of different implements on soil parameters and root growth was also recorded. Significantly highest and at par tiller number at 75 and 120 DAP, plant heights, millable canes, single cane weight, cane yield, sugar yield and cane girth ( $96.750\text{ha}^{-1}$ , 162.91, 333.60, 102.280, 1.39, 148.46, 19.80 ) were recorded in  $T_6$  and  $T_5$  (83.15, 152.07, 319.04, 99.643, 1.36, 136.82, 18.54, 2.88) treatments. While, significantly lowest and at par crop parameters were noted with  $T_1$  and  $T_2$  treatments. Higher root mass of 205.69 – 211.36 g was recorded in  $T_4$ ,  $T_5$  and  $T_6$  treatments which involve the use of stubble shaver, disc off barrower and a ratoon manager. On the other side, the conventional treatments in which shaving was done manually has registered a root mass of 171.65 – 188.97 g. Maximum decrease of  $1.38\text{ gm cm}^{-3}$  in bulk density was observed in  $T_6$  while the minimum was observed in  $T_1$ . On the other hand, the pore space was maximum (38.85%) in  $T_6$  and minimum in  $T_1$  (31.62%). the results indicated that the use of modern implements for ratoon sugarcane crop improves the growth and yield of ratoon.

**Key words :** Implements for improving, Ratoons, Sugarcane.