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A study on the performance on productivity of sugarcane crop with different combination of tillage operations

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■ **ABSTRACT :** A field experiment was conducted to test the intensification and productivity of sugarcane (*Saccharum officinarum* L.*)* for two consecutive years (2014-15 to 2015-16) at Amroha district of Uttar Pradesh, India. Different sugarcane planter and conservative tillage practices were taken as different variables for experiments. Two irrigation treatment I_1 (Pre planting irrigation) and I_2 (Post planting irrigation); two tillage treatment T_1 (Conventional tillage) and T_2 (Rotavator) followed by five planting treatment P_0 (Conventional practice), P_1 (Disc type sugarcane planter), P_2 (Slit type sugarcane planter), P_3 (Ridger type sugarcane planter) P_4 (Furrower type sugarcane planter) were performed and tested under RBD (Factorial 2 x 5 x 2) with three replications. Pre irrigation treatments showed better results as compared to post irrigation with most promising with conventional method of tillage. Although treatment T_7 ($I_1P_3T_1$) yields with the highest values of bud germinations (50.37 and 51.71%) at 60 DAP, cane girth (9.31 and 9.67 cm), single cane weight (1.72 and 1.96 kg), cane yield (1074.67 and 1235.53 q/h^{-1}). It was concluded that the mechanized planting system requires less labour and is more frugal than the conventional one.

■ **KEY WORDS :** Sugarcane, Irrigation, Tillage, Cane yield, Planter

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