

Study of the effect of pre and post irrigation on different tillage treatments for different planter on soil's physical properties

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■ **ABSTRACT** : Sugarcane is a most important cash crop of India. It involves less risk and farmers are assured upto some extent about return even in adverse condition. In agriculture sector, sugarcane shared 7% of the total value of agriculture output and occupied 2.6% of India's gross cropped area during 2006-07. Sugarcane provides raw material for the second largest agro-based industry after textile. About 527 working sugar factories were located in the country during 2010-11 with total crushing capacity of about 242 lakh tonnes. The sugar industry is an instrumental in generating the sizable employment in the rural sector directly and through its ancillary units. It is estimated that about 50 million farmers and their dependents are engaged in the cultivation of sugarcane and about 0.5 million skilled and unskilled workers are engaged in sugar factories and its allied industries. Wheat-sugarcane-raton cropping system is followed in whole of western Uttar Pradesh and lower parts of Utrakhand where sugarcane is the main cash crop and wheat is the major cereal. The system accounts for more than 60% of the total cultivated area in the region. However, lower average yield of planted cane (50 tonnes/ha) recorded in this. The reduction in cane yield owing to delayed planting cannot be compensated by additional inputs viz., frequent irrigations, extra fertilizers and inter culture operations. Planting of sugarcane involves a number of operations viz., cutting of canes into pieces called setts, opening of furrows, placement of fertilizer in the opened furrows, laying setts and covering these with a blanket of soil. The whole process of sugarcane planting is very labour and time intensive. In order to achieve uniform crop stand, correct seed rate, appropriate depth of setts placements and uniformity of setts with required overlapping are important. These, however can better be achieved by using tractor-drawn sugarcane cutter planter apart from economising labour and energy. Also there is a need to evolve proper tillage techniques for early planting of sugarcane in wheat-sugarcane crop sequence. In this paper study conducted on the performance of the effect of pre and post irrigation on different tillage treatments on soil's physical properties on the different types of sugarcane cutter planters.

■ **KEY WORDS** : Wheat harvesting, Pre and post irrigation, Sugarcane cutter planters, Rigid, Slit, Disc and furrower planter

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