

RESEARCH ARTICLE

# Effect of irrigation schedules and drought tolerance varieties on productivity and profitability of sugarcane

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## SUMMARY

An experiment conducted at Agricultural Research Station-Ummedganj, Kota (Rajasthan) during 2020-21 and 2021-22 on sugarcane. The experiment consisted twelve treatment combinations of two irrigation schedules *viz.* (IW/CPE ratio 1.0 and 0.3) and six sugarcane varieties (CoPk 5191, CoLk 14201 & CoLk 11203 early maturing and Co 05011, Co 09022 and CoLk11206 mid late maturing) were under taken in strip plot design with four replications. Results showed that the maximum brix content (20.42 and 23.15 %), sucrose content (17.77 and 20.50 %) and CCS yield (10.83 and 12.54 t/ha) at 10- and 12-months crop were recorded in the pooled analysis under application of irrigation at IW/CPE ratio 1.0 over application of irrigation at IW/CPE ratio 0.3. Pooled data of two years showed that the significantly higher cane yield (86.16 t/ha), net return (Rs. 145524.00/ha) and B: C ratio (2.26) was recorded with application of irrigation at IW/CPE ratio 1.0 as compared to application of irrigation at IW/CPE ratio 0.3 in sugarcane. Two years pooled data showed that the early maturing variety of CoPk 05191 was found better in respect to brix content (20.33 and 22.58 %), sucrose content (17.62 and 20.62 %) and CCS yield (10.75 and 12.40 t/ha) at 10- and 12-month crop and mid late maturing variety of Co 05011 brix content (20.52 and 22.48 %), sucrose content (17.55 and 20.37 %) and CCS yield (10.65 and 12.30 t/ha) at 10- and 12-month crop as compared to remaining sugarcane varieties. The maximum cane yield (87.61 and 86.75 t/ha), net returns (Rs. 153790.00 and Rs. 153940.00 /ha) and B:C ratio (2.33 and 2.29) was recorded with sowing of of early maturing variety CoPk 05191 mid late maturing variety of Co 05011 over rest of the sugarcane varieties.

**Key Words :** Brix, Cane yield, Economics, Irrigation schedules, Sucrose

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