

Effect of Water Quality and Gel-Conditioner Rate on Intermittent Evaporation

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Abstract. The joint effect of different rates of gel-forming conditioner (commercially called Culture Plus) and water quality on aggregation and intermittent water evaporation from sandy soils was investigated. Twenty-two mm of water was applied every seven days to each column during three weeks of the experiment. The aggregation index significantly increased by 2.23, 10.86, and 17.06% and the available water increased by 51.0, 73.0, and 122.0% as a result of adding 0.2, 0.4, and 0.6% Culture Plus, respectively. The water absorption capacity of the conditioner decrease significantly by 59.3, 73.6 and 85.5% with the increase in EC of water to 1, 2, and 4 dS m^{-1} , respectively. The Culture Plus rate of 0.4% had significantly lower evaporation compared to other treatments at different water quality, which resulted in higher water conserved. Also, the result showed that, at the first cycle, there was no significant difference between water quality at specific rate of Culture Plus.

Introduction