

# Influence of Water Quality on Water Absorption Capacity of Soil Gel-conditioners

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**Abstract.** A laboratory experiment was conducted to investigate the effect of water quality on water absorption capacity (WAC) of soil gel-conditioners. The gel-conditioners used included AcryHope (AH), Culture Plus (CP), StaWet (ST), and Hydrogel (HD). The water used different in electrical conductivities (EC; 0.5, 1, 2, 4, and 8  $\text{dSm}^{-1}$ ) and sodium adsorption ratio (SAR; 5, 10, and 20).

The results showed that the amount of water absorbed decreased with increased salinity. However, the rate of reduction decreased as SAR increased. This suggests that a high SAR of water may enhance the water absorption capacity of soil gel-conditioners. Thus it is very important to consider the EC and SAR of the irrigation water during the selection and management of soil gel-conditioners. To aid this process of soil gel-conditioners selection and management, linear relationships were established between the relative WAC and natural logarithm of EC for all soil gel-conditioners with the exception of AH in which SAR is included.