

## عنوان مقاله:

Enhancement of the number of days to the onset of PWP in soils amended with zeolite

## محل انتشار:

همایش بین المللی ژئولیت ایران (سال: 1387)

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## خلاصه مقاله:

The use of alternative water holding amendments will become more important over time, especially in regions with reduced water availability. The objectives of this study were to evaluate the effect of zeolite on the growth indices of an ornamental plant (*Cupressus arizonica*) under reduced irrigation regimes in a field trial and the effect of zeolite on soil water retention curve (WRC) in a laboratory trial. The RETC computer program was used for obtaining optimal model parameters. Semnan and Firoozkoush zeolites in two levels, 4 and 6 g/kg, were mixed with two soil textures of clay and sandy loam. The results of the soil water retention model showed that, zeolite caused the residual water content ( $\theta_r$ ) and saturated water content ( $\theta_s$ ) to increase. Air entry value, ( $h_b$ ) was observed to decrease in the clay and increase in the sandy loam.. Available water content (AWC) increases 60% more than that of the control at maximum, with zeolite application of 6 g/kg in sandy loam soil. The field trials was conducted as a split plot on the random complete blocks design in which the main plot treatments were two irrigation regimes consisting 33% and 66% evapotranspiration (ET<sub>c</sub>) and two sub-plot treatments were soil containing 4 and 6 g/kg zeolite. The control blocks had no zeolite and irrigated with 100% evapotranspiration (ET<sub>c</sub>). The results indicated that plant height, shoot diameter and length of green, are the same in treatment containing 4 and 6 g/kg zeolite and receiving irrigation water 66% ET<sub>c</sub> with the control. Thus, application of 4 and 6g/kg zeolite reduced the required water 33% of the control. Application of zeolite can result the enhancement of number of days to reach permanent wilting point particularly for light soil texture.

## کلمات کلیدی:

Soil water retention models, RETC, Zeolite, Clinoptilolite

## لینک ثابت مقاله در پایگاه سیویلیکا:

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