

Interaction of water stress and zeolite application on greenhouse cucumber (*Cucumis sativus* L.) yield

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Abstract

Soil amendments have been widely used in greenhouse cultivation. Cucumber, as an important summer crop, has the highest area under cultivation in the greenhouses of Iran. For this reason, in the present research, effect of applying zeolite and drought stress on cucumber growth and its fruit parameters (number, weight, length and diameter of the fruit) was investigated in a split-plots experiment, based on completely randomized design, with 9 treatments and 3 replications, in Arian city, Southern Khorasan province, Iran. Three levels of drought stress (0, 25% and 50% of water requirement), as the main plots, and three levels of zeolite (0, 5 and 10 grams per kg of soil), as the sub-plots, were applied during the plant's growing season. Results showed that application of zeolite didn't have significant effect on number of fruits; but its effect on other yield parameters (fruit weight, fruit length and fruit diameter) was significant at 5% level. Interaction between water stress and zeolite was significant. Application of 10 grams of zeolite per kg of soil resulted in the highest yield, number of fruits and fruit length. Increasing the amount of zeolite, increased fruit yield..

Keywords: Water stress, Zeolite, Yield indices, Southern Khorasan.

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