

Effect of Urban Wastewater and Different Fertilizer Sources on Some Nutrients Concentration and Shoot Growth of Sugar Beet (*Beta vulgaris* L.)

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(Received: April 26-2014 ; Accepted : April. 27-2015)

Abstract

In order to evaluate the effect of urban wastewater and different fertilizer sources on macro and micro nutrients' concentration and shoot dry weight of sugar beet, a field experiment was arranged as a split plot in RCBD design with three replications at Research Station of Shahrekord University in 2013. The main factors included irrigation with urban wastewater at 2-4 leaf stage and 8-12 leaf stage, and irrigation with normal water (control). The four types of fertilizer included sheep manure, spent mushroom compost, chemical fertilizer and no fertilizer (control) in the sub-plot. The results showed that the plot irrigated with urban wastewater at 8-12 leaf stage significantly increased leaf number and shoot dry weight of sugar beet compared to the plot irrigated with tap water. Besides, the plot irrigated with urban wastewater at 8-12 leaf stage had a significant effect on the elements of N, P and K concentration in shoot dry weight of sugar beet, but the plot irrigated with urban wastewater did not significantly affect the elements of Fe and Zn concentration. From among the fertilizer treatments, the maximum shoot dry weight and leaf number per plant belonged to the application of sheep manure and also the highest elements of Fe and Zn concentrations belonged to the treatment of spent mushroom compost.

Keywords: Urban wastewater, Sugar beet, Spent mushroom compost, Macro and Micro nutrients.

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