



Effect of irrigation with wastewater on yield and quality of two bean species and soil properties

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In order to investigate the effect of irrigation with treated municipal wastewater on the yield and quality of two bean species and some soil properties, five irrigation treatments were applied to a loam silt soil, in a factorial arrangement with a completely randomized design with three replications. The irrigation treatments consisted of 1) irrigation with tap water only as control 2) irrigation with 75 % tap water plus 25 % waste water 3) irrigation with 50 % tap water plus 50 % waste water 4) irrigation with 25 % tap water plus 75 % waste water 5) irrigation with 100 % wastewater. Two species of bean plant were used in order to evaluate wastewater effects. The results showed that yield of two bean species was higher in all treatments compared to the control treatment. Maximum fresh and dry yields were obtained from treatments 3, 4 and treatment 4, respectively. Plant tissue analysis indicated an increase in macronutrients and heavy metal concentration in fronds of two bean species in the all treatment compared to the control. Moreover, results showed the accumulation of heavy metals values in plant tissues were completely below the international standards.

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