



Treated municipal wastewater for irrigation: effect on turnip (*Brassica rapa*)

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ABSTRACT

A study was conducted to explore the possibility of using treated municipal wastewater to grow turnip (*Brassica rapa*). Two aspects namely (1) effect on plant growth and (2) accumulation of Cd, Cr, Ni, Fe Cu, Mn and Zn in leaves and roots of the plant have been presented in this paper. The heavy metal concentration of wastewater used for irrigation was within the limits however, the concentration in the plant parts showed a significant rise due to continuous use. The levels of all the heavy metals except Mn in the edible plant parts (leaves and roots) were estimated to be more than the toxic limits given by Pendias and Pendias. The concentration of heavy metals was at excessive levels in 40 and 55 days after sowing (DAS), while at 70 DAS, metal concentration was low. Concentration of heavy metals in plants was found in the order of Fe > Zn > Ni > Mn > Cr > Cu > Cd.

Keywords: Wastewater irrigation; Heavy metals; Turnip

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