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Study on the effects of municipal wastewater treatment on quantitative and qualitative yield of sunflower

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Progressive water demanding for agriculture development and shortage of water, have made it necessary to reuse treated wastewater which is often released to rivers. One of the best remains of sunflower is a native and main crop Khoy region in northwest Azerbaijan. In order to study the effects of treated municipal wastewater on qualitative and quantitative yield of Azargol hybrid variety Of Sunflower, an experimental layout was applied using a completely randomized block design with four replications in three successive years. The main factor was type of water in 3 levels including: irrigation with fresh water, irrigation with 50%wastewater+50% fresh water and irrigation with wastewater. Evaluated quantitative parameters were: yield, height of plant, head diameter and 1000 kernel weight. Evaluated qualitative parameters were: Oil percentage, N, P, K, Ca, Mg, Fe, Mn, Zn and Cu values. Analysis of the quantitative yield showed that, yield and 1000 kernel weight was significant at the level of 5%. Analysis of the qualitative yield showed that, only Oil percentage and K value were significant at the level of 5%. Results show, using treated wastewater for irrigation of sunflower in this region decreased Oil percentage about 4% and increased K value 4.7% on average. Analysis of soil's quality showed that wastewater affected the top 30 cm of soil layer.

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