

The Determination of Treated Waste Water's Usability for Pepper and Lettuce Irrigate by Different Irrigation Methods (The final report is not published)

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Executive Institute	International Agricultural Research and Training Center
Supporting Institute/s	General Directorate of Agricultural Research and Policy
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Project Summary: The competition for the resources of clean water which allocated for agricultural purposes against drinking, domestic and industrial uses etc. is increasing each passing day. Because of this reason, nowadays, reuse of treated waste water in agriculture is considered as one of the most important and sustainable water resources. High cost investments are being made for reducing the negative environmental impact of the urban waste water and the operational costs of the facilities are also very high. However, the water treated to certain extends and generally suitable for agricultural irrigation is emptied into various water bodies such as the sea and rivers instead of reuse in agricultural. Many countries like Spain, Israel, Tunisia, USA, etc. use treated waste water for agricultural irrigation. Although pilot applications are carried out in Turkey, the main concern is the health risk stemming from microbiological contamination form agricultural products grown with treated water. The fact that use of treated waste water in irrigated agriculture by suitable irrigation methods and control applications has been proved to reduce the microbiological risk. Redirecting the treated water which is treated under costly processes and restored the quality features for a clean environment into agriculture provides a considerable amount of water supply for plant production. In this study, three different irrigation methods will be examined by treated waste water. Pepper (<i>Capsicumannuum L.</i>) consumed as both fresh and cooked and lettuce (<i>Lactucasativa L. var. Longifolia Lam.</i>) consumed as fresh in salads are selected as plant material to be grown in the experimental plots. The main topics which will be studied are effects of water quality and irrigation methods on microbiological changes in soil and the crops, the yield levels of the crops, chemical properties, crop quality parameters (chlorophyll, antioxidant, phenolic substances, Vitamin C, nitrate, nitrite etc.) and water requirement of pepper and lettuce.	
Key words: Treated wastewater, water quality, irrigation methods, pepper, lettuce	