

## Effect of Irrigation of Treated Municipal Wastewater of Torbat- Heydarieh City on Morphological Performance of Cotton( cv. Varamin)

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### Abstract

In arid and semi-arid regions, such as Iran, it is inevitable to use wastewater for irrigation. In this regard, the present research was conducted using a completely randomized block design with three replications and five irrigation treatments. The study included well water (control):T1, municipal wastewater of Torbat Heydarieh city:T2, combining 50% well water and 50% wastewater: T3, alternative irrigation with well water and wastewater: T4, and the combination of 34% well water and 66% wastewater (used farmers) T5. Based on the results obtained from the mean square of the traits, effect of the type of irrigation water was significant on yield, number of boll per plant, number of leaves, and plant height at a probability level of 1% ( $P<0.01$ ), and for stem diameter at 5% probability level ( $P<0.05$ ). Based on the results, the highest and lowest yields were obtained in T3 and T1 treatments with 133.6 and 78.8 gram per plants, respectively. The highest number of leaves and stem diameter was recorded in T5 treatment as, respectively, 45.3 and 9.5 mm. The highest and the lowest number of bolls were obtained in T2 and the control treatment, respectively, with values of 16.3 and 8.

**Keywords: Bolls, Cotton bowl, Plant height, Sewage**

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