Effect of irrigation with treated municipal wastewater on yield of *Nitraria schoberi* under greenhouse conditions

A. R. Shahriari[1]*, S. Noori[1], J. Abedi Koupai[2] and F. Asaleh[3]

(Received : 11 October 2010 ; Accepted : 25 December 2010)

Abstract

Water crisis is an important issue in arid and semi-arid regions like Iran. Due to drought events, the situation has become more acute in recent years. Therefore, where good quality water is not available, the use of unconventional water has increased considerably. One of these resources is municipal wastewater that can also provide some of the nutrients needed for plant nutrition. Therefore, in this research, the combined effects of treated municipal wastewater and soil texture on growth and yield of *Nitraria schoberi* under greenhouse conditions, was investigated. The experiment was a factorial completely randomized design with four replications. The treatments included: two types of irrigation water (wastewater and water), two soil textures (clay and sandy) and two irrigation frequencies (5 and 15 days). Analysis of the wastewater showed that concentrations of the elements were in the standard limits. The results also showed that the use of wastewater has positive effect on stem length and dry and fresh weight of the plants. Therefore, due to the problem of water supply to plant species in the arid regions, this method can have a significant role in the stability of plants, reducing costs of irrigation and fertilizers, and biological restoration.

Keywords: Unconventional water, Arid regions, *Nitraria Schoberi*.

1. Assoc. Prof. and Lecturer, respectively, Range & Watershed Management Dept., College of Natural Resources, Zabol Univ., Zabol, Iran.
2. Assoc. Prof., Dept of Water Eng., Isf. Univ. of Technol., Isfahan, Iran.
3. MSc. of Desertification, College of Natural Resources, Zabol Univ., Zabol, Iran.
*: Corresponding Author, Email: nimaaryan2002@yahoo.com