



**EXAMINE THE EFFECTS OF NITROGEN FERTILIZER AND DIFFERENT LEVELS OF IRRIGATION WATER ON WATER USE EFFICIENCY SPRING GRAIN CORN, IN DEZFUL**

Mousa Mohammadpour<sup>1</sup>, Ali Afrous<sup>2</sup>, Shahram Godarzi<sup>3</sup>

*1- PhD Student, Irrigation and Drainage, Islamic Azad University, Science and Research of tehran, Iran*

*2,3- Department of Water and Soil Engineering, Dezful Branch, Islamic Azad University, Dezful, Iran.*

*mohammadpour\_mousa@yahoo.com*

**Abstract**

Water and nitrogen are the main factors limiting access to the maximum product of these two inputs in addition to management costs, They would also increase the use efficiency. In order to Examine the effects of nitrogen fertilizer and different levels of irrigation water on water use efficiency, spring grain corn in Dezful, factorial experiment in randomized complete block design with three replications was conducted from 1389-90 crop year. Experiment treatments were two factors including four irrigation water levels (I 60%, I 80%, I 100% and I 120%) water requirement and three levels of nitrogen, N 150, N 200 and N 250 kg/ha. The results showed that the effect of different levels of irrigation on water use efficiency was significant at 1% level. Maximum water use efficiency to 60% in the treated water with 150 kg N ha respectively. Water use efficiency in water treatment needs at least 120% was achieved with 200 kg N ha. The maximum yield in the treated water to 100% (full irrigation) with 200 kg N ha respectively.

**Keywords:** Water, Corn, Yield, Nitrogen, WUE