Abstract

In order to examine the effect of two different species of fungi mycorrhizae on performance, Yield components and some quality characteristics of sunflower (cultivar Elster) in drought conditions was performed an experimental in framework of split plots and completed randomized blocks with three replications in farm research of Zabol university in year of 2011. The experimental treatments consist of three levels of drought stress which S_1: optimal irrigation at 90% field capacity of farm (control), S_2: 70% of field capacity of farm and S_3: 50 percent of field capacity of farm as the major factor and Sunflower seed inoculation with mycorrhizae fungi strains were considered in three levels consist of: M_1: Without inoculation (control), M_2: Inoculated with strain of *Glumus mossea* mycorrhizae and M_3: Inoculated with strain of *Glumus etanicatum* mycorrhizae considered as sub factors. Results of this experiment show that drought stress had a meaningful effect on quantities features of sunflower such: number of grains per head, grain thousand weight, biological application, and Grain yield and harvest index and led to a significant increase in the amount of soluble carbohydrates and praline content in leaves. With increasing drought stress, increased the percent and Performance of seed oil. Also access results about studied dials show that drought stress had a meaningful effect on Potassium, but it hadn't much effect on Nitrogen and phosphorus. Results about mycorrhizae treatment show that treatment only had a more effective on Seed weight and seed number in accordance and didn't have meaningful effect on other visuals of sunflower.

Key words: Proline, Oil, application, Field capacity, Operation