

Abstract

In order to study the effects of organic manure and drought stress on yield, essential oil percentage and some agronomic characteristics of fennel an experiment was conducted in 2013 as factorial complete randomized design. The first factor was three levels of drought stress (50, 70 and 90% field capacity) and second factor was three fertilizer management non application (as control), chemical fertilizer (phosphorous, nitrogen and potassium), municipal solid waste compost and animal manure at 25 tons per hectare. The results indicated that effect of drought stress on all traits was significant. So that the stress levels of 50 to 90% of field capacity, plant height, total dry weight, shoot dry weight, root length, number of branches is significantly reduced. However, mild droughts stress, 91.1 and 85.1, respectively, to the extent of more severe drought stress and non-stress increases were essential. So that all characters, fertilizer significantly improved agronomic characteristics of the whole plant, and in the meantime, manure compared with the control to the 72.1, 73.1, 85.1, 91.1, 88.2, 79.2, 31% significantly increased the weight of roots, essential oils, seed weight, respectively.



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**Effects of organic and chemical amendments
on yield, yield attributes and essential oil
percentage of fennel under drought conditions**

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