## Abstract

In order to study the effect of farmyard manure, chemical manure and combining of fertilizers on yield, yield components and quality characteristics medicinal herb Nigella sativa seed *(Nigella sativa* L) under drought stress conditions,the Experimental was performed in the 1391 crop year in the Agriculture farm Bahonar University of kerman, in a split plot Complete Randomized Blocks Design with three replications. Irrigation intervals include 7, 14 and 21 days as the main factor and 4 levels of fertilizer, no fertilizer (control), farmyard manure, fertilizer (200 kg urea ha, 150 kg P and 150 kg K ha) Blended and fertilizer (50% of livestock + 50% chemical) was considered as a minor factor. The results showed that plant height, number of capsules per plant, seeds per capsule, seed number per plant, grain weight, biological yield and harvest index with increasing severity of drought stress reduced, Whereas the percentage of essential oils and oil increased with increasing severity of drought stress. increase the Drought stress decreased the the amount of essential oil yield and oil.the farmyard manure increases the yield and essential oil content of the seed. The grain yield, oil yield and content incorporation of chemical fertilizers and of livestock treatments compared to the separate application for each one of them were more. Interaction of irrigation intervals and manure on grain yield and biological yield, oil percentage, oil and grain yield and biological was significance. And highest grain yield and biological with application of synthesis farmyard + chemical manure with the 7 days of irrigation was achieved, Whereas highest percentage of essential oils and oil combination application of farmyard manure and chemical + of irrigation around 21 days, respectively. It seems that the application manure of farmyard and chemical combination in order to develop culture of Nigella sativa in the region of Kerman in mild stress conditions is suitable.

Keywords: oil percentage, biological yield, plant height, harvest index

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# title

## Effects of organic and chemical fertilizers on yield, yield components and quality traits of *Nigella sativa* L. under drought stress

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