EFFECT OF NANO IRON CHELATE FERTILIZER ON YIELD AND YIELD COMPONENTS OF CUMIN (*CUMINUM CYMINUM*) UNDER DIFFERENT IRRIGATION INTERVALS

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Cumin (*Cuminum cyminum*) is one the most important medicinal plants of India, Iran and other countries and due to its specific ecological requirements it is grown only in a limited area of these countries(1).To study the effect of levels of Nano chelate Iron fertilizer on yield and yield components India , Isfahan and Kashmar of cultivars under different irrigation in 2011 growing season at the Research Farm Faculty of Agriculture, University , as split-plot factorial experiment according to randomized complete block design with three replication. main plots was 7, 9 and 11 days irrigation intervals. India, Isfahan, Kashmar populations and iron chelate Nano fertilizer (khazra) applied. With amount 3 and 6 kg/ha and the controls. Results showed that the number of subsidiary umbrella per plant, number of seed per umbrella, and thousand seed weight affect the interaction of Irrigation and fertilizer levels was significant statistically($p<0.01$). Most Number of subsidiary umbrella related of Irrigation interval 11 day treatment with applied 3 kg/ha Nano fertilizer. Irrigation interval 11 day treatments with applied 6 kg/h Nano fertilizer was highest thousand seed weight. Maximum number of seed per umbrella was for the irrigation interval 7 day treatments with applied 6kg/h Nano fertilizer. Also The interaction of Nano fertilizer levels and populations significant statistically($p<0.05$) at the number of subsidiary umbrella per plant and interaction of irrigation and population for number of seed per umbrella. The results showed that interaction between parameters like irrigation interval, nano fertilizer levels and population for yield per plant, biological yield and number of main umbrella per plant was significant. The highest yield per plant, biological yield and number of main umbrella per plant was with 6kg/h nano-fertilizer utilization under irrigation interval 7 days. The results of this study appear of be under irrigation limited resources, 6 kg/h iron nano-fertilizer application, accept the unacceptable loss in performance, using irrigation to other essentioal allocated.

References

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COMPARATIVE ANATOMY OF STEM IN SOME SPECIES OF THE GENUS *TRIPLEUROSPERMUM* IN IRAN

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The genus *Tripleurospermum* Sch. Bip. Belongs to the tribe Anthemideae of the Asteraceae family, and comprises about 38 species in the world which are distributed in temperate region of the northern hemisphere. This genus is represented in Iran by seven species [1]. *T. disciforme* is one of the indigenous medicinal plants that is useful for gastric ulcer [2]. Taxonomic identification of some species because of their morphological variation is controversial. So, in this research we attempted to study stem anatomical features to find new characters to differentiate taxa. In this study we have found that in all species scholoranshyma bundles are located above phloem bundles, and they have joined bundle sheats (xylem & phloem), and inner bundles phloem, and existence of secretory channels. Some characters were different between the species such as variation of hair's shapes (such as existence multicellular hair in *T. parviflorum* and secretory hair in *T. caucasicum* and there is no hair in *T.disciforme*), and the number of epidermis layer(presence two layers of the epiderm in *T.transcaucasicum*). Therefore we could distinguish the species by using anatomical characters.

References

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