**Enhancing Quality and Yield of European Borage (*Borago Officinalis*) By Simultaneous Application of Vermicompost and Mycorrhiza**

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**Abstract**

In order to evaluate the effects of vermicompost, granulated compost and mycorrhiza on qualitative and quantitative traits of European borage (*Borago officinalis* L.) an experiment was carried out in research farm of Faculty of Agriculture, Yasouj University, based on a randomized complete block design arranged in factorial with three replications in 2016. Organic fertilizers in five levels (0, 5 and 10 t/havermicompost and 3 and 6 t/ha granulated compost) and mycorrhiza (*Glomus mosseae*) in two levels (with and without) were considered as the first and second factors. The results showed that the effect of organic fertilizer and mycorrhiza application was significant on nitrogen content so that the maximum nitrogen content was related to 10 t/ha vermicompost and mycorrhiza inoculation treatment. The main effect of organic fertilizer and mycorrhiza were also significant on phosphorus and potassium content. The maximum values were obtained when 10 t/ha vermicompost and mycorrhiza were applied. Total chlorophyll content, flowering branches yield, mucilage, and phenol were measured in all three harvests. The results indicated that interaction between harvesting, organic fertilizer and mycorrhiza was only significant on chlorophyll content. The maximum chlorophyll content (0.958 mg g-1) was observed in the third harvest when 10 t/ha vermicompost and mycorrhiza were applied. In addition, the maximum mucilage content (4.23%), phenol content (5.07%) and flowering branches yield (57.45 g m-2) were related to 10 t/ha vermicompost treatment. Accordingly, it can be concluded that organic fertilizer and mycorrhiza can be replaced by chemical fertilizers to reduce soil and water contamination in agroecosystems.

**Keywords:** Vermicompost, Biofertilizers, Mucilage, Nutrients, Yield