

Abstract

In order to improve quantitative and qualitative features of plants, particularly, medicinal plants, assessment of different nutritional systems is necessary. In order to evaluate the effect of methanol foliar on quantity and quality of chicory, under the influence of different levels of manure, a splitted plot experiment, in complete randomized block design with three replications was conducted at the research farm of Zabol University, located in Zahak, in 2014-2015 crop year. The main manure factor was at three levels: control (no manure) and consumption (15-30 tons per ha) and the secondary factor consisted of 0,8,16, 24 and 32% by volume of methanol. Results showed that manure significantly affect quantitative features (height, number of leaves, number of lateral branches, and dry weight of root and plant) and qualitative features (index of chlorophyll, carotenoids, carbohydrates, flavonoids, sodium, potassium and phosphorus in leaves and inuline, in roots). In addition, number of leaves, number of lateral branches, and root dry weight, and the amount of carbohydrates, flavonoids, soluble proteins, sodium, potassium and phosphorus were affected by methanol. The interaction effects showed that chicory root dry weight at 24% by volume foliar application of methanol and Application 15 tons of manure per ha, respectively. Based on the results, 30% by volume of methanol and 30 tons per ha of manure, is an appropriate treatment for the production of inulin from chicory in the Sistan region.

Keywords: Manure, Methanol, Inuline, Chicory, Yield, Minerals



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