

## **Abstract**

In order to evaluate the effect of drought stress on soluble in methanol quantitative and qualitative features *Deracocephalum moldavica* L., 92-91 crop year to face trial in a split plot randomized complete block design with three replications in Research Station Agriculture, University of Zabol, Sistan was near the dam. Drought include: control, 80 and 60% of field capacity as the main factor and soluble levels methanol include: control (no consumption of methanol), 15, 30 and 45% by volume were sub-plots. Results showed a significant effect of water stress on proline cant percentage of essential oils, potassium and sodium, plant height, number of branches and sub subsidiary branch length, fresh and dry weight, oil yield, nitrogen, chlorophyll and carotenoid found. The highest and lowest dry matter, respectively, and 60% of field capacity was drought control, so that no stress treatment 49/54% increase in dry matter yield. Effect of solution methanol plant height, number of branches and sub subsidiary branch length, fresh and dry weight, oil yield, sodium, potassium, nitrogen, chlorophyll, carotenoids, and proline were significantly cant. The highest and low spray the dry matter, respectively 30 and 45% methanol solution belonged so that 73/59% increase in dry matter intake. Based on the results, spray solution of 30% methanol and water supply capacity to produce crops *Deracocephalum moldavica* L. is a good treatment for the region.

**Keywords:** Proline, the percentage of essential oils, carotenoids, chlorophyll



University of Zabol

Graduate school

Faculty of Agriculture

Department of Agronomy

**The Thesis Submitted for the Degree of Master of Science  
(in the field of Horticulture Science)**

Title:

Effect of methanol foliar on quantitative and qualitative traits of  
Moldavian balm (*Dracocephalum moldavica* L.) under drought  
stress

**Supervisor:**

Dr. M. ramrudi

**Advisors:**

Dr. M. galavi

M.s. M. rahimi

**By:**

Mojtaba Chezgi

June 2014