

Published Researches

Effect of Nitrogenic Fertilization , Plant Density and Cutting Time on the Quantity of the Dry matter , Quantity and Quality of the Volatile Oil Extracted From the Leaves of *Mentha spicata* L.

and *Mentha longifolia* var. *asiatica* Boriss. Rech.F. , Journal of Iraqi Agricultural Sciences, Vol.(30), No.(2), 1999 .

Abstract :

A field study was performed for studying the effect of different levels of nitrogenic fertilizer (Urea 46%N) and plant density on the quantity of the dry matter , the quantity and quality of the volatile oil , by increasing the nitrogen fertilizer levels from (0 – 150 kg N/h.) and row spacing (10, 20, 30 cm) led to :

1- Fertilization with (150kg N/h.) and 10cm distance between plants and row spacing increased the dry matter in *Mentha longifolia* plants while 30 cm distance without fertilization decreased it in *Mentha spicata* .

2- Fertilization with (150 kg N/h.) and 20cm distance led to a maximum yield of volatile oil in the two species, while the oil quantity decreased when the plants were grown on (10, 30 cm) fertilized with the same quantity of nitrogen that mentioned above .

3- Fertilization with (150kg N/h.) and 10cm distance between plants and row spacing led to an increase in specific gravity of the oil also the same nitrogenic fertilizer level increased the density and the refractive index of the oil while there was no effect for spacing on this two properties.

4- The chemical analysis of the volatile oil by using (GLC) technique showed there was difference in the quantity and quality of the volatile oil between the fertilized and non – fertilized.

5- Cutting the plants in spring 1997 led to rising the oil quantity and the dry matter, while they were lowered in the autumn cut from the same year .