

Seasonal Variation in the Essential Oil Composition of *Origanum*

Miriam Fouad Yousif

Professor

Abstract

The hydrodistilled essential oil content of *Origanum majorana* L. (Lamiaceae) ranged from 2.5 – 3% with the maximal value (3%) in spring. Analysis of the oil by GC/MS resulted in the identification of 15, 15, 11, and 14 components in the oils prepared in spring, summer, autumn, and winter, respectively. The composition of the essential oils differed quantitatively and qualitatively according to the time of collection. Thymol (38.4%) and cis-sabinene hydrate (25.3%) were the major components in spring plants. Terpinen-4-ol (37.4%, 20.5%, 16.3%) was a major component in the summer, autumn and winter oils, respectively. cis-Sabinene hydrate (54.4%) was major in winter plants while terpinolene (43.1%) was the main component in autumn plants. Other components detected in lower amounts in all oil samples were sabinene and p-cymene (up to 7.4% and 13.9% in autumn), and α -terpinene (up to 13.3% in summer).

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