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عنوان مقاله:

Qualitative and Quantitative Changes in the Essential Oil of Origanum vulgare ssp. gracile as Affected by Different Harvesting Times

محل انتشار:

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خلاصه مقاله:

Qualitative and quantitative variations in the essential oil of wild growing Origanum vulgare L. ssp. gracile plants were studied in response to different phenological stages (pre, full and post-flowering). The essential oil of air-dried leaves was isolated by water distillation using a Clevenger-type apparatus and was analyzed by Gas Chromatography (GC) and Gas Chromatography–Mass Spectrometry (GC/MS). The highest (۱.۸۷%) and the lowest (۱.۰۱%) essential oil content were obtained from post-flowering and pre-flowering stages, respectively. In total, ۲۴ components were identified and quantified in three phenological stages representing ۹۶.۷۵, ۹۷.۶۳, and ۹۸.۵۹% of the oil, respectively. Carvacrol (۴۶.۶۲, ۴۶.۵ and ۲۷.۶%), ρ-cymene (۷.۷۶, ۱۳.۵۴ and ۳۷.۰۸%) and γ-terpinene (۲۱.۵۴, ۱۳.۹۱ and ۶.۸۲%) were the main constituents of essential oils in pre, full, and post-flowering stages, respectively. Oxygenated monoterpenes (۴۳.۳۵-۶۱.۳۲%) and monoterpene hydrocarbons (۳۰.۸۱-۴۸.۰۲%) were the main classes of identified compounds in three essential oils. According to the findings of this research, the post-flowering stage can be considered as the most appropriate time for obtaining the highest essential oil content, but to achieve the highest rate of phenolic compounds, the pre-flowering and full-flowering stages can be recommended.

کلمات کلیدی:

Carvacrol, Oregano, ρ-Cymene, Phenological stage, γ-Terpinene.

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