

Antibacterial Activity of *Daucus crinitus* Essential Oils along the Vegetative Life of the Plant

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Abstract/Résumé : The essential oils from the aerial parts of *Daucus crinitus* Desf. were analyzed at three developmental stages (early vegetative, early flowering, and full flowering). Oil yield was found to vary depending on the stage of development, and the highest content of oil (0.15% w/w) was obtained at full flowering. The chemical composition of essential oils studied by GC and GC-MS showed a total of 71 compounds: 27 aliphatic compounds, 18 sesquiterpene hydrocarbons, 9 hydrocarbons monoterpene, 5 oxygenated monoterpenes, 5 phenolic compounds, 4 oxygenated sesquiterpenes, 2 oxygenated diterpenes, and 01 diterpene hydrocarbons. Whatever the analyzed stage, phenolic compounds were the most abundant group. Their level significantly increased during ripening and varied from 36.4 to 82.1%. Antimicrobial activities of oils were tested on four different microorganisms. The oils of various phenological stages showed high activity against *Candida albicans* (30 mm) and *Staphylococcus aureus* (1128 mm) bacteria strains which are deemed very dangerous and very difficult to eliminate. Thus, they represent an inexpensive source of natural antibacterial substances that may potentially be used in pathogenic systems.

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