

Seasonal and Circadian Study of a Thymol/ γ -Terpinene/p-Cymene Type Oil of *Ocimum gratissimum* L. and Its Antioxidant and Antifungal Effects

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Ocimum gratissimum oil is used for various medicinal, food and cosmetic applications due to its high chemical variability (1). Local businesses have considered the economic exploitation of this plant. A specimen sampled at São Luís, MA, Brazil, with thymol and derivatives oil, was subjected to seasonal and circadian study, and to antifungal and antioxidant assays. It was possible to observe that the weather conditions showed a direct influence on the oil yield and variation of its constituents, mainly oxygenated monoterpenes and monoterpene hydrocarbons, with the predominance of thymol, γ -terpinene, and p-cymene. Principal component analysis (PCA) was able to justify the oil chemical variability of the seasonal (70%) and circadian (86%) study. Oil displayed inhibition for the fungus *Corynespora cassiicola* at a concentration above 0.3 μ L mL⁻¹, and it showed a more significant activity by comparison to thymol. Using 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical assay, the oil antioxidant activity was about 75% of thymol.

1. CASTRO, J. A. M. ; MONTEIRO, O. S. ; COUTINHO, D. F. ; RODRIGUES, A. A. C. ; SILVA, J. K. R. ; Maia, J.G.S. . Seasonal and Circadian Study of a Thymol/ γ -Terpinene/p-Cymene Type Oil of *Ocimum gratissimum* L. and its Antioxidant and Antifungal Effects. JOURNAL OF THE BRAZILIAN CHEMICAL SOCIETY **JCR**, v. 00, p. 1-9, 2019.

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