BASIL ESSENTIAL OIL (OCIMUM BASILICUM): IN VITRO ANTIFUNGAL PROPERTIES AND ANTIOXIDANT ACTIVITY

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ABSTRACT

The purpose of the present study was to evaluate the antioxidant and in vitro antifungal properties of commercial Basil (Ocimum basilicum) essential oil (BEO). The antioxidant activity of BEO was estimated by DPPH free radical scavenging ability. The antifungal activity of the EO was tested against three pathogenic Penicillium (P.) spp. strains (P. expansum, P. citrinum, P. crustosum) using the disc diffusion method (concentrations: 12.5 $\mu L.L^{-1}$, 25 $\mu L.L^{-1}$, 50 $\mu L.L^{-1}$, and 100 $\mu L.L^{-1}$). From the results it is clearly evident that Ocimum basilicum EO showed a strong antioxidant activity with the value of inhibition to be 86.20 ±0.15%. The highest concentrations (100 $\mu L.L^{-1}$) of BEO exhibited the strongest antifungal activity manifested by the highest diameters (5.33 ±0.58 mm, 4.33 ±0.58 mm, 3.33 ±0.58 mm) of inhibition zones against all three fungi strains (P. crustosum, P. citrinum and P. expansum; respectively). These findings show that the BEO represents a good source of biologically active substances that could have potential applications in the food and pharmaceutical industries.

Keywords: Ocimum basilicum, essential oil, disc diffusion method, Penicillium spp., DPPH assay

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