

ANTIOXIDANT AND ANTIMICROBIAL PROPERTIES OF CARAWAY (*Carum carvi* L.) AND CUMIN (*Cuminum cyminum* L.) EXTRACTS

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Summary. Antioxidant and antimicrobial properties of caraway (*Carum carvi* L.) and cumin (*Cuminum cyminum* L.) extracts were assessed. Antioxidant activity of caraway and cumin ethanol and aqueous extracts was measured in DPPH[•] and ABTS^{•+} radical scavenging reaction systems and depended on extract concentration. Radical scavenging capacity in DPPH[•] reaction system was in the following order: caraway aqueous>caraway ethanol>cumin aqueous>cumin ethanol, while in ABTS^{•+} reaction system in the following order: caraway ethanol>cumin aqueous>caraway aqueous>cumin ethanol. Antibacterial activities of caraway and cumin ethanol extracts were determined by a micro dilution both method using microtiter plates and measuring optical density. A microtiter plate assay was performed with *Lactobacillus (Lb.) paracasei* INF 448, *Lb. plantarum* INF15D, *Lb. casei* ATCC 393, *Lactococcus (Lc.) cremoris* P2, *Lc. lactis* L2. Some of the selected strains were stronger inhibited by the ethanol extracts: minimal inhibitory concentration was in the range of 44.8-11.6 mg ml⁻¹, while caraway and cumin ethanol extracts did not inhibit *Lb. paracasei* and *Lb. plantarum* growth.

Key words: caraway, cumin, antioxidant activity, antimicrobial properties.