ANTIOXIDANT AND ANTIBACTERIAL ACTIVITIES AND COMPOSITION OF BRAZILIAN SPEARMINT (Mentha spicata).


The Mentha spicata L, commonly called the spearmint, belongs to the Lamiaceae family, genus Mentha, which comprises about 25 to 30 species originating in Europe. It is one of the most cultivated varieties of spearmint in Brazil, it is well adapted to subtropical climate. The culture of Mentha interest is mainly related to the commercial importance of its essential oil as it is among the ten most traded in the world. The oil is used in many industries including the pharmaceutical and cosmetics, food and chemical industry. Therefore, the aim of the present work was evaluate the antioxidant activity, antibacterial activity and composition of spearmint (Mentha spicata) extracts. Extracts were obtained by maceration with methanol, acetone and dichloromethane solvents with dried and crushed aerial parts. The essential oil was obtained by hydrodistillation of the fresh aerial parts. The antioxidant activity was determined by antioxidant activity index (AAI), the antimicrobial activity was evaluated by the methods of diffusion and determination of minimum inhibitory concentration against the microorganisms Staphylococcus aureus and Escherichia coli. Phenolic compounds were determined by Follin-Ciocalteu method and essential oil composition was identified by GC/MS. The methanol extract showed a higher content of total phenolic compounds and strong antioxidant activity, while only the essential oil showed antibacterial activity. The main compounds of the essential oil were carvone (67%), limonene (14.3%), muurolene (2.3%) and myrcene (2.1%). The oil can be used as a natural antimicrobial in foods and contribute to the development of flavor and pleasant aroma to food. On the other hand, the methanol extract showed antioxidant activity equivalent to BHT, and may be an alternative to this synthetic additive.