

Article

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TESTING THE EFFICIENCY OF 6 ESSENTIAL OILS FOR FOODBORNE PATHOGENS IN ORDER TO SELECT THE MOST SUITABLE FOR APPLICATION IN THE MEAT INDUSTRY

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Abstract

Identifying natural and safe methods for preserving food is an important issue. In this respect, one of the most important foodborne pathogens in ready-to-eat meat products is *Listeria monocytogenes*, which had a high prevalence in global food poisoning outbreaks.

In the study, six essential oils (*Ocimum basilicum*, *Eucalyptus maculata* var. *citriodora*, *Salvia officinalis*, *Petroselinum crispum*, *Citrus aurantifolia*, *Cinnamomum zeylanicum*) were studied for their antimicrobial efficiency against *Listeria monocytogenes* using the Agar Well Diffusion assay, in order to select the three most effective essential oils. Samples were performed in triplicate with positive and negative control.

According to the measured inhibition area, the antimicrobial effect ranking for the studied essential oils was the following: *Cinnamomum zeylanicum* essential oil - 29.00±1.00 mm, *Citrus aurantifolia* - 17.00±0.82 mm and *Ocimum basilicum* - 12.00±0.82 mm.

In conclusion, the efficacy of the selected oils against *L. monocytogenes* is noted, further studies on their activity in food matrices experimentally and naturally contaminated with the studied pathogen being needed.

Key words: essential oils, *Listeria monocytogenes*, ready-to-eat meat products
