

Abstract

The aim of this research was to investigate the effect of *Carum copticum* seed essential oil on growth of *Escherichia coli* inoculated in common carp minced during storage in refrigerator (4°C). Plants essential oil extraction was carried with using Steam distilled water in Klevenger. Then, the seed essential oils of medicinal plants (*Carum copticum*, *Cuminum cyminum*, *Carum carvi*, *Anethum graveolens* and *Coriandrum sativum*) were evaluated by disk diffusion and microdilution. Results showed that seed essential oil of *Carum copticum* has highest antibacterial properties. Common carp minced inoculated with *E. coli* bacteria (10^3 CFU/g) and treated with concentrations of 2, 3 and 4 µL/g seed essential oil of *Carum copticum* and stored at 4 ° C. Chemical (pH, PV, TBA and TVB-N) and microbial parameters (TVC, PTC and *E. coli* count) of minced meat were measured at 0, 24, 72, 144, 216 and 288 hours. The results showed that chemical parameters increased during storage but this increase was less in treatments containing seed essential oil of *Carum copticum*. The count of *E. coli* showed that the treatment containing 4 µL/g had the greatest effect on inhibiting of bacterial growth. The TVC and PTC amount of treatments containing seed essential oil of *Carum copticum* were lower than the other treatments. Therefore the use of seed essential oil of *Carum copticum* as an antibacterial natural additive in fish products is recommended.

Key words: Medicinal plants, Minced meat, *Escherichia coli*, Essential oils, Sensory evaluation



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**Antibacterial effect of the seed essential oils from
some medicinal plants on the growth of *Escherichia
coli* in minced of *Cyprinus carpio***

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