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The effect of (*Capsicum annuum*) essential oil on the qualitative characteristics of Silver Carp Sausage (*Hypophthalmichthys molitrix*) during storage in the refrigerator

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Abstract

Fish sausage is one of the products that is produced to create variety and increase the consumption of fish. Since most of these products are made of fish, so they have a very short shelf life. One of the ways to maintain quality and increase the shelf life of such products is to use natural antioxidants. In this study, the essential oil of green pepper (*Capsicum annuum*) was extracted by water distillation (Clevenger). The amount of total phenol and DPPH in green pepper essential oil was 146.3 mg/g gallic acid and 1.37 mg/ml, respectively. The extracted essential oil was sprayed on silver carp sausages at concentrations of 2 and 4% (W/V) and then stored in a refrigerator. Then, at 5-day intervals chemical (pH, TBA and TVB-N), microbial (mesophilic, Pseudomonas, coliforms and mold and, yeast), and sensory evaluation were analyzed. Based on the results of sensory, microbial and chemical evaluation, treatment of 4% green pepper essential oil had the longest shelf life up to 25 days and the difference between 4% treatment with 2% and control treatments was significant ($P < 0.05$). Therefore, the use of green pepper essential oil is suitable for preserving and extending the shelf life of silver carp sausage.

Keywords: *Capsicum annuum*, Essential oil (Essence), Fish sausage, Silver carp

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