

RINGKASAN

Bakso ikan bandeng termasuk jenis pangan yang mudah rusak sehingga umur simpannya sangat singkat apabila disimpan tanpa penanganan yang baik. Dalam usaha peningkatan umur simpan umumnya ditambahkan bahan pengawet. Bahan pengawet yang marak di pasaran adalah bahan pengawet sintetis, padahal penggunaan dalam jangka waktu panjang dapat menyebabkan masalah bagi kesehatan. Salah satu teknik pengawetan pangan yang aman diaplikasikan pada bakso ikan bandeng adalah *edible coating* dengan penambahan minyak atsiri sereh dapur. Minyak atsiri sereh dapur diketahui mampu menghambat aktivitas bakteri patogen, sehingga dapat berperan sebagai agen antimikroba dalam *edible coating*.

Pada penelitian ini dilakukan pelapisan terhadap bakso ikan bandeng menggunakan *edible coating* yang ditambahkan minyak atsiri sereh dapur. Sehingga, penelitian ini bertujuan untuk mempelajari pengaruh: 1) penambahan variasi konsentrasi minyak atsiri sereh dapur; 2) lama penyimpanan; 3) kombinasi penambahan variasi konsentrasi minyak atsiri sereh dapur dengan lama penyimpanan terhadap kualitas kimia, mikrobiologi, dan sensori produk bakso ikan bandeng pada penyimpanan suhu dingin. Penelitian ini menerapkan metode Rancangan Acak Kelompok (RAK) dengan dua faktor yang diuji, yaitu variasi konsentrasi minyak atsiri terdiri atas 0% (kontrol); 0,1%; 0,3%; 0,5% serta lama penyimpanan terdiri atas 0 hari, 5 hari, 10 hari, dan 15 hari. Variabel yang diamati diantaranya yaitu total mikroba, total formol, pH, kadar air, dan uji sensori (skala 1-5). Data kuantitatif dianalisis menggunakan uji analisis ragam dan uji lanjut DMRT taraf 5%, sedangkan data kualitatif dianalisis dengan metode statistik deskriptif.

Hasil penelitian menunjukkan bahwa perlakuan penambahan minyak atsiri sereh dapur (C) pada *edible coating* mampu meningkatkan mutu kimia dan mikrobiologi ditinjau melalui penurunan total mikroba dan total formol bakso ikan bandeng, serta peningkatan nilai pH. Pada perlakuan lama simpan (S) cenderung meningkatkan total mikroba, kadar air, total formol, serta menurunkan nilai pH bakso ikan bandeng. Konsentrasi minyak atsiri sereh dapur yang dapat mempertahankan mutu kimia, mikrobiologi, dan sensoris bakso ikan bandeng hingga hari ke-15 adalah 0,5% ditinjau dari total mikroba sebesar 101,33 CFU/g; kadar air 67,66%; kadar total formol 8,755%; nilai pH 6,23; warna putih keabuan (skala 4); aroma khas bakso ikan (skala 4); tekstur tidak lengket (skala 4); kesukaan disukai (skala 4).

SUMMARY

The milkfish meatball is one of the types of food that is easily damaged, consequently, the shelf is very short if stored without good handling. Adding preservatives will increase the shelf life of milkfish meatball. Preservatives that commonly used in the market are synthetic preservatives, however, long-term using of synthetic preservatives can lead to health problems. One of the safe food preservation techniques which can be applied to milkfish meatballs is an edible coating with the addition of citronella essential oils. Citronella essential oil is known to be able to inhibit the activity of pathogen bacteria, therefore it can act as an antimicrobial agent in edible coatings.

In this research coating of milkfish meatballs was done using an edible coating that was added with citronella essential oil. So, the purpose of this research are learn the effect: 1) the concentration addition of citronella essential oils; 2) the effect of storage time; 3) the effect of the combination of concentration addition of citronella essential oils with the storage time to the chemical, microbiological, and sensory qualities of milkfish meatball products in cold temperature storage. This research applied a Randomized Block Design method (RBD) with two 2 factors tested, the first factor is variations of the addition of essential oils consist of 4 levels, there are 0% (control), 0.1%, 0.3%, and 0.5%. The second factor is storage time which consists of 0 days, 5 days, 10 days and 15 days. The observed variable are total microbes, formol value, pH, water content, and sensory test (scale 1-5). Quantitative data were analyzed by using a variety analysis test and DMRT further test of 5%, while qualitative data were analyzed by using descriptive statistic methods.

The results showed that the addition of citronella essential oils able to improve the chemical and microbiological quality is reviewed through a decrease in the total microbial and formol value of milkfish meatballs, as well as an increase in pH value. In the treatment of the storage time tended to increase the total microbial, water content, formol value, and decrease the pH value of milkfish meatballs. The concentration of citronella oil that can maintain the chemical, microbiological, and sensory quality of milkfish meatballs until the 15th day is 0.5% in terms of total microbes of 101.33 CFU / g; water content 67.66%; formol value 8.755%; pH value of 6.23; color grayish-white (scale 4); aroma typical fish balls (scale 4); texture not sticky (scale 4); fondness likes (scale 4).