

Intisari

PENGARUH MEDIA SAUS MENTEGA TERHADAP KARAKTERISTIK FISIKOKIMIA DAN SENSORIS UDANG VANAME DALAM KEMASAN *BAG RETORT PACK* TRANSPARAN

Udang vaname (*Litopenaeus vannamei*) merupakan komoditas perikanan bernilai ekonomi tinggi dan berpotensi dikembangkan sebagai produk siap saji (*ready to eat*) melalui proses sterilisasi. Penggunaan kemasan *bag retort pack transparan* dipilih karena memiliki bobot ringan, memungkinkan proses sterilisasi yang efisien, memberikan tampilan produk yang menarik secara visual, serta berpotensi menekan biaya produksi dibandingkan kemasan *retort* berbahan aluminium foil. Selain itu, media saus mentega digunakan sebagai transfer panas saat proses sterilisasi sekaligus pembawa cita rasa, yang berperan dalam meningkatkan karakteristik sensoris dan nilai penerimaan produk udang vaname siap saji. Penelitian ini bertujuan untuk mengetahui pengaruh berbagai rasio media saus mentega terhadap karakteristik fisik, kimia, fisikokimia, mikrostruktur dan sensori udang vaname sterilisasi. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) satu faktor berupa rasio udang dan media saus mentega (1:1, 3:2, dan 7:3 b/b). Proses sterilisasi dilakukan pada suhu 121 °C dengan nilai F_0 8 menit. Parameter yang dianalisis meliputi uji kadar air, pH, warna, *Water Holding Capacity* (WHC), reaksi Maillard, intensitas pencoklatan, profil asam amino, mikrostruktur, uji sensori skoring, *Quantitative Descriptive Analysis* (QDA), *Temporal Dominance of Sensations* (TDS), dan *Texture Profile Analysis* (TPA). Hasil penelitian menunjukkan bahwa variasi rasio udang dan media saus mentega berpengaruh terhadap karakteristik fisik, fisikokimia, kimia, mikrostruktur, dan sensori udang vaname sterilisasi dalam kemasan *bag retort pack* transparan. Perlakuan rasio 7:3 menunjukkan kadar air lebih tinggi serta gap mikrostruktur lebih kecil, sedangkan seluruh perlakuan sterilisasi mengalami peningkatan intensitas pencoklatan dan reaksi Maillard serta penurunan nilai *Water Holding Capacity* (WHC). Perlakuan rasio 1:1 memiliki total asam amino tertinggi di antara perlakuan sterilisasi. Pada aspek sensori, perlakuan rasio 1:1 menunjukkan intensitas flavor lebih tinggi dan dominansi atribut *juicy* yang lebih panjang, sedangkan rasio 7:3 didominasi atribut *hardness* dan *cohesiveness* yang mencerminkan tekstur lebih padat.

Kata kunci: udang vaname, saus mentega, sterilisasi, *bag retort pack* transparan, karakteristik sensori, fisikokimia, mikrostruktur

Abstract

THE EFFECT OF BUTTER SAUCE ON THE PHYSICOCHEMICAL AND SENSORY CHARACTERISTICS OF VANAME SHRIMP IN TRANSPARENT RETORT PACK BAG PACKAGING

Vaname shrimp (*Litopenaeus vannamei*) is a high-value fisheries commodity with potential to be developed as a ready-to-eat product through thermal sterilization. Transparent retort pouch packaging was selected due to its lightweight characteristics, efficient heat transfer during sterilization, attractive visual appearance, and potential to reduce production costs compared to aluminum foil retort packaging. In addition, butter sauce was used as a heat transfer medium during sterilization as well as a flavor carrier, contributing to enhanced sensory characteristics and overall acceptability of the ready-to-eat shrimp product. This study aimed to evaluate the effect of different butter sauce ratios on the physical, chemical, physicochemical, microstructural, and sensory characteristics of sterilized vaname shrimp. A completely randomized design with one factor, namely the ratio of shrimp to butter sauce (1:1, 3:2, and 7:3, w/w), was applied. Sterilization was carried out at 121 °C with an F_0 value of 8 minutes. Parameters analyzed included moisture content, pH, color, water holding capacity (WHC), Maillard reaction, browning intensity, amino acid profile, microstructure, sensory scoring, Quantitative Descriptive Analysis (QDA), Temporal Dominance of Sensations (TDS), and Texture Profile Analysis (TPA). The results showed that variations in shrimp-to-butter sauce ratio significantly affected the physical, physicochemical, chemical, microstructural, and sensory properties of sterilized vaname shrimp packaged in transparent retort pouches. The 7:3 ratio exhibited higher moisture content and a smaller microstructural gap, while all sterilized treatments showed increased browning intensity and Maillard reaction along with decreased WHC values. The 1:1 ratio resulted in the highest total amino acid content among the sterilized samples. Sensory evaluation indicated that the 1:1 ratio presented higher flavor intensity and longer dominance of the juicy attribute, whereas the 7:3 ratio was dominated by hardness and cohesiveness attributes, reflecting a denser texture.

Keywords: vaname shrimp, butter sauce, sterilization, transparent retort pack bag, sensory characteristics, physicochemical properties, microstructure