

INTISARI

PENGARUH LAMA STERILISASI DAN JENIS MEDIA TERHADAP KARAKTERISTIK FISIK, KIMIA, SENSORI, DAN PREFERENSI KONSUMEN UDANG VANAME DALAM *RETORT BAG* ALUMINIUM FOIL

Udang vaname merupakan komoditas perikanan penting di Indonesia yang berpotensi dikembangkan menjadi produk *ready to eat* untuk mempertahankan mutu dan memperluas jangkauan distribusi. Proses sterilisasi berperan penting dalam menjamin keamanan produk, dengan lama sterilisasi dan jenis media memengaruhi mutu produk akhir. Penelitian ini bertujuan untuk mengevaluasi pengaruh lama sterilisasi dan jenis media pada udang dalam *retort bag* aluminium foil terhadap karakteristik fisik, sensori, kimia, dan preferensi konsumen. Penelitian menggunakan Rancangan Acak Lengkap (RAL) dua faktor, yaitu lama sterilisasi (4, 6, dan 8 menit) dan jenis media (air garam, minyak, dan saus mentega). Parameter yang dianalisis meliputi warna, tekstur (TPA), kadar air, QDA, TDS, dan uji hedonik. Data dianalisis menggunakan Two Way ANOVA 95%, sedangkan data QDA dan TDS diolah menggunakan Excel dan XLSTAT. Analisis data menunjukkan bahwa peningkatan lama sterilisasi secara signifikan ($p < 0,05$) menurunkan cooking loss, warna (a^*), tekstur (*hardness*, *springiness*, *gumminess*, *chewiness*), dan kadar air. Media saus mentega menurunkan secara signifikan ($p < 0,05$) warna (L^* dan b^*), *springiness*, dan kadar air. Interaksi kedua faktor berpengaruh signifikan terhadap tekstur (*hardness*, *cohesiveness*, *gumminess*, dan *chewiness*). Uji QDA menunjukkan bahwa sterilisasi 8 menit meningkatkan penetrasi rasa asin pada semua media, menurunkan *flavor oily* pada media minyak, meningkatkan *flavor* umami, rempah, dan manis kuat pada media saus mentega, serta menurunkan tekstur (*hardness*, *cohesiveness*, dan *juiciness*). Uji TDS menunjukkan dominansi sensasi rapuh dan kering pada sterilisasi 8 menit. Penerimaan konsumen menunjukkan kenampakan disukai pada media air garam dan minyak (7,01-7,27), *juiciness* cukup disukai pada sterilisasi 6 dan 8 menit (6,64-6,76), serta rasa dan penerimaan keseluruhan disukai pada media saus mentega ($7,53 \pm 0,17$ dan $7,46 \pm 0,13$). Nilai *acceptability index* (AI) $> 70\%$ diperoleh pada seluruh perlakuan, kecuali kenampakan pada media saus mentega.

Kata kunci: udang *retort bag*, sterilisasi, preferensi konsumen, *texture profile analyzer*, karakteristik sensori.

ABSTRACT

EFFECT OF STERILIZATION TIME AND MEDIA TYPE ON THE PHYSICAL, CHEMICAL, SENSORY CHARACTERISTICS, AND CONSUMER PREFERENCE OF VANNAMEI SHRIMP IN ALUMINUM FOIL RETORT BAGS

Vannamei shrimp is an important fisheries commodity in Indonesia with strong potential to be developed into ready-to-eat products to maintain quality and expand distribution. Sterilization plays a crucial role in ensuring product safety, while sterilization time and media type influence the final product quality. This study aimed to evaluate the effects of sterilization time and media type on shrimp processed in aluminum foil retort pouches on their physical, chemical, sensory characteristics, and consumer preference. The study employed a two-factor Completely Randomized Design (CRD) was applied, consisting of sterilization time (4, 6, and 8 min) and media type (brine, oil, and butter sauce). Parameters analyzed included color, texture (TPA), moisture content, QDA, TDS, and hedonic testing. Data were analyzed using Two-Way ANOVA at a 95% confidence level, while QDA and TDS data were processed using Excel and XLSTAT. Results showed that increasing sterilization time significantly ($p < 0,05$) reduced cooking loss, color (a^*), texture (hardness, springiness, gumminess, chewiness), and moisture content. Butter sauce significantly ($p < 0,05$) reduced color (L^* and b^*), springiness, and moisture content. The interaction between factors significantly affected texture (hardness, cohesiveness, gumminess, and chewiness). QDA results indicated that 8-min sterilization increased salty taste penetration in all media, reduced oily flavor in oil, enhanced umami, spicy, and sweet flavors in butter sauce, and decreased hardness, cohesiveness, and juiciness. TDS showed the dominance of brittle and dry sensations at 8 min. Consumer acceptance indicated that appearance was preferred in brine and oil (7,01–7,27), juiciness was moderately liked at 6 and 8 min (6,64–6,76), while taste and overall acceptance were preferred in butter sauce ($7,53 \pm 0,17$ and $7,46 \pm 0,13$). The acceptability index (AI) $> 70\%$ for all treatments except appearance in butter sauce.

Keywords: shrimp *retort bag*, sterilization, consumer preference, texture profile analyzer, sensory characteristics.