ABSTRAK

(Jihan Nabila Saputri. 26060122130027. Pengaruh Substitusi Hidrolisat Protein Ikan Kembung (*Rastrelliger brachysoma*) terhadap Karakteristik Fisikokimia dan Sensoris *Mayonnaise*. **A. Suhaeli Fahmi dan Tri Winarni Agustini).**

Mayonnaise merupakan produk olahan pangan berbahan dasar minyak dan telur sebagai emulsifier. *Mayonnaise* konvensional mengandung lemak dan kalori yang tinggi, dengan kadar lemak mencapai 70–80% dari total berat produk. Salah satu pendekatan dalam formulasi *mayonnaise* adalah penggunaan bahan pengganti lemak (*fat replacer*) yang memiliki sifat fungsional, seperti kemampuan membentuk emulsi, mempertahankan viskositas, dan menjaga stabilitas produk selama penyimpanan. Beberapa produk olahan ikan berprotein tinggi salah satunya adalah hidrolisat protein ikan (HPI). Pengembangan *mayonnaise* fungsional melalui substitusi agen pengemulsi konvensional dengan HPI bertujuan untuk menguji dan mengetahui pengaruh substitusi berbagai konsentrasi HPI terhadap karakteristik fisikokimia serta kualitas sensoris produk serta penerimaan konsumen. Menggunakan metode Rancangan Acak Lengkap (RAL) dengan empat perlakuan, yaitu kontrol (K), substitusi HPI 1% (A), 2% (B) dan 3% (C), serta tiga pengulangan. Parameter yang diuji meliputi kadar air, kadar protein, kadar lemak, kadar abu, pH, viskositas, warna (nilai L*a*b*), daya sebar, stabilitas emulsi, sensori, dan lisin. Analisis data dilakukan menggunakan ANOVA dan uji Beda Nyata Jujur (BNJ) untuk data parametrik, serta *Kruskal-Wallis* dilanjutkan *Mann-Whitney* untuk data non-parametrik. Substitusi hidrolisat protein ikan dapat berpengaruh nyata pada *mayonnaise.* Hasil menunjukkan bahwa perlakuan terbaik, yaitu menghasilkan kadar air sebesar 26,13%; kadar protein sebesar 8,31%; kadar lemak 67,46%; kadar abu 0,55%; pH 6,25; viskositas 27.725 cP; daya sebar 6,39 cm; stabilitas emulsi 86,67%; warna L* 60,71; warna a* 1,39 dan warna b* 5,21 serta kandungan lisin 0,224%. Hasil sensori *mayonnaise* dengan substitusi HPI 2% (B) menjadi perlakuan tertinggi dengan tingkat penerimaan oleh panelis dengan selang kepercayaan $7{,}90 < \mu < 8{,}26$.

Kata kunci: emulsi, hidrolisat protein ikan, *mayonnaise*, sensori, substitusi.

ABSTRACT

(Jihan Nabila Saputri. 26060122130027. *The Effect of Mackerel (Rastrelliger brachysoma) Protein Hydrolysate Substitution on the Physicochemical and Sensory Characteristics of Mayonnaise*. **A. Suhaeli Fahmi and Tri Winarni Agustini).**

*Mayonnaise is a processed food product made from oil and eggs as emulsifiers. Conventional mayonnaise contains high levels of fat and calories, with fat content reaching 70–80% of the total product weight. One approach in mayonnaise formulation is the use of fat replacers that have functional properties, such as the ability to form emulsions, maintain viscosity, and maintain product stability during storage. Some high-protein fish products include fish protein hydrolysates (HPI). The development of functional mayonnaise through the substitution of conventional emulsifying agents with HPI aims to test and determine the effect of substitution of various HPI concentrations on the physicochemical characteristics and sensory quality of the product and consumer acceptance. Using the Completely Randomized Design (CRD) method with four treatments, namely control (K), HPI substitution 1% (A), 2% (B) and 3% (C), and three replications. The parameters tested included water content, protein content, fat content, ash content, pH, viscosity, color (L*a*b* value), spread ability, emulsion stability, sensory, and lysine. Data analysis was performed using ANOVA and Honestly Significant Difference (HSD) test for parametric data, and Kruskal-Wallis followed by Mann-Whitney for non-parametric data. Fish protein hydrolysate substitution had a significant effect on mayonnaise. The results showed that the best treatment, produced a water content of 26.13%; protein content of 8.31%; fat content of 67.46%; ash content of 0.55%; pH 6.25; viscosity of 27.725 cP; spread ability of 6.39 cm; emulsion stability of 86.67%; L* color of 60.71; a* color of 1.39 and b* color of 5.21 and lysine content of 0.224%. The sensory results of mayonnaise with 2% HPI substitution (B) were the highest treatment with a level of acceptance by panelists with a confidence interval of $7.90 < \mu < 8.26$.*

Keywords: *emulsion, fish protein hydrolysate, mayonnaise, sensory, substitution.*