

## ABSTRACT

### **THE EFFECT OF THE ADDITION OF JORUK FINE SHRIMP (*Metapenaeus elegans*) POWDER ON THE PHYSICAL, CHEMICAL, AND SENSORY CHARACTERISTICS OF SHRIMP CRACKERS**

By

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Joruk is a fermented fish product made with salt, liquid palm sugar, and rice, but joruk made from shrimp had higher levels of protein, peptides, and glutamic acid. The glutamic acid content and distinctive flavor of fermented products showed potential for development as a seasoning, for example in cracker production. This study aimed to determine the effect of adding powdered shrimp joruk on the physical, chemical, and sensory characteristics of crackers, as well as to obtain the appropriate concentration of powdered shrimp joruk. The study was conducted using a Completely Randomized Block Design (CRBD) with a single treatment and four replications. This study used six concentration levels of powdered shrimp joruk addition, namely P0 (0%), P1 (3%), P2 (6%), P3 (9%), P4 (12%), and P5 (15%) (w/w tapioca). Homogeneity of variance was tested using the Bartlett test, data were processed through analysis of variance to obtain an estimate of the error variance, and were further analyzed using the 5% test. This study produced the best cracker characteristics at treatment P2 (6%), with scoring test scores including color 3.80 (between very light brown and brown), flavor 3.40 (slightly characteristic of shrimp), texture 4.30 (crunchy), and hedonic test scores including color 4.46 (liked), flavor 3.98 (liked), texture 4.20 (liked) and overall acceptance 4.20 (liked), moisture content of 8.84%, texture 1,309.5 gf, L\* value 89.4, a\* value 18.2, b\* value 32.6, expansion rate 83.2%, oil absorption 43.6%, protein content 2.86%, fat content 0.82%, ash content 1.12%, acid-insoluble ash content 0.04%, and carbohydrates 86.36%.

**Keywords:** crackers, fine shrimp, joruk

## ABSTRAK

### **PENGARUH PENAMBAHAN JORUK UDANG JARI (*Metapenaeus elegans*) BUBUK TERHADAP KARAKTERISTIK FISIK, KIMIA, DAN SENSORI KERUPUK**

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Joruk merupakan olahan ikan yang difermentasi dengan garam, gula aren cair, dan nasi, namun joruk yang terbuat dari udang memiliki kadar protein, peptida, dan asam glutamat yang lebih tinggi. Kandungan asam glutamat dan *flavor* khas produk fermentasi berpotensi dikembangkan sebagai bumbu, salah satunya dalam pembuatan kerupuk. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan joruk udang bubuk terhadap karakteristik fisik, kimia, dan sensori kerupuk, serta mendapatkan konsentrasi joruk udang bubuk yang tepat. Penelitian dilakukan dengan Rancangan Acak Kelompok Lengkap (RAKL) perlakuan tunggal dan empat ulangan. Penelitian ini menggunakan konsentrasi penambahan joruk udang bubuk dengan 6 taraf, yaitu P0 (0%), P1 (3%), P2 (6%), P3 (9%), P4 (12%), dan P5 (15%) (b/b tapioka). Kesamaan ragam diuji dengan uji Bartlett, data diolah dengan analisis ragam untuk memperoleh penduga ragam galat serta dilanjutkan dengan uji BNT 5%. Penelitian ini menghasilkan karakteristik kerupuk terbaik yaitu perlakuan P2 (6%), dengan skor uji skoring yang meliputi warna 3,80 (antara sangat coklat muda dan coklat), *flavor* 3,40 (sedikit khas udang), tekstur 4,30 (renyah), dan skor uji hedonik yang meliputi warna 4,46 (suka), *flavor* 3,98 (suka), tekstur 4,20 (suka) dan penerimaan keseluruhan 4,20 (suka), kadar air sebesar 8,84%, tekstur 1.309,5 gf, nilai L\* 89,4, nilai a\*18,2, nilai b\* 32,6, daya kembang 83,2%, daya serap minyak 43,6%, kadar protein 2,86%, kadar lemak 0,82%, kadar abu 1,12%, kadar abu tidak larut asam 0,04%, dan karbohidrat 86,36%.

**Kata-kata kunci:** joruk, kerupuk, udang jari