

**PENGARUH PENAMBAHAN GELATIN KULIT IKAN TUNA SIRIP KUNING (*Thunnus albacares*) UNTUK PENGEMBANGAN PRODUK SMOOTHIES BUAH NAGA MERAH (*Hylocereus costaricensis*) DIPERKAYA TEPUNG TEMPE MIX GRAIN (KEDELAI DAN KORO PEDANG PUTIH) TERHADAP SIFAT SENSORIS, FISIK, KIMIAWI, DAN ANTIOKSIDATIF**

**ABSTRAK**

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Tuna merupakan ikan yang kaya manfaat. Selain daging ikannya, tulang dan kulit berprospek dikembangkan menjadi gelatin. Gelatin kulit tuna dikembangkan ke dalam produk *smoothies* buah naga merah. Dalam meningkatkan nilai fungsional *smoothies* buah naga merah ditambahkan tepung tempe *mix grain* (kedelai dan koro pedang putih) sebagai sumber antioksidan dan protein tambahan. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan gelatin kulit tuna terhadap sifat sensoris, fisik, kimia, dan aktivitas antioksidan dari *smoothies* buah naga merah yang diperkaya tepung tempe *mix grain*.

Penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan variasi penambahan gelatin yaitu kontrol (tanpa gelatin dan tepung tempe *mix grain*), gelatin kulit ikan tuna dan gelatin sapi. Analisis sifat sensoris dengan uji hedonik meliputi warna, aroma, rasa, tekstur, kekentalan dan keseluruhan. Kemudian diamati parameter sifat fisik meliputi WHC, OHC (gelatin ikan tuna), warna dan viskositas dan dilakukan analisis sifat kimia meliputi kadar air, abu, lemak, protein, karbohidrat, dan pH serta analisis aktivitas antioksidan.

Hasil penelitian menunjukkan pada gelatin kulit ikan tuna diperoleh hasil WHC 1,47% dan OHC 0,51%. Kadar air 7,96 %wb, kadar abu 0,67 %db, kadar protein 85,48 %db, kadar lemak 0,52 %db dan kadar karbohidrat 5,37 %db. Pada *smoothies* buah naga merah dengan penambahan gelatin kulit ikan tuna diperkaya tepung tempe *mix grain* diperoleh hasil uji hedonik keseluruhan 4,63 (mendekati agak suka), warna  $L^*$  38,95;  $a^*$  37,55;  $b^*$  -7,76; viskositas 55,04 cP, kadar air 79,17 %wb, kadar abu 0,56 %db, kadar protein 15,76 %db, kadar lemak 2,58 %db, kadar karbohidrat 1,94 %db, pH 6,29 dan aktivitas antioksidan 70,41 %.

Kata kunci: gelatin ikan tuna, *smoothies*, buah naga merah, tepung tempe *mix grain*

**THE EFFECT OF TUNA SKIN GELATIN (*Thunnus albacares*) ADDITION TO DEVELOP THE DRAGON FRUIT (*Hylocereus costaricensis*) SMOOTHIES PRODUCT ENRICHED BY MIXED-GRAIN TEMPEH POWDER (SOYBEAN AND JACK BEAN) ON SENSORY, PHYSICAL, CHEMICAL, AND ANTIOXIDATIVE PROPERTIES**

**ABSTRACT**

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Tuna is kind of fish that rich of advantages. Its bone and skin has the opportunity to develop into gelatin. Gelatin is developed into the dragon fruit smoothies product. In increase the functional value of smoothies, the dragon fruit can be added with mixed-grain tempeh powder as the source of antioxidant and protein. The aim of this study to find out the effect of tuna skin gelatin to sensory properties, physical, chemical, and antioxidant activity of dragon fruit smoothies with mixed-grain tempeh powder.

This study using a Completely Randomized Design (RAL) with the variations in the *gelatin* added which are control (without gelatin and mixed-grain tempeh powder), tuna skin gelatin and cow gelatin. The sensory analysis using hedonic test. The components are color, aroma, taste, texture, body and overall. The physical properties parameters are water holding capacity, oil holding capacity (tuna skin gelatin), color and viscosity. The chemical analysis components are water content, ash, fat, protein, carbohydrate and pH and antioxidant activity.

The result showed that tuna skin gelatin has water holding capacity 1,47% and oil holding capacity 0,51%, water content 7,96 %wb, ash 0,67 %db, protein 85,48 %db, fat 0,52 %db, and carbohydrate 5,37 %db. By hedonic test, the dragon fruit smoothies with tuna skin gelatin with mixed-grain tempeh has 4,63 (like moderately), color L\* 38,95; a\* 37,55; b\* -7,76; viscosity 55,04 cP, water content 79,17 %wb, ash 0,56 %db, protein 15,76 %db, fat 2,58 %db, carbohydrate 1,94 %db, pH 6,29 and antioxidant activity 70,41 %.

Keyword: tuna skin gelatin, smoothies, dragon fruit, mixed-grain tempeh powder