

# ABSTRAK

## PENGARUH VARIASI DOSIS *ENZIM PAPAIN* PADA PEMBUATAN GELATIN DARI TULANG IKAN TENGGIRI

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(Zaryuni Agustina, 2025, 61 Halaman, 5 Tabel, 10 Gambar, 4 Lampiran)

Penelitian ini bertujuan untuk mengetahui pengaruh variasi berat enzim papain dan berat tulang ikan tenggiri (*Scomberomorus commerson*) terhadap rendemen dan kualitas gelatin yang dihasilkan. Ekstraksi gelatin dilakukan menggunakan metode hidrolisis enzimatis dengan variasi berat enzim (2 g, 3 g, 4 g, 5 g, dan 6 g) untuk setiap 300 g tulang ikan. Parameter yang dianalisis meliputi rendemen (%), kadar air, kadar abu, dan kadar protein, serta sifat fisik gelatin seperti viskositas dan densitas. Hasil penelitian menunjukkan bahwa peningkatan berat enzim papain cenderung meningkatkan rendemen dan kadar protein gelatin, dengan perlakuan optimal pada penggunaan enzim 6 gram. Berdasarkan hasil yang diperoleh, tulang ikan tenggiri berpotensi sebagai bahan baku alternatif dalam produksi gelatin ramah lingkungan dan bernilai ekonomi tinggi. Penggunaan enzim papain sebagai agen hidrolisis juga terbukti efektif dalam meningkatkan efisiensi ekstraksi gelatin.

Kata kunci: gelatin, tulang ikan tenggiri, papain, ekstraksi, protein

## **ABSTRACT**

### ***THE EFFECT OF PAPAIN ENZYME DOSAGE VARIATIONS ON THE PRODUCTION OF GELATIN FROM MACKEREL FISH BONES***

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*(Zaryuni Agustina, 2025, 61 Pages, 5 Tables, 10 Figures, 4 Appendices)*

*This study aimed to determine the effect of varying the weight of papain enzyme and the weight of mackerel (*Scomberomorus commerson*) bones on the yield and quality of the resulting gelatin. Gelatin extraction was carried out using an enzymatic hydrolysis method with varying enzyme weights (2 g, 3 g, 4 g, 5 g, and 6 g) for every 300 g of fish bones. Parameters described included yield (%), moisture content, ash content, and protein content, as well as gelatin physical properties such as viscosity and density. The results showed that increasing the weight of papain enzyme tended to increase gelatin yield and protein content, with the optimal treatment using 6 grams of enzyme. Based on the results obtained, mackerel bones have the potential to be an alternative raw material for the production of environmentally friendly and economically valuable gelatin. The use of papain enzyme as a hydrolysis agent has also proven effective in increasing gelatin extraction efficiency.*

*Keywords: gelatin, mackerel bones, papain, extraction, protein*