

## **Analisis Kandungan Protein, Lemak, dan Air pada Hidrolisat Protein Jeroan Ikan Bandeng (*Chanos chanos*) dengan Enzim Bromelin**

Raras Anggita Cahyariani<sup>1</sup>, Ninik Rustanti<sup>1</sup>, Angga Rizqiawan<sup>1</sup>, Binar Panunggal<sup>1</sup>

### **ABSTRAK**

**Latar Belakang :** Ikan bandeng (*Chanos chanos*) banyak diolah menjadi bandeng cabut duri, terutama di Semarang, yang menghasilkan limbah jeroan cukup banyak. Jeroan ini mengandung protein dan lemak yang cukup tinggi sehingga berpotensi diolah menjadi hidrolisat protein ikan bernilai tinggi.

**Tujuan:** Mengetahui kandungan protein, lemak, dan air pada hidrolisat protein jeroan ikan bandeng (*Chanos chanos*) dengan berbagai konsentrasi enzim bromelin.

**Metode:** Desain penelitian menggunakan rancangan acak lengkap dengan empat perlakuan, yaitu A0 (0%), A1 (4%), A2 (5%), dan A3 (6%) enzim bromelin. Pengujian kandungan protein dilakukan dengan metode *Kjeldahl*, lemak dengan *Soxhlet*, dan kadar air dengan *Gravimetri*.

**Hasil:** Pemberian enzim bromelin berpengaruh signifikan terhadap kandungan protein, lemak, dan air ( $P < 0,05$ ). Hidrolisat formula A2 (5%) menghasilkan kandungan protein tertinggi 82,3%, lemak terendah pada A3 (6%) sebesar 1,7%, dan kadar air terendah pada A2 (5%) sebesar 7,1%.

**Kesimpulan:** Konsentrasi enzim bromelin mempengaruhi kandungan protein, lemak, dan air hidrolisat protein jeroan ikan bandeng. Formula A2 memenuhi standar mutu Hidrolisat Protein Ikan (HPI) menurut SNI 9295-2024, dengan kandungan protein 82,3%, lemak 1,86%, dan kadar air 7,12%.

**Kata Kunci:** hidrolisat protein ikan, jeroan ikan, ikan bandeng, enzim bromelin

---

<sup>1</sup>Program Studi Gizi, Fakultas Kedokteran, Universitas Diponegoro, Semarang  
rarasanggita55@gmail.com

## **Analysis of Protein, Fat, and Water Content in Protein Hydrolysate of Milkfish Offal (*Chanos chanos*) with Bromelain Enzyme**

Raras Anggita Cahyariani<sup>1</sup>, Ninik Rustanti<sup>1</sup>, Angga Rizqiawan<sup>1</sup>, Binar Panunggal<sup>1</sup>

### **ABSTRACT**

**Background:** Milkfish (*Chanos chanos*) is widely processed into jerked milkfish, especially in Semarang, which produces a lot of offal waste. This offal contains high protein and fat, and has the potential to be processed into high-value fish protein hydrolysate.

**Objective:** To determine the protein, fat, and water content in protein hydrolysate of milkfish offal (*Chanos chanos*) with various concentrations of bromelain enzyme.

**Methods:** The research design used a completely randomized design with four treatments, namely A0 (0%), A1 (4%), A2 (5%), and A3 (6%) bromelain enzyme. Protein content was tested using the *Kjeldahl* method, fat using *Soxhlet*, and water content using *Gravimetric*.

**Results:** The application of bromelain enzyme had a significant effect on protein, fat, and water content ( $P < 0.05$ ). Hydrolysate formula A2 (5%) produced the highest protein content of 82.3%, the lowest fat in A3 (6%) at 1.7%, and the lowest water content in A2 (5%) at 7.1%.

**Conclusion:** The concentration of bromelain enzyme affects the protein, fat, and water content of milkfish offal protein hydrolysate. Formula A2 meets the quality standards of Fish Protein Hydrolysate (HPI) according to SNI 9295-2024, with a protein content of 82.3%, fat 1.86%, and moisture content of 7.12%.

**Keywords:** fish protein hydrolysate, fish offal, milkfish, bromelain enzyme

---

<sup>1</sup>Nutrition Science Department, Medical Faculty of Diponegoro University, Semarang  
rarasanggita55@gmail.com