

ABSTRAK

Hidrolisat protein merupakan produk yang dihasilkan dari hidrolisis protein. Hidrolisis protein dapat diaplikasikan pada bahan baku ikan rucah. Hidrolisis protein secara enzimatis dapat menghasilkan penurunan ukuran peptida. Waktu hidrolisis merupakan salah satu faktor yang dapat mempengaruhi efektivitas pemecahan protein. Tujuan penelitian ini, yaitu mengetahui pengaruh waktu hidrolisis protein ikan rucah dengan enzim protease berdasarkan data aktivitas enzim, pH, suhu, dan proksimat hidrolisat protein. Metode yang digunakan dalam penelitian ini adalah eksperimental, Rancangan Acak Lengkap (RAL) dengan 7 perlakuan dan 3 ulangan, yaitu hidrolisis protein pada jam ke-0, 6, 12, 18, 24, 30, dan jam ke-36. Analisis data yang digunakan menggunakan analisis data regresi dan korelasi dengan *Microsoft Excel* dan *Statistical Package for the Social Sciences* (SPSS). Hasil penelitian menunjukkan bahwa waktu hidrolisis terbaik pada jam ke-6 dengan aktivitas enzim tertinggi pada pH 6,97 dan suhu 26°C. Hasil hidrolisat protein ikan rucah diperoleh nutrisi dengan kadar air 9,63%; kadar abu 13,39%; kadar lemak 11,43%; kadar karbohidrat 31,10%; kadar protein 34,46% dengan kandungan 18 asam amino yaitu 9 asam amino esensial dan 9 asam amino non-esensial.

Kata kunci: Hidrolisat protein, ikan rucah, enzim protease, waktu hidrolisis, aktivitas enzim.



ABSTRACT

Protein hydrolysate is a product produced from protein hydrolysis. Protein hydrolysis can be applied to raw materials of bycatch. Enzymatic protein hydrolysis can result in a decrease in peptide size. Hydrolysis time is one of the factors that can affect the effectiveness of protein breakdown. The purpose of this study was to determine the effect of protein hydrolysis time with protease enzyme based on enzyme activity data, pH, temperature, and protein hydrolysate proximate. The method used in this research was experimental, completely randomised design (CRD) with 7 treatments and 3 replicates, namely protein hydrolysis at the 0th hour, 6, 12, 18, 24, 30, and 36th hours. Data analysis used regression and correlation data analysis with Microsoft Excel and Statistical Package for the Social Sciences (SPSS). The results showed that the best hydrolysis time was at the 6th hour with the highest enzyme activity at pH 6.97 and temperature 26°C. The results of the protein hydrolysate of raw fish obtained nutrients with a moisture content of 9.63%; ash content 13.39%; fat content 11.43%; carbohydrate content 31.10%; protein content 34.46% with a content of 18 amino acids, namely 9 essential amino acids and 9 non-essential amino acids.

Key words: *Protein hydrolysate, bycatch, protease enzyme, hydrolysis time, enzyme activity.*

