

ABSTRACT

PRODUCTION OF FISH PROTEIN HYDROLYSATE OF TRESH FISH USING PAPAYA EXTRACT (*Carica papaya* L.)

By

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Tresh fish is one of marine product that is relatively cheap but unusefull. An undifferent nutrition compotion is making Tresh fish prospect to be increased as raw material of food processing. An alternative way of tresh fish processing to increase ~~it's value is producing~~ tresh fish into protein hydrolysate. Protein hydrolysate is better processed enzymaticly by using proteolitic enzyme. Papaya fruit that is in the natural of papain enzyme can increase hydrolysis reaction of protein. To gain a good hydrolysate product, it is provided an accurate concentration of papaya extract and hydrolysis time. This research was aimed to find an optimal concentration of papaya extract and hydrolysis time which produce the best of protein hydrolysate of tresh fish in chemical, microbiology, and functional properties.

Treatment that given were concentration of papaya extract and hydrolysis time. Concentration of papaya extract treatment consisted of 10%, 20%, 30%, 40%, and 50% (b/b). Hydrolysis time treatment consisted of 4 hours, 6 hours and 8 hours. Analyzed to protein hydrolysate of tresh fish consisted of soluble protein, fat holding capacity, foam ability, emulsion stability, pH, yield, sensory attribute

and total microbe. The result showed that the best soluble protein of protein hydrolysate of tresh fish was gained from 40% of concentration of papaya extract and 6 hours of hydrolysis time which produce 29,02% of soluble protein, fat holding capacity 5,74%, foam ability 9,61%, emultion stability 52,29%, pH 6,47, yield 63,00 ml, total microbe $3,3 \times 10^4$ cfu/ml, score of color 4,47, score of appearance 3,49, and score of flavor 2,67. The best functional proterties of protein hydrolysate of tresh fish was gained from 30% of concentration of papaya extract and 6 hours of hydrolysis time which produce 24,38% of soluble protein, fat holding capacity 6,41%, foam ability 13,78%, emultion stability 52,92%, pH 6,52, yield 56,33 ml, total microbe $3,1 \times 10^4$ cfu/ml, score of color 4,20, score of appearance 2,96, and score of flavor 2,66.

Keywords : protein hydrolysate, tresh fish, papain enzyme, papaya fruit.