OPTIMIZATION OF HYDROLYSIS CONDITIONS FOR THE PRODUCTION OF SHRIMP PROTEIN HYDROLYSATE BY USING PROTAMEX : EFFECT OF PH AND TEMPERATURE

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This Proposal of Final Year Project Report entitled "**Optimization of Hydrolysis Conditions for the Production of Shrimp Protein Hydrolysate by using Protamex: effect of pH and temperature**" was submitted by Nuramalina Bt Ab. Aziz, in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Science and Food Technology, in the Faculty of Applied Sciences, and was approved by

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ABSTRACT

OPTIMIZATION OF HYDROLYSIS CONDITIONS FOR THE PRODUCTION OF SHRIMP PROTEIN HYDROLYSATE BY USING PROTAMEX : EFFECT OF PH AND TEMPERATURE

Studies on optimization of hydrolysis conditions for the production of shrimp protein hydrolysate by using Protamex^{TM} were descibed.Shrimp protein hydrolysate was prepared from shrimp meat. The hydrolysates treated by Protamex^{TM} for 120 minutes and enzyme termination was done by heat inactivation at 80^0C for 10 minutes.Hydrolysis conditions (pH and temperature) for preparing shrimp protein hydrolysates from the shrimp meat were optimized by response surface methodology (RSM) using a central composite design (CCD). Model equation was proposed with regard to the effect of pH and temperature on the nitrogen recovery (NR) and degree of hydrolysis (DH). A pH 6.46 and temperature of 55.14 ^{0}C were found to be the optimum conditions to obtain a higher degree of hydrolysis while optimum conditions for nitrogen recovery were pH 7.47 and temperature 55.11°C. Statistical analysis of results showed that nitrogen recovery ranged from 0.91 to 3.73% while degree of hydrolysis ranged from 0.74 to 3.71%.