ESTIMATING THE POSSIBILITY OF USING SONICATION TO IMPROVE DEPROTEINIZATION BY ALCALASE IN CHITIN PRODUCTION

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ABSTRACT

Using proteolytic enzymes to purification of chitin from crustacean shells is one of the green methods however the process usually is time-consuming and costly. In order to improve protein extraction ultrasonic treatment was combined with enzyme hydrolysis of Alcalase. Our results showed that the efficiency of the application of sonication was dependent in the manner of treatment and sonication processing times has the most significant affect on degree of deproteinization. Treatment of sonication of 30 minutes before intoducing to Alcalase enhanced the removal of protein, degree of deproteinization were increased by 20% in comparison with the convetional ways. Combination of ultrasonic and Alcalase treatment is expected to reduce processing time and save energy in chitin biological production.

Key words*: Alcalase, enzyme, chitin production, sonication*

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