

Intisari

Penelitian yang dilakukan bertujuan untuk mengetahui konsentrasi HCl yang terbaik dalam mengekstraksi kitin menggunakan metode ekstraksi bertingkat (siklus) sesuai dengan mutu kitin, mengetahui jumlah siklus untuk tahap demineralisasi dan deproteinasi yang terjadi pada setiap konsentrasi HCl, dan untuk mengetahui pengaruh konsentrasi HCl dan jumlah siklus ekstraksi terhadap persentase kadar abu, kadar protein, dan kadar air. Penelitian dilakukan dengan 3 tahap yaitu preparasi bahan baku, optimalisasi metode ekstraksi kitin, dan pembuatan kitin dengan ekstraksi bertingkat. Analisis pengujian yang dilakukan yaitu kadar abu, kadar protein dan kadar air kitin. Penelitian menggunakan metode eksperimental Rancangan Acak Lengkap yang terdiri dari 3 perlakuan (HCL 0,5 N; 1,0 N; dan 1,5 N) dengan 3 kali ulangan. Proses ekstraksi kitin diawali dengan demineralisasi kemudian deproteinasi yang dilakukan secara berulang-ulang hingga mendapatkan hasil yang sesuai dengan mutu kitin dengan parameter kadar abu, kadar protein dan kadar air untuk produk kitin. Hasil penelitian menunjukkan bahwa proses ekstraksi kitin dalam proses demineralisasi dengan konsentrasi HCl 1,5 N dengan 3 tingkatan ekstraksi merupakan perlakuan terbaik yang menghasilkan kitin dengan kadar abu sebesar 1,77%, kadar protein 1,69% dan kadar air 5,08%. Analisis ANOVA menunjukkan bahwa konsentrasi HCl untuk mereduksi mineral pada cangkang rajungan secara bertingkat memberikan pengaruh berbeda nyata terhadap jumlah siklus (tingkat reduksi) serta hasil kadar abu, dan kadar protein namun tidak memberikan pengaruh nyata pada kadar air. Semakin tinggi konsentrasi HCl maka semakin rendah jumlah siklus ekstraksi. Jumlah siklus ekstraksi terus diulangi hingga kadar abu, kadar protein dan kadar air sesuai dengan mutu kitin cangkang rajungan

Kata kunci : Konsentrasi HCl, kadar abu, kadar protein, kadar air, siklus

Abstract

The aim of the research to find out the best concentration in extracting chitin by using extraction method (cycle) in accordance with the quality of chitin, to know the number of cycles for demineralization and deproteination stages occurring at each HCl concentration, and to determine the effect of HCl concentration and the number of extraction cycle on percentage of ash content, protein content, and water content. The research was conducted with 3 stages: raw material preparation, optimization of chitin extraction method, and chitin preparation with multilevel extraction. Analysis of the tests conducted were ash content, protein content and chitin water content. The experiment was conducted using a Randomized Complete Randomized Design Method consisting of 3 treatments (HCL 0,5 N; 1,0 N and 1.5 N) with 3 replications. The chitin extraction process begins with demineralization and then repeated deproteination to obtain results that match the quality of chitin with ash content, protein content and water content for chitin products. The results showed that the process of chitin extraction in demineralization process with HCl concentration of 1.5 N with 3 levels of extraction is the best treatment that produces chitin with ash content of 1.77%, protein content 1.69% and water content 5.08%. ANOVA analysis showed that concentration of HCl to reduce minerals in shelled crab shell has significantly different effect on the number of cycles (reduction rate) and ash content, and protein content but did not give any significant effect on water content. The higher concentration of HCl the lower the number of extraction cycles. The number extraction cycles continues to be repeated to ash content, protein content and water content according to the quality of chitin shell crab.

Keywords: HCl concentration, ash content, protein content, water content, cycle