

PRODUCTION OF CHITOSAN FROM
EXOSKELETON OF FRANK

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PRODUCTION OF CHITOSAN FROM EXOSKELETON OF PRAWN

**By
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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: Chitosan Production from Exskeleton of Prawn oleh Nur Azeyanti bt Norhashim, No. Matrik, UK 10717 telah diperiksa dan semua pembetulan disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Samudera sebagai memenuhi sebahagian daripada keperluan memperoleh Ijazah Sarjana Sains (Biologi Marin), Fakulti Pengajian Maritim dan Sains Marin, Universiti Malaysia Terengganu.

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LIST OF ABBREVIATIONS

hrs	Hours
Hcl/HCL	Hydrochloric Acid
°C	Degree Celcius
%	Percent
DP	Deproteinization
DM	Demineralization
DA	Deacetylation
g	Gram
H ₂ O	Water
NaOH	Sodium Hydroxide
Na	Sodium

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ABSTRACT

Chitosan is made from chitin by a chemical process involving demineralization (DM), deproteinization (DP), and deacetylation (DA). The present study was undertaken to evaluate the effects of process modification during chitosan production on physicochemical properties of the exoskeleton of prawn's chitosans. There were six experimental chitosan samples, where four (DP (6hrs, 28°C) MA, DP (3hrs, 28°C) MA, DP (6hrs, 60 ° C) MA, and DP (3hrs, 60 ° C) MA) were the traditional chitosan production process and remaining two (DM (2hrs) PA, DM (1hr) PA) were prepared with modified processing protocols. All samples were subjected to physicochemical (ash and moisture content). Results indicated that the moisture content for the modified process was lesser than the traditional method. Moisture content that was produced by both traditional and modified was acceptable. Traditional method produce moisture content ranged from 6.10-9.75%, and modified method produce moisture content ranging from 3.15-8.15%. Even though both of the methods produce an acceptable amount, yet modified method still prevail to produce better result of moisture content. This study demonstrated that process modification of chitosan production from exoskeleton of prawn affected the physicochemical properties. However, the modified method had increasing number of ash content. Modified method produce ash ranged from 7.0-9.1%, in contrast traditional method produce ash content ranging from 8.2-9.0%.