

**EFFECTS OF CHITOSAN ON FOOD SPOILAGE BACTERIA**

**ATCHAREEYA CHOMCHOEI**

**A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN  
PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF MASTER OF SCIENCE  
IN BIOTECHNOLOGY**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright© by Chiang Mai University

All rights reserved

**GRADUATE SCHOOL  
CHIANGMAI UNIVERSITY**

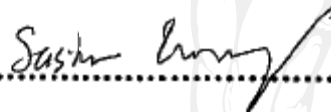
**OCTOBER 2003**

**EFFECTS OF CHITOSAN ON FOOD SPOILAGE BACTERIA**

**ATCHAREEYA CHOMCHOEI**

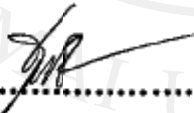
**THIS THESIS HAS BEEN APPROVED  
TO BE A PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF MASTER OF SCIENCE  
IN BIOTECHNOLOGY**

**EXAMINING COMMITTEE**



.....**CHAIRPERSON**

Dr. Sasithorn Wongroung



.....**MEMBER**

Dr. Thararat Chitov



.....**MEMBER**

Dr. Tri Indrarini Wirjantoro

**14 October 2003**

**© Copyright by Chiang Mai University**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
Copyright © by Chiang Mai University  
All rights reserved

## ACKNOWLEDGEMENTS

I wish to express my sincere gratitude to my advisor Dr. Sasithorn Wongroung, for valuable suggestions and continuous assistance. Her strict attitude during my study under her supervision gave a deep impression and would influence my future work or study.

I am also grateful to Dr. Tri Indrarini Wirjantoro of Food Science Department, Faculty of Agro- Industry, Chiangmai University and Dr. Thararat Chitov of Food Science Department, Maejo University for their valuable advices and suggestions on this research work.

I am highly indebted to the Department of Biotechnology, Faculty of Agro- Industry, Chiangmai University for the opportunity to complete my postgraduate study and wish to give my strongly thank to the department staff for providing assistance during this project.

Especially, a lovely gratitude is given to my kind classmates and biotechnology students, for their sincere and valuable help during my study.

Lastly, I express my deepest gratitude to my beloved parents for their gentle concern, moral support, patience and constant encouragement. This research is dedicated to them.

Atchareeya Chomchoei

---