

**CHARACTERISATION OF PIGMENTS, FLAVOUR COMPONENTS AND  
CELL STRUCTURE OF LYCHEE (CV. HONG HUEY) FOLLOWING  
HIGH PRESSURE PROCESSING**



**CHAVEEWON PHUNCHAISRI**

**DOCTOR OF PHILOSOPHY**

**IN FOOD SCIENCE AND TECHNOLOGY**

**ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่**

**Copyright © by Chiang Mai University**

**All rights reserved**

**THE GRADUATE SCHOOL  
CHIANG MAI UNIVERSITY**

**APRIL 2006**

**ISBN 974-9892-81-X**

**CHARACTERISATION OF PIGMENTS, FLAVOUR COMPONENTS AND  
CELL STRUCTURE OF LYCHEE (CV. HONG HUEY) FOLLOWING  
HIGH PRESSURE PROCESSING**

**CHAVEEWON PHUNCHAISRI**

**A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN  
PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY**

**IN FOOD SCIENCE AND TECHNOLOGY**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright © by Chiang Mai University

All rights reserved

**THE GRADUATE SCHOOL  
CHIANG MAI UNIVERSITY**

**APRIL 2006**

**ISBN 974-9892-81-X**

CHARACTERISATION OF PIGMENTS, FLAVOUR COMPONENTS AND  
CELL STRUCTURE OF LYCHEE (CV. HONG HUEY) FOLLOWING  
HIGH PRESSURE PROCESSING

CHAVEEWON PHUNCHAISRI

THIS THESIS HAS BEEN APPROVED  
TO BE A PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY  
IN FOOD SCIENCE AND TECHNOLOGY

EXAMINING COMMITTEE

*Arunee J.*

CHAIRPERSON

Asst.Prof.Dr. Arunee Apichartsrangkoon

*Shethan*

MEMBER

Prof.Dr. Donald S. Mottram

*Sorasak Lhieochaiphant*

MEMBER

Assoc.Prof. Sorasak Lhieochaiphant

*Aphirak Phianmongkhon*

MEMBER

Asst.Prof.Dr. Aphirak Phianmongkhon

*Ratchada Tangwongchai*

MEMBER

Asst.Prof.Dr. Ratchada Tangwongchai

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
Copyright © by Chiang Mai University  
All rights reserved

25 April 2006

© Copyright by Chiang Mai University

## ACKNOWLEDGEMENT

Firstly, I would like to thank Department of Food Science and Technology, the University of Reading and Chiang Mai University for giving me the opportunity to do this research and the Royal Thai Government for their financial support.

Thanks to my supervisor, Asst.Prof.Dr. Arunee Apichartsrangkoon for her enthusiastic guidance, help and support during this thesis.

I am also very grateful to Prof.Dr. Dave Ledward, Prof.Dr. Donald S. Mottram and Assoc.Prof. Sorasak Lhieochaiphant for their incessant supervision and for their enormous help contributed to this thesis.

I would like to thank Dr. Wei Li for her kind advice in cellular structure determination, Aklile and Andrew for their help in the discussions and friendship. I would also like to thank the staff, particularly Yvonne, Terry and Lesley.

I would like to give special thanks to my daughters Yaniga and Ratima for their love and help which I am never going to forget.

Finally, I wish to thank my dear husband Boonrak for his love, strength, patience through my good and bad times and a tremendous support and encouragement during this period.