

EFFECT OF COCONUT MEAL ON NUTRITIONAL  
COMPOSITION, PHYSICAL AND SENSORY  
ATTRIBUTES OF TILAPIA FILLET

ANG PHOOI CHAN

FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE  
KOLEJ UNIVERSITI SAINS AND TEKNOLOGI MALAYSIA  
MENGABANG TELIPOT

2006





This project report should be cited as:

Ang, P.C. 2006. Effect of coconut meal on nutritional composition, physical attributes and sensory attributes of tilapia fillet. Undergraduate thesis, Bachelor of Food Science (Food Service and Nutrition), Faculty of Agrotechnology and Food Science, University College of Science and Technology Malaysia, Terengganu. 96p.

No part of this report may be reproduced by any mechanical, photographic, or electronic process, or in the form of photographic recording, nor may it be stored in a retrieval system, transmitted, or otherwise copied for public or private use, without written permission from the author and the supervisor(s) of the project.

## DECLARATION

I hereby declare that this final year project is based on my original work except for the quotation and citations, which have been duly acknowledge.

15<sup>th</sup> June 2006



ANG PHOOI CHAN  
UK 9005

Approved by,

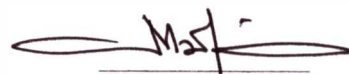
15<sup>th</sup> June 2006



MR. MOHAMAD KHAIRI MOHD. ZAINOL  
(Supervisor)

Approved by,

15<sup>th</sup> June 2006



MR. MASDUKI MOHD. MORNI  
(Co-supervisor)

## ACKNOWLEDGEMENTS

First and foremost, I would like to express my highest appreciation and sincere gratitude to my supervisor, Mr. Mohamad Khairi Mohd. Zainol and my co-supervisor Mr. Masduki Mohd. Morni for their guidance, suggestion, patience and invaluable knowledge in help me to accomplish my final year project.

Secondly, I would like to thank to the Head of Food Science Department, Dr. Amiza Mat Amin and all the lecturers from Food Science Department especially Dr. Amir Izzwan Zamri, Mrs Zamzahaila Mohd. Zin, Mrs Faridah Yahya, Mr Aziz Yusof and Miss Khairil Shazmin Kamarudin in give some suggestion in my final year project. I also want to thank Dr. Mariam Taib from Biology Department for her suggestion in my final year project.

Thirdly, I would like to thank my parent and sister for their support and encouragement that enables me to finish this project on time.

Fourthly, I would also like to extend my warmest gratitude and appreciation to all Food Science Department staff and lab assistants especially Miss Nasrenim Suhaimin, Mrs Fadlina Yusof, Miss Suzana Mat Saad, Miss Aniza Draman, Mr Aswardy Hamzah, , Mrs Dayang Normiah Mohamad, Miss Rose Haniza Mohamad, Mrs Faridah Mohd Isa and Mr Roslan for their continuous help, guidance and invaluable advices.

Last but not least, I would like to express special thanks to my course mates and friends who have been directly and indirectly in helping me to finish this project.

## ABSTRACT

This study was conducted to determine the nutritional composition, physical and sensory attribute of tilapia fish fillet that fed with different ratio of coconut meal. Study of nutritional composition included proximate analysis and amino acid analysis. In proximate analysis, moisture content, ash content, protein content, fat content and fiber content were determine. In amino acid analysis, free amino acid content and total amino acid content were determined. Among the fish that fed with coconut meal, sample A shown highest value in moisture content, protein content, free amino acid content and total amino acid content. In physical analysis, texture and colour of fillet were determined. Among the fish that fed with coconut meal, sample B shown highest value in texture and colour. Four fillet samples were test by sensory evaluation. A group of 30 untrained panels were involved in the evaluation. Sensory evaluation of the fillet using the System Analysis Statistic program (SAS) showed significant difference in the sensory evaluation test, ( $p < 0.05$ ) in attributes aroma, oiliness, taste and overall acceptance. However, no significant difference ( $p < 0.05$ ) were shown on attributes of colour and texture. Therefore, sample B scored the highest in overall acceptance.

## KESAN PALLET KELAPA KE ATAS KANDUNGAN NUTRISI, SIFAT FIZIKAL DAN SENSORI FILET TILAPIA

### ABSTRAK

Kajian ini telah dilakukan dalam menentukan kesan pallet kelapa dalam kuantiti yang berlainan ke atas kandungan nutrisi, sifat fizikal dan sifat sensori filet ikan tilapia. Kajian tentang kandungan nutrisi termasuklah analisis proksimat dan analisis asid amino. Kandungan air, kandungan abu, kandungan protein, kandungan lemak dan kandungan fiber diuji dalam analisis proksimat. Kandungan asid amino bebas dan asid amino total diuji dalam analisis asid amino. Antara ikan yang diberi makan pallet kelapa, sampel A menunjukkan nilai kandungan yang tinggi dalam kandungan air, kandungan protein, kandungan asid amino bebas dan kandungan asid amino total. Dalam analisis fizikal, tekstur dan warna diuji. Sample B menunjukkan nilai tertinggi dalam tekstur dan warna. Empat sampel ikan telah diuji dengan sensori. Seramai 30 panel tidak terlatih terlibat. SAS menunjukkan ada perbezaan signifikan ( $p < 0.05$ ) dalam atribut aroma, kasan minyak, rasa dan penerimaan keseluruhan. Walaubagaimanapun tiada perbezaan signifikan pada ( $p < 0.05$ ) pada atribut warna dan tekstur. Sample B mempunyai nilai tertinggi dalam penerimaan keseluruhan.