

COLOR ENHANCEMENT OF *Macrobrachium Lanchesteri*
USING PURPLE SWEET POTATO

MOHAMMAD RIDWAN BIN SAMSURI

LP
25
FASM
1
2009

FAKULTAS TEKNOLOGI DAN SAINS MAKANAN
UNIVERSITI MALAYSIA TERENGGANU

2009

COLOR ENHANCEMENT OF *Macrobrachium lanchestri* USING PURPLE
SWEET POTATO

By
MOHAMMAD REDZUAN BIN SAMSURI

Research Report submitted in partial fulfillment of
the requirement for the degree of
Bachelor of Agrotechnology Science (Aquaculture)

Department of Science Fisheries and Aquaculture
FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE
UNIVERSITY MALAYSIA TERENGGANU
2009



**FAKULTI AGROTEKNOLOGI DAN SAINS MAKANAN
UNIVERSITI MALAYSIA TERENGGANU**

**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK ILMIAH I DAN II**

Adalah ini diakui dan disahkan bahawa laporan ilmiah bertajuk:
Penambahan Warna *Macrobrachium lanchesteri* Menggunakan Ubi Keledek Ungu.
(Color Enhancement of *Macrobrachium lanchesteri* Using Purple Sweet Potato.)

oleh.. Mohammad Redzuan Bin. Samsuri....., No.Matrik UK13025..... telah
diperiksa dan semua pembedaan yang disarankan telah dilakukan. Laporan ini dikemukakan
kepada Jabatan Sains Perikanan dan Akuakultur..... sebagai memenuhi
sebahagian daripada keperluan memperoleh Ijazah Sarjana Muda
Sains Agroteknologi (Akuakultur)....., Fakulti
Agroteknologi dan Sains Makanan, Universiti Malaysia Terengganu.

Disahkan oleh:

Penyelia Utama

Nama:

LIEW HON JUNG
Lecturer

Cop Rasmi:

Institute Of Tropical Aquaculture
Universiti Malaysia Terengganu (UMT)
21030 Kuala Terengganu

Tarikh:

28 April 2009

Penyelia Kedua (jika ada)

Nama:

DR. HII YII SIANG
Pensyarah

Cop Rasmi


Jabatan Sains Perikanan dan Akuakultur
Fakulti Agroteknologi dan Sains Makanan
Universiti Malaysia Terengganu
21030 Kuala Terengganu

Tarikh: ...

2.9. APR. 2009

DECLARATION

I hereby declare that the work in this thesis is my own except for quotation and summaries which have been duly acknowledged.

Signature : 

Name : MOHAMMAD REDZUAN BIN SAMSURI

Matric No. : UK13025

Date : 28 April 2009

ACKNOWLEDGEMENT

First of all, grateful to God because of my successful work in this research project. I would like to take this opportunity to express my sincere appreciation to my supervisor, Mr Liew Hon Jung and my co-supervisor Dr Hii Yii Siang for their continuous commitment, patient thought and guide to make this project run smoothly and successfully. Besides that, I would like to express my sincere thank to the staff in marine hatchery, Anatomy and Physiology laboratory and also Institut Aquaculture Tropica (AKUATROP) that help me a lot when I doing my experiment. Thanks also to my heartfelt gratitude go to my friends especially Abdul Rahman, Ainul Shah, Nurul Liayana, Johnny, Amir and Hakim. Thank also to my family for their support and living encouragement as well as the tower of strength in my hour of need. Finally, my appreciation goes to those who have contributed direct or indirect to this project.

ABSTRACT

A feeding experiment was conducted on *Macrobrachium lanchestri* to investigate the acceptability of dietary supplementation with pigmentation and the body pigment enhancement by using natural pigment source. To do this purpose, 400 *M. lanchestri* were divided into eight aquariums. The six aquariums were chosen randomly to be fed with two different supplemented diets which are Astaxanthin and purple sweet potato. Another 2 tanks of aquariums were fed without supplemented pigments and served as control. These different diets were fed to the *M. lanchestri* for 8 weeks. After 8 weeks of experiment, the food acceptability between the three different formulated diets was not significantly different. No difference in weight gain was found among all prawns. For analysis of body color, the Uv-Vis spectrophotometer was used in the range of wavelength between 800 nm to 400 nm. The results showed that the shrimp fed with purple sweet potato formulated diet had the highest peak compared to other formulated diets. Therefore, the purple sweet potato formulated diet can also become a color enhancement for aquatic organisms.

ABSTRAK

Satu eksperimen pemakanan telah dilakukan ke atas *Macrobrachium lanchestri* untuk mengkaji penerimaan diet yang ditambah dengan pigmentasi dan peningkatan pigmen badan dengan menggunakan sumber pigmen semulajadi. Bagi menjalankan tujuan ini, 400 *M. lanchestri* telah dibahagikan kepada lapan akuarium. Enam akuarium telah dipilih secara rawak untuk diberi makan dengan dua diet tambahan yang berbeza iaitu Astaxanthin dan ubi keledak ungu. Bagi dua tangki yang lain pula, telah di beri makan tanpa penambahan pigmen diet dan dijadikan sebagai kawalan. Ketiga-tiga diet yang berlainan itu telah diberikan ke pada *M. lanchestri* selama 8 minggu. Selepas lapan minggu menjalankan eksperimen, penerimaan makanan antara 3 jenis formulasi diet yang berbeza itu tidak terdapat perbezaan yang ketara. Tiada perbezaan dalam pertambahan berat untuk semua udang. Bagi analisis badan udang, penggunaan Uv-Vis spektrofotometer telah digunakan pada jarak panjang gelombang 800 nm hingga 400 nm. Keputusan menunjukkan bahawa, udang yang diberi makan diet formulasi yang telah di campur dengan ubi keledak ungu mempunyai puncak penyerapan warna yang tinggi berbanding formulasi diet yang lain. Oleh itu, formulasi diet ubi keledak ungu boleh juga meningkatkan warna untuk organism akuatik.