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Adult artemia as life feed for african catfish (Clarias gariepinus)
fingerlings / Mohamed Alif Noor Azme.

PERPUSTAKAAN SULTANAH NUR ZAHIRAH
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PERPUSTAKAAN SULTANAH NUR ZAHIRAH UMT

ADULT *ARTEMIA* AS LIFE FEED FOR AFRICAN
CATFISH (*Clarias gariepinus*)
FINGERLING

By

Mohamed Alif Bin Noor Azme

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

Department of Fisheries Science and Aquaculture
FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE
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**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:

Adult *Artemia* As Life Feed for African Catfish (*Clarias gariepinus*) Fingerling.

oleh Mohamed Alif Bin Noor Azme, No.Matrik UK13645 telah
diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan
kepada Jabatan Agroteknologi dan Sains Makanan sebagai memenuhi
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DECLARATION

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

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Date : 17 MARCH 2009

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ABSTRACT

This study was conducted to determine the effectiveness using adult *Artemia* as live feed for African catfish (*Clarias gariepinus*) fingerling based on the growth and survival rate of fish. This experiment was conducted for 5 weeks and there are three diets for each group of fish that are (1) live adult *Artemia*; (2) live adult *Artemia* and pallet; (3) a commercial starter pellet. There have 3 replicate for each group and each replicate have 18 fish. Every week 10 fish was weighing by randomly for each replicate. Fish was feed 10% of their body weight and every weeks feed gives to fish was adjusted. In the end experiment *Artemia* and pellet that used in this experiment was make protein analysis approximation to know their protein content. From the proximate analysis show that adult *Artemia* have 14% of protein composition while pellet have 34% of protein composition. From this experiment adult *Artemia* as diet show lowest growth rate compare to combination adult *Artemia* and pellet as diets and using pallet as diets. This result was due to low protein content in adult *Artemia* compare to pallet. For FCR value, *Artemia* show highest FCR value for first weeks of experiment. This was due to failure of fish to recognized adult *Artemia* as their feeds because of transparent colour of adult *Artemia* and their movement is too fast. That also explains why there a high mortality in adult *Artemia* treatment. Adult *Artemia* as diet shows the highest mortality rate that is 22.2%, while combination both adult *Artemia* and pellet as diet shows 14.81% of mortality rate and pellet as diet shows the lowest mortality rate that is, 5.56%. For the next weeks of experiment there are decreases of FCR value for adult *Artemia*. It means fish start to recognize adult *Artemia* as their feeds. The study had show that adult *Artemia* not improve the grow rate of African catfish furthermore pellet as diet had a better growth rate and survival rate than using adult *Artemia*. This is because the different level of nutritive value especially protein content.

ABSTRAK

Kajian ini telah dijalankan untuk mengkaji keberkesanan menggunakan *Artemia* dewasa sebagai makanan hidup terhadap anak ikan keli Afrika (*Clarias gariepinus*) dengan mengukur kadar tumbesaran anak ikan dan kadar hidup ikan. Eksperimen ini telah dijalankan selama 5 minggu dan terdapat 3 jenis diet berlainan diberikan kepada setiap kumpulan iaitu : (1) *Artemia* dewasa; (2) *Artemia* dewasa dan pellet; (3) pellet. Terdapat 3 replikat untuk setiap kumpulan dan setiap replikat mempunyai 18 ekor anak ikan. Setiap minggu 10 ekor ikan akan ditimbang secara rawak dan data direkodkan. Ikan diberi makan 10% daripada berat badan dan setiap minggu makan diberi diubah jumlahnya supaya bersesuaian dengan beratnya. *Artemia* dewasa dan pellet yang digunakan dalam kajian ini akan dianalisis kandungan proteinnya. Melalui analisis protein *Artemia* dewasa dan pellet yang digunakan dalam eksperimen ini *Artemia* dewasa hanya mempunyai 14% kandungan protein manakala pellet mempunyai 34% kandungan protein. Dalam eksperimen ini kadar tumbesaran ikan yang diberikan *Artemia* dewasa sebagai diet adalah paling rendah berbanding dengan memberikan *Artemia* dewasa dan pellet sebagai diet dan dengan hanya menggunakan pellet sebagai diet. Ini terjadi berikutan kandungan protein yang rendah di dalam *Artemia* dewasa berbanding pellet. Untuk nilai FCR *Artemia* dewasa menunjukkan nilai yang paling tinggi untuk minggu pertama eksperimen. Ini berikutan kegagalan ikan mengenali *Artemia* dewasa sebagai makanan mereka kerana warna mereka yang tidak kelihatan dan pergerakan mereka yang terlalu pantas. Ini juga menjelaskan mengapa terdapat mortality yang tinggi untuk rawatan *Artemia* dewasa. *Artemia* dewasa sebagai diet menunjukkan pratusan mortality yang tertinggi iaitu sebanyak 22.2% manakala pemberian kedua-dua *Artemia* dewasa dan pellet sebagai diet menunjukkan 14.81% mortality dan pellet sebagai diet menunjukkan pratusan mortality terendah iaitu 5.56%. Untuk minggu seterusnya nilai FCR untuk *Artemia* dewasa menunjukkan penurunan dan ini menunjukkan ikan mula mengenali *Artemia* dewasa sebagai makanan mereka. Kajian ini menunjukkan *Artemia* dewasa tidak meningkatkan kadar tumbesaran ikan keli Afrika malahan pemberian pellet sebagai diet mempunyai kadar pembesaran ikan dan kadar hidup yang lebih baik berbanding *Artemia* dewasa. Ini terjadi berikutan terdapat perbezaan nilai nutrisi terutamanya kandungan protein.