



UNIVERSITI PUTRA MALAYSIA

***COMPARISON OF GROWTH AND SURVIVAL OF SNAKEHEAD,
Channa striatus (BLOCH) USING COMMERCIAL PELLET AND
TRADITIONAL TRASH FISH***

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TRADITIONAL TRASH FISH**

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**This project report is submitted in partial fulfilment of the requirements
for the degree of Bachelor of Agriculture (Aquaculture)**

**DEPARTMENT OF AQUACULTURE
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ABSTRACT

An experiment of selected diets was carried out on *Channa striatus* fingerlings to compare the growth and survival in captive tank. The diets used for different treatments were trash fish (T1), commercial pellet (T2) and commercial pellet combines with trash fish (T3). The best weight gain (1143.7 ± 100 g) of *C. striatus* was observed in T2. The result of this study shows, treatment 2 (T2) yield the best growth performance with the lowest FCR among treatments and had high value of survivality with no significant difference among them. It is recommended in the commercial scale *C. striatus* farming.

ABSTRAK

Satu uji kaji diet terpilih telah dijalankan ke atas *Channa striatus* untuk membandingkan pertumbuhan dan kelangsungan hidup dalam tangki tertutup. Diet digunakan untuk rawatan yang berbeza ialah ikan baja (T1), pelet komersial (T2) dan pelet komersial digabungkan dengan ikan baja (T3). Kenaikan berat badan terbaik ialah $(1143,7 \pm 100 \text{ g})$ *C. striatus* diperhatikan dalam T2. Hasil kajian ini menunjukkan, rawatan 2 (T2) mengeluarkan prestasi pertumbuhan yang terbaik dengan FCR paling rendah di antar rawatan – rawatan tersebut dan mempunyai nilai kadar hidup yang tinggi dengan tiada perbezaan yang signifikan di kalangan mereka. Ia adalah disyorkan dalam penternakan *C. striatus* berskala komersial.

TABLE OF CONTENTS

Contents	Pages
ACKNOWLEDGEMENT	i-ii
ABSTRACT	iii
ABSTRAK	iv
TABLE OF CONTENTS	v-vi
LIST OF FIGURES	vii
LIST OF TABLES	viii
LIST OF ABBREVIATIONS	ix
1.0 INTRODUCTION	1-3
2.0 LITERATURE REVIEW	
2.1 Taxanomy of <i>Channa striatus</i> (Bloch, 1793)	4
2.2 Biology of <i>Channa striatus</i> (Bloch, 1793)	4-6
2.3 <i>Channa striatus</i> in demand.	7-9
2.4 Profile of commercial pellets and traditional trash fish.	9-10
3.0 MATERIALS AND METHODS	
3.1 Experiment location	11
3.2 Rearing tank preparation	11
3.3 Water quality sampling	11
3.4 Rearing technique	12
3.5 Growth measurement	12

3.6	Statistical analysis	13
4.0	RESULTS	
4.1	Water parameters	14
4.2	Fingerlings development	15-17
5.0	DISCUSSION	18-20
6.0	CONCLUSION	21
	REFERENCES	22-24



LIST OF GRAPH

Graph		Page
Graph 1	Body weight of <i>Channa striatus</i> fingerlings fed with different diets for 120 days with 2 weeks intervals.	16



LIST OF TABLES

Table		Page
Table 1	Water quality parameter of rearing snakehead fingerling for 120 days periods.	14
Table 2	Growth and survival of <i>Channa striatus</i> fingerling fed with different feed reared for 120 days.	15
Table 3	Survival and feed conversion ratio (FCR) of <i>Channa striatus</i> fingerling fed with different feed reared for 120days.	16

ABBREVIATIONS

cm	Centimeter
g	Gram
l	Liter
ppm	Part per million
%	Percent
°C	Degree celsius
pH	Power of hydrogen
FCR	Feed conversion ratio

CHAPTER 1

INTRODUCTION

Snakehead (*Channa sp.*) is one of the fish species that attract anglers in Malaysia for its fighting spirits and the way they taken the bait. For example, snakehead *Channamicropeltes* or 'Toman' in local tongue is one of the best fighting fish in the world of anglers as well as *Channa striatus* or 'Haruan'. They can be classified as carnivores in nature and a very good predator. There were altogether 30 species in the family of snakehead reported in the world and eight of them were found in Malaysia water body. It includes *Channamicropeltes*, *Channalucius* and *Channa striatus*. The members of the family are also founded in all AEAN country like Thailand, Laos, Vietnam, Indonesia, Cambodia and Brunei (Mat Jais, 1997).

Cannibalism is one of the characteristics that commonly found in the animal kingdom (Fox, 1975; Polis, 1981). In the underwater world of fishes, cannibalisms usually come together with the various sizes in the same species, limited source of food available, very dense population in one area, limited refuges place and good light condition (Hetch and Pioneer, 1993). Snakehead tends to show their cannibalistics behaviour when one of the condition triggers them. However, when the food source is abundance, this behaviour can be avoided.

As an air-breather fish, *Channa striatus* is a very good candidate in an incentive farming environment with lower dissolved oxygen (DO) and higher ammonia level content (Ng and Lim, 1990; Qin *et al.*, 1997). This kind of natural characteristics is very valuable in the economic point of view because live 'Haruan' can be sold for higher prices than the dead fish (Wee, 1982; Qin and Fast, 2003). In my observation, 'Haruan' mostly will be sold at the wet as well as night market in the Malaysia scenario.

Traditionally, 'Haruan' was believed can enhanced the healing and recovery of the afterbirth mother as well as any wounds or cuts. Due to this believes, some researchers had done many experiments on the amino acids and fatty acids content of this particular fish and its family. It is reported that this fish contain a lot of beneficial amino acids and fatty acids that contribute to the healing process. For that reason, snakehead has been the top most fishes that believed by the people in the wound healing potentials.

In farming any kind of fishes, feed is one of the most crucial factors that can affect the yield production. A very good management of feeding can increase the production within short time. Feed conversion ratio or FCR value can determine the efficiency in the management of the feeding. The lower the ratio of FCR value gives best result. Besides that, crude protein content of the feed given also can affect the gross production of that particular fish farming. For the record, feed prices nowadays depends on the crude protein percentage contains in the feed.

The higher the cure protein contain, the prices would be more expensive per bag. Because of the nature feeding behaviour of snakehead, traditional trash fish was introduced in their farming and proven the best feed given considering other than commercial pellets (Muntazianaet al, 2013). For that reason, this experiment was conducted to:-

- a) Study the comparison of growth of *C.striatus* by giving different selective feed (commercial pellets only, commercial and the traditional trash fish and traditional trash fish only).
- b) Determine the survival percentage of *C.striatus*fingerlings.

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