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BANGUS CULTURE IN CAGES AT CEBU TECHNOLOGICAL UNIVERSITY SAN FRANCISCO CAMPUS: PROPOSED EXTENSION TRAINING

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ABSTRACT

This study determined the viability of Bangus Culture in Cages at Cebu Technological University San Francisco Campus fish farm. This study used sampling techniques and procedures to gather data. Factors considered were average body weight; growth range; mortality; daily feeds requirements and parts per thousand. There were two cages constructed using bamboo frames and nets with a measurement of 7x7x2 meters. The actual number of stocks in cage one were 2,568 pieces while cage two have 1,878 pieces with the salinity average of 35 ppt. within the culture period. The culture period of cage one was 105 days and cage two was 100 days.

Seven samplings were done in cage one and six samplings in cage two. The average increment body weight in cage one was 223.7 grams, in cage two, 259.8 grams during harvest. Both were within the standard growth range of 216 -275 grams in 91 - 105 days culture. A mortality rate of 8.81% for cage one which is less than the standard of 10%, assumed to have a survival rate of 90% while cage two have 29.5% mortality within 5 days from stocking period. The daily feeds requirements follows the standard table values of premium feeds. The finding showed that the growth and maturity range in the feeding scheme employed was normally established.

Based on the findings, it was concluded that the milkfish culture in cages at Cebu Technological University San Francisco Campus fish farm was suitable. It is recommended to continue the project for further studies, using the same type of formulated feeds to determine financial analysis.

INTRODUCTION

Milkfish (*Chanos chanos*) is the sole living species in the family *Chanidae*. Milkfish have a generally symmetrical and streamlined appearance, with a sizable forked caudal fin. They can grow to 1.7 meters (6 ft) meters but are most often about 1 meter (39 in) in length. They have no teeth and generally feed on algae and invertebrates. They occur in the Indian Ocean and across the Pacific Ocean, tending to school around coasts and islands with reefs. The young fry live at sea for two to three weeks and then migrate to mangrove swamps, estuaries, and sometimes lakes and return to sea to mature sexually and reproduce. Milkfish is the important seafood in Southeast Asia and some Pacific Islands. Because milkfish is notorious for being much bonier than other food fish, deboned milkfish, or "boneless bangus," has become popular in stores and markets.

Milkfish aquaculture first occurred about 600 years ago in Indonesia and spread to the Philippines, Taiwan and into the Pacific. Traditional Milkfish aquaculture relied upon restocking ponds by collecting wild fry. These lead to a wide range of variability in quality and quantity between seasons and regions. In the late seventies, farmers first successfully spawned breeding fish. However, they were hard to obtain and produced unreliable egg viability. In 1980 the first spontaneously spawning happened in sea cages. These eggs were found to be sufficient to generate a constant supply for farms (http://en.wikipedia.org/wiki/Milkfish, October 01, 2010).

Milkfish is not a common fish in the Camotes Island but was raised by some farmers. There were some entrepreneurs who engaged milkfish culture in cages in marine waters but were not successful. The purpose of this study was to find out the viability of milkfish culture in cages at Cebu Technological University San Francisco Campus fish farm in marine waters.

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MATERIALS AND METHODS

This study used sampling techniques and procedures to gather data. Aspects considered were average body weight; growth range; mortality; daily feeds requirements and parts per thousand.

The feeding scheme used was in the following table (BFAR – RFTC Handouts).

Feeding Scheme

Number of Days	Range (ABW) gms.	Feed Type	
		Starter Mash (Premium Sinker)	20
16 - 30	11 - 30	Starter 1.8mm (Premium Floater)	10
31 - 45	31 - 70	Grower (Premium Sinker/ Floater)	7
46 – 60	71 - 110	Grower (Premium Sinker/ Floater)	6
61 – 75	111 - 160	Finisher (Premium Sinker/ Floater)	5.5
76 – 90	161 - 215	Finisher (Premium Sinker/ Floater	5
91 -105		Finisher (Premium Sinker/ Floater)	4.5
106 - 120		Finisher (Premium Sinker/ Floater)	4

The feeding schedule during the first two months culture was five times a day and in the last two months was four times a day both were of a three hours interval.

The sampling was done every fifteen days covering the period of four months. Data such as average body weight, growth range, mortality, daily feed requirements and salinity were gathered, collated and analyze using simple percentage and mean to get the average.

RESULTS AND DISCUSSION

There were seven samplings were done in cage one and six samplings in cage two. The average increment body weight in cage one was 223.7 grams and the cage two was 259.8 grams during harvest. Both were within the standard growth range of 216 - 275 grams in 91 - 105 days culture. A mortality rate of 8.81% for cage one which was less than the standard of 10%, assumed to have a survival rate of 90% while cage two have 29.5% mortality within 5 days from stocking period that was due to the fact that as the fingerlings arrived at the Cebu Technological University San Francisco Campus fish farm, the stocks were very weak. The daily feeds requirements follows the standard table values of premium feeds. The finding showed that the growth and maturity range in the feeding scheme employed was normally established.

Milkfish aquaculture in cages is not easy to produce due to problems specifically the supply of food. Milkfish in cages were maintained by a formulated feeds that correspond to the feeding requirements. The daily feed requirements were based on the average body weight.

As reflected in the study, samplings were done every fifteen days to determine the daily feed requirement. To establish the daily feed requirement there should be a feeding scheme to be followed based on the range for the average body weight, type of feeds and the estimated percentage. For the first sampling the type of feeds being used was starter mash due to the fact that the average body weight was 10 grams in cage 1 and 9 grams in cage 2 which were within the range of .3 grams to 10 grams of the average body weight in reference to the table of the feeding scheme, and the estimated percentage was 20%. This method of determining the daily feed requirements follows the same procedure every sampling. On the second sampling the average body weight was 34 grams and 23.5 grams, the increment was 24 grams and 13.5 grams. Third sampling the average body weight was 38 grams and 30 grams; the increment was only 6 grams and 6.5 grams. Fourth sampling the average body weight was 40 grams and 53.57 grams; the increment was 2 grams only and 23.57 grams. For the fifth sampling the average body

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weight was 125 grams and 161 grams, the increment was 85 grams and 107.43 grams. Sixth sampling the average body weight was 187.51 grams and 245 grams; the increment was 62.51 grams and 84 grams. Seventh sampling the average body weight was 212 grams and the increment was 24.9 grams.

There were five daily feedings established for two months period. After two months the feedings daily schedule was change from five to four. The five feeding schedule was 6:00 o'clock and 9:00 o'clock in the morning; 12:00 o'clock high noon; 3:00 o'clock and 6:00 o'clock in the afternoon. The four feeding schedule was 8:00 and 11:00 o'clock in the morning, and 2:00 and 5:00 o'clock in the afternoon.

The findings of the study will indicate that on the third month of culture period there was a rapid increase on the average body weight of the fishes.

CONCLUSION

Based on the findings, it was concluded that the milkfish culture in cages at Cebu Technological University San Francisco Campus fish farm was viable as to average body weight; growth range; mortality; daily feeds requirements and parts per thousand.

RECOMMENDATIONS

It is recommended to continue the project for further studies, using the same type of formulated feeds to determine financial analysis.

It is recommended to continue the project for extension and production.

REFERENCES

Handouts

BFAR – RFTC Handouts

Internet

http://en.wikipedia.org/wiki/Milkfish, October 01, 2010