ANALYZE THE NATURAL HATCHERY AND NURSERY TECHNIQUES OF TILAPIA LARASATI IN CV. DEJEEFISH, SUKABUMI, WEST JAVA

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ABSTRACT

The research objective was to analyze the natural hatchery and nursery techniques of Tilapia Larasati in CV. Dejeefish. The method used is a descriptive method. The implementation of research consists of pond preparation, parent selection, parent spawning, harvesting, nursery and raising larva. The pool used is a ground pool with an area of 375 m^2 and breeders come from the Balai Besar Perikanan Budidaya Air Tawar (BBPBAT) Sukabumi, West Java. Natural spawning was carried out en masse with 300 female brooders and 100 males. Harvesting is done 2 times a month in the morning. In nursery activities, the results of the survival rate (SR) of 80% are classified as good. During 15 days of rearing the larvae experienced an increase in growth in length and weight.

Keywords: *Natural Spawning, Parent Selection, Harvesting, Raising Larva*

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INTRODUCTION

In fish farming activities, one of the things that must be considered so that production increases optimally is the use of feed that is appropriate to the use of optimal stocking density, because the amount of stocking density affects oxygen consumption so that the amount of oxygen needed The resulting fish must be able to adjust to the oxygen needs of the fish so that the fish can grow properly. Tilapia is usually cultivated in earthen ponds, cages and in swift water ponds (KAD), where the cultivation technique requires large land or is in a strategic position so that it requires expensive land costs (Wijayanti 2019).

Tilapia fish can live in fresh water, brackish water and seawater with salt content between 0-35 ppt. Tilapia has advantages, namely it has good resistance to water quality and disease, is euryhaline, can grow well, and is easy to grow in intensive system cultivation (Oktapiandi 2019).

The natural spawning technique is a technique by placing male and female parents in one container/pond without human intervention. This spawning has several advantages, namely it does not require special skills and the process does not require a lot of workers, besides that the costs

used are not much, and also the male parent is not killed so it does not reduce the brood stock (Hanafie 2019).

CV. Dejeefish Sukabumi, West Java is a freshwater aquaculture company that has been able to produce millions of seeds per year. This company has obtained production certification from the KKP agency, namely Cara Pembenihan Ikan Baik (CPIB) and Cara Budidaya Ikan Baik (CBIB) in 2012. One of the types of fish produced is larasati tilapia. The purpose of this research was to analyze the natural hatchery and nursery techniques of Tilapia Larasati in CV. Dejeefish.

METHODOLOGY

Time and Place

This research activity was carried out from July 12 - August 12, 2021 at CV. Dejee Fish, whose address is at Jalan Cibaraja Pasar Ikan No. 70 RT 37/RW 08 Nagrak Village, Cisaat District, Sukabumi, West Java.

Research Methods

The observation method carried out in this research activity is a descriptive method with two types of data retrieval, namely primary data retrieval and secondary data.

RESULTS AND DISCUSSION

Natural Spawning of Tilapia

Natural spawning technique are spawning process that takes place without human assistance. Spawning naturally can be done in soil ponds. The spawning grounds are made at the bottom of the pond by the male parent in the form of a circle at the bottom of the pond (kobakan) to lure the female parent to make out and spawn, as well as its territorial area which should not be disturbed by other couples (Hanafie 2019). If the parent is well cared for and provides high quality feed, tilapia can lay eggs once every 1.5 months or 6-8 times a year. Tilapia spawning period is 1.5-2 years for the parent, weighing more than 500 grams/head/female 800 grams, and can produce 1200-1500 larvae per spawning (Kordi 2000). Red tilapia spawning techniques in CV. Dejeefish are carried out en masse with broodstock stocked together in spawning ponds.

Spawning Pond Preparation

Ponds The pond preparation process starts from drying the pond by removing water through the outlet channel and closing the inlet section. Pool cleaning is done after the water begins to recede using a drain, then the pool construction is repaired so that the embankment does not leak. After that, the pond is limed and fertilized, the fertilizers used are organic fertilizer and urea

fertilizer. Then it is dried for 1-2 days, after which it is filled with water. Drying aims to oxidize organic matter contained in the soil into nutrients or (break down organic matter) and kill pathogens/bacteria that cause disease (Prihatini 2014). Likewise, liming is useful for neutralizing pH and killing bacteria and parasites (Marie et al. 2018) and fertilization aims to grow phytoplankton for food reserves for fish (Salsabila and Suprapto 2018). The pond used for tilapia spawning by Dejeefish is an earthen pond with an area of 375 m^2. The pond construction is equipped with a tub, known as a kobakan and is 50-70 cm high. The function of the kobakan is as a shelter for brood fish when harvesting larvae takes place

Parent Selection

The broodstock used in spawning activities came from the Balai Besar Perikanan Budidaya Air Tawar (BBPBAT), West Java. The male and female parents used were Larasati red tilapia. The parent selection activity refers to SNI 6138:2009 with qualitative & quantitative criteria and parent health to improve quality assurance.

Table 1. uantitative Criteria for Reproductive

Traits Characteristics of	Unit	Gender	
		Male	Female
Age	Months	6-14 months	6-14 months
Total length	cm	16-25	14-20
Body weight	g	400-600	300-450
Fecundity of	grains/head	-	1.000-2.000
Diameter	mm	-	2,5-3,1

(Source: SNI 6138:2009)

Spawning

With mass spawning, the broodstock used by CV. Dejeefish as much as 1 package with a ratio of 1: 3 that is 100 male broodstock and 300 female broodstock. Stocking activities are carried out in the morning/afternoon to avoid stress on the broodstock, because in the morning/afternoon the water and air temperatures are still low. Feeding broodstock using SPLA 12 feed as much as 2-4 times / day. The nutrients contained include 32% protein, 8% fat, 4.5% crude fiber, 11% ash and 11% water content. The male parent prepares for marriage by making a spawning nest with a diameter of 30-50 cm for the female parent to inhabit, then the spawning process occurs (males

release sperm and females release eggs). According to Sumarni (2018), the female parent is able to produce 20-40 eggs in 50-60 seconds then incubated into the female parent's mouth.

Harvesting

Harvesting activities are carried out twice a month or once every 12-15 days in the morning after the broodstock is stocked. Seed harvest refers to the guidelines for Cara Pembenihan Ikan yang Baik (CPIB) and SNI 6140:2009 Benih ikan nila hitam. It begins with receding the pool water by opening the output channel and installing a filter so that the larvae are not wasted. Reduction is only to the limit of usur and kobakan only. Then the larvae were taken using a lift net and a fine scoopnet, then spread on the greens in different ponds. After ensuring that the larvae are exhausted, the mud in the pond is leveled and the pond embankments are repaired to prevent leakage. When the broodstock was tested, the pond was given fertilizer and lime and then filled with water again until it was full.

Nursery

The stocking density of larvae at the time of nursery was 53,850 in 2.5 liters from spawning broodstock. Factors that influence hatchery success are broodstock quality, feed availability, water quality and fish health conditions (Junius 2016). Separation is carried out based on the size of the seed from the nursery which is carried out in the morning or evening. Nursery size 1 is between 0.6-0.7 cm with maintenance 15-20 days.

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Raising Larvae

Larvae are fed 30% of their biomass (SNI 2009) twice a day, in the morning and evening. Feeding is done by spreading evenly on the surface of the pond. 750 g/day of larvae feed can be produced using STP submerged feed. STP PI Comfeed contains 12% water content, 28% crude protein, 25% digested protein, 6% crude fat, 6% crude fiber and 11% ash. Measurement of water temperature quality in accordance with SNI 6139:2009, namely temperature between 23-30 °C, pH between 6.5-8.5, dissolved oxygen 5 mg/l, ammonia (NH_3) 0.02 mg/l and brightness Secchi disk quiet pool 30 cm. The data obtained include growth in length (cm), increase in weight (gr) and survival rates. The following is a graph of the growth in length and weight of tilapia.

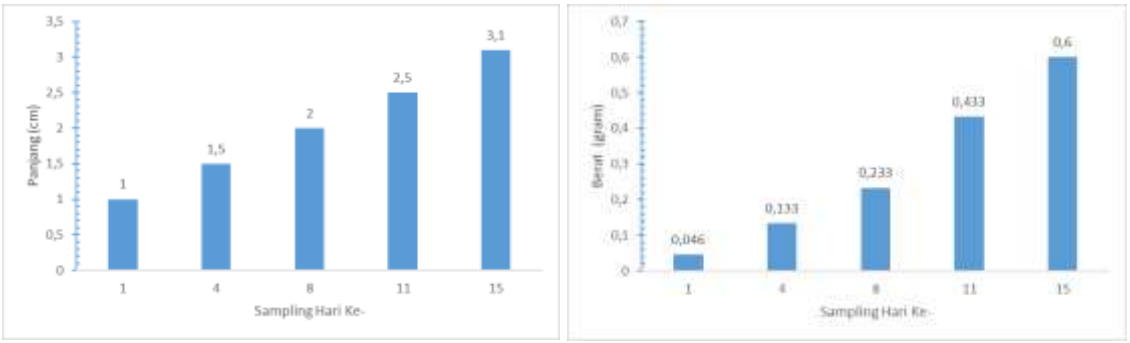

Figure 1. Growth in Length and Weight of Tilapia

Based on the graph above, it can be seen that the growth in length and weight of tilapia during 15 days of maintenance has increased from day to day. Good feed quality will affect the growth of fish to be good (Djunaedi et al. 2016). With the hatching of 53,850 tails and then reared for 15 days, the survival rate (SR) was classified as good at 80%. The survival rate (SR) is classified as good in the range of 50%, moderate in the range of 30-50% and not good in the range of 30% (Mulyani et al. 2014).

CONCLUSIONS AND SUGGESTIONS

Conclusion

Larasati Tilapia hatchery technique implemented at CV. Dejeefish apply a natural spawning system including preparation of spawning ponds, parent selection, broodstock spawning and harvesting. Natural spawning was carried out en masse with 300 female brooders and 100 males. Harvesting is done 2 times a month in the morning. In nursery activities, the results of the survival rate (SR) of 80% are classified as good. During 15 days of rearing the larvae experienced an increase in growth in length and weight.

Suggestions

Suggestions that can be given in this activity are CV. Dejeefish is expected to be able to improve biosecurity activities in the pool area in order to prevent the spread of diseases and pests in hatchery and nursery activities. It is necessary to maintain and improve existing facilities.

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