ABSTRACT

DESIGN OF AUTOMATIC TILAPIA FISH LARVAE MAINTENANCE SYSTEMS IN LARVAE TREATMENTS POND

Fish are animals that have a major influence on human survival. But at this time, sea water fish production began to decline. Therefore, fish farmers began to develop the cultivation of freshwater fish, especially tilapia as an alternative substitute for sea water fish. In addition, the cultivation of tilapia which is very easy to do is the main reason for fish farmers to start switching to develop their fisheries business. Efforts to increase the yield of tilapia to obtain productive tilapia seeds can not be separated from care and monitoring carried out regularly starting from the process of spawning, hatching fish eggs, and maintaining larvae to become fish seeds. This is because the survival rate of the highest tilapia is generally only around 60%.

This study aims to create a system or device that can control the maintenance system of tilapia larvae automatically. The control system carried out by this device includes setting the ON/OFF heater time according to if the pool water temperature is below 25 ° C, activating the water control pump in the pond if it does not match the PH parameter limit of 6-9 and the pool water level parameter limit 10 cm and regulate the feeding of tilapia larvae automatically at 7am, 12pm, and at 5pm with a dose of 43 grams of larvae fed using a servo motor. In this research, a display device, LCD, is used to display the value of all parameters measured by the automatic tilapia larvae maintenance system.

The final results in the form of prototypes that have been tested on larval treatment ponds resulted in 80.67% survival rate of tilapia larvae from 150 larvae of tilapia which were maintained using tools and 74.66% survival rate of 150 larvae tilapia which is maintained without using tools.

Keywords: *Automatic Tilapia Larvae Maintenance System, Survival Rate.*