

ABSTRACT

The demand for freshwater fish continues to increase every year, so that it is necessary to increase the production of seeds to support the intensification of aquaculture in order to meet market demand. Surveys that have been carried out at UPT Pembenihan Ikan Ciparay, in fish cultivation businesses there are several stages of the process that occur, one of them is the spawning process. The spawning process is the removal of the egg cell by the female parent and sperm by the male parent which is then followed by marriage. In the process of spawning freshwater fish is needed a kakaban. Kakaban is a medium in a spawning pond in the form of fibers, natural grass, etc., which can be a medium for attachment of fish eggs when the spawning process is complete.

With the observations that made at the UPT Pembenihan Ikan, this Final Project aims to create an initial modeling of automatic laying kakaban that can be used by freshwater fish farmers in helping to ease the work during the spawning process. This automatic kakaban system includes measurements of pool water level, placement of kakaban in the pond, removal of fish eggs in kakaban. In this Final Project will be realized a system that can perform automatic control of the parameters that have been determined.

This system is built in stages from mechanical design, sensor calibration, microcontroller and actuator configuration, synchronization of sensor readings and reading of measuring instruments. The final result of the design of this automatic system is a prototype that is implemented in a 50cm x 30cm x 40cm aquarium which later can become the initial modeling of a freshwater fish spawning pond so that it can help farmers in netting fish eggs and compete in a wider market.

Keywords: Kakaban, Automatic, Water Height, Ultrasonic Sensor, Spawning.