

ABSTRACT

AUTOMATIC INCUBATOR DESIGN FOR HATCHING DUCK EGGS

The stability of temperature and humidity and the reversal process plays an important role in the process of hatching duck eggs. The required temperature during egg hatching period is 36 ° C - 38 ° C with humidity 60% - 70%. In addition the required egg reversal process is at least 3-6 times in one day. To handle the condition, it takes a hatching device that is able to work automatically in keeping room temperature stability and egg reversal process.

In this final project is made an incubator hatching egg that can work automatically. This incubator can control the temperature and humidity, and do the egg reversal automatically. Fuzzy logic method is used on the temperature control system and humidity of the incubator chamber. Systems designed using incandescent and humidifier as actuators and sensors used are temperature and humidity sensor.

On the test results, this system can work well, it can be shown that the system can maintain the temperature and humidity of the incubator chamber in the temperature range 36 ° C - 38 ° C and humidity 60% - 70%. In addition the conveyor can work automatically every 07:00, 10:00, 13:00, 16:00, 19:00, 21:00. The success rate of hatching in the first test was 91.6%, while the second hatching test success rate was 41.6%.

Keywords : *hatching, temperature, humidity, fuzzy logic*