ABSTRACT

In an era where technology is growing rapidly, it shows a very significant development in the field of control automation. Controlling room temperature and humidity in egg incubator systems is a process that is widely used in the livestock sector. The process of heating an incubator is quite a waste of time for farmers to regulate and maintain the temperature or humidity in the incubator room. A good temperature and humidity for hatching eggs is between 35℃ – 40℃, with humidity in the machine ranging from 50%-60%. Therefore, this study aims to create a system to control the temperature and humidity of the egg incubator with fuzzy control using the Sugeno method. This control system consists of if-then rules. In order to get the input and output values, namely by connecting the DHT22 sensor to measure temperature and humidity to be processed into the microcontroller, the value obtained from the sensor will then be processed data. The use of fuzzy control is used to make several stages, namely fuzzification, rule, and defuzzification which after processing will be used as output weights for the actuators used. The test was carried out 5 times with a test time of 18 minutes to get a stable value from the tool. The best performance was obtained for the temperature parameter during the third test while for the humidity test it was obtained during the second test with an error value of approximately 0%.

***Keywords**: Fuzzy Sugeno, Temperature and Humidity Sensor, Ardiono IDE Software, Microcontroller ESP8266.*