

ABSTRACT

Boiler chicken is one of the livestock that is quite in demand by breeders in Indonesia. This is due to the increasing demand for broiler chickens in Indonesian society, as well as the rapid growth process from chicken seeds to ready-to-harvest chickens. However, until now temperature and humidity are still the determining factors for the success of broiler farming, therefore it is important for farmers to know how to monitor and control the temperature and humidity in their chicken coops. Therefore, an iot-based temperature and humidity control and monitoring system on a closed-house chicken farm prototype was created. The system is made using a DHT11 sensor which is useful in measuring temperature and humidity, the error value of the sensor used to measure temperature and humidity is 0.57% and 1.51%, respectively. This system uses 3 actuators, namely exhaust fan and heater which functions to control temperature and mist maker which is used to control humidity. Exhaust fan and mist maker use on off control, while heater uses PID control with parameters KP, KI, and KD are 150, 2, and 2. The system created is able to stabilize the temperature between 29.6°C to 30.2° C and relative humidity between 57 to 64%.

Keywords : Close-house, chicken farm, temperature monitoring, temperature control, humidity.