INTISARI

MONITORING DAN KONTROL OTOMATIS SUHU PADA KANDANG AYAM BROILER DENGAN SISTEM *CLOSED HOUSE* BERBASIS *INTERNET OF THINGS*

Oleh

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Kandang ayam dengan sistem *closed house* yang biasa dipakai oleh para peternak masih menggunakan panel kontrol sehingga proses monitoring dan kontrol masih harus dilakukan di dalam kandang dan kurang efisien. Penelitian ini bertujuan untuk membuat sebuah prototype sistem monitoring dan pengendalian jarak jauh suhu di dalam kandang ayam broiler dengan sistem *closed house* berbasis *Internet of Things* dengan menggunakan aplikasi *Blynk* sehingga proses monitoring dan kontrol lebih efisien dan dapat dilakukan dimana saja dan kapan saja. Sensor DHT22 digunakan untuk melakukan pengukuran nilai suhu dan kelembaban. Sedangkan, aktuator yang digunakan meliputi *fan*, *heater*, dan *water pump* yang difungsikan untuk menjaga kestabilan suhu di dalam kandang. Hasil pengujian sistem pada ayam kecil menunjukkan bahwa sistem mampu menjaga kestabilan suhu di dalam kandang ayam pada pagi hari sebesar 29 – 31 ° *C* dengan nilai rata-rata suhu yang terukur sebesar 30.2 ° *C*. Pada siang hari sebesar 30 - 31 °*C* dengan nilai rata-rata suhu yang terukur sebesar 30.7 °*C* . Sedangkan, pada malam hari sebesar 28 – 29 ° *C* dengan nilai rata-rata suhu yang terukur sebesar 28.7 ° *C*.Sedangkan pada ayam besar, sistem mampu menjaga kestabilan suhu di dalam kandang ayam di pagi hari sebesar 24 – 26 ° *C* dengan nilai rata-rata suhu yang terukur sebesar 25.2 ° *C*. Pada siang hari sebesar 26 – 27 ° *C* dengan nilai rata-rata suhu terukur sebesar 26.7 °*C* . Sedangkan, pada malam hari sebesar 24 – 25 ° *C* dengan nilai rata-rata suhu terukur sebesar 24.8 ° *C*

Kata kunci : Suhu, *Closed House*, *Internet of Things*, *Blynk.*

ABSTRACT

AUTOMATIC MONITORING AND TEMPERATURE CONTROL ON BROILER CHICKEN CAGE WITH CLOSED HOUSE SYSTEM BASED ON INTERNET OF THINGS

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Chicken cages with a closed house system commonly used by farmers still use a control panel so that the monitoring and control process still has to be done in the cages and is less efficient. This study aims to create a prototype of a remote temperature monitoring and control system in a broiler chicken coop with a closed house system based on the Internet of Things using the Blynk application so that the monitoring and control process is more efficient and can be done anywhere and anytime.. The DHT22 sensor is used to measure temperature and humidity values. Meanwhile, the actuators used include fan, heater, and water pump which are used to maintain a stable temperature in the cage. The results of the system test on small chickens showed that the system was able to maintain a stable temperature in the chicken coop in the morning of 29-31° C with an average measured temperature of 30.2° C. During the day it is 30 - 31° C with an average measured temperature of 30.7° C . Meanwhile, at night it is 28 - 29° C with an average measured temperature of 28.7° C. Meanwhile, for large chickens, the system is able to maintain a stable temperature in the chicken coop in the morning of 24 - 26°C with an average measured temperature of 25.2° C. During the day it is 26 – 27° C with an average measured temperature of 26.7° C. Meanwhile, at night it is 24-25 ° C with an average measured temperature of 24.8° C.

Keyword : Temperature, Closed House, Internet of Things, Blynk.