ABSTRACT

IoT based honey bee monitoring is needed because it helps the work of farmers and honey bee cultivation. Monitoring aims to monitor the weight of honey, humidity and temperature in the nest box. Monitoring can be used to make it easier forfarmes to monitor remotely and can determine harvest prediction times.

Through this final project, the design of a honey bee monitoring system is made to support the honey bee cultivation process by implementing this monitoring, which makes it easier to control the routines of bees in the hive box so that is the easierfor breeders to cultivate honey bees.

The honey bee nest box monitoring system is implemented in the form of the Internet of Things (IoT) using the Node MCU ESP8266 microcontroller, with the aimof being the main controller to run sensors and function to send data to the database and the integrate trough the website. The system uses two kinds of sensors, namely the DHT11 sensors and Load cell Sensors. DHT11 to determine the temperature and humidty in the honey bee nest box. Meanwhile, the load cell sensors is used to determine the weight of the honey bee nest box.

Monitoring of honeybee stup bees based on the Internet of Things has an accuracy value of 100% in the alpha test results and the beta test results obtained from the respondent's questionnaire are said to be valid and reliable. In the test the DHT 11 sensor has an accuracy value at temperature of 94,47% and humidity has a value of 96.09% which is compared using standard tools, while the weight obtained in the load cell has an accuracy of 97,56% in testing the microcontroller Node MCU ESP8266. So that research on this tool can be concluded running according to its purpose.

Keyword : Internet of things, microcontroller, temperature, humidty, weight, forward chaining.