ABSTRACT

Rice stored in warehouses requires attention in terms of temperature and humidity. The quality and resistance of rice to mold and lice is affected by temperature and humidity conditions. Because of this, a tool was made that can monitor and stabilize the temperature and humidity of the rice warehouse room. The method used to make an Internet of Things (IoT) based temperature and humidity monitoring and stabilizing device in a rice warehouse is an experimental method. The prototype for monitoring and stabilizing temperature and humidity in an IoT-based rice warehouse is designed using an ESP8266 microcontroller and a DHT22 temperature and humidity sensor, the author uses a blower as a temperature and humidity stabilizer. For communication media between the prototype tool and the user using the Blynk platform. The results showed that the tool can monitor and stabilize temperature and humidity and can be controlled using a smartphone. The blower will activate if the temperature value is more than 31°c and the humidity value is more than 65%. For the measurement of the temperature value, it has an average error of 1.7% with a difference in the temperature value between 0.4°C to 0.8°C, and for the measurement of the humidity value it has an average error of 8.4%.

Keywords *– DHT22, smartphone, temperature and humidity monitoring system, internet of things*