ABSTRACT

Cucumber is one of the horticultural commodities that has good prospects for cultivation, because cucumber plants can be marketed domestically and abroad. Soil condition and fertility is a very important factor in increasing agricultural growth and production. The ideal data for a good soil pH for planting cucumbers is 6-7, for a soil temperature of 18-30°C and humidity of 50-60%. Ignorance of farmers about the value and condition of the land can lead to poor production of cucumber plants. Therefore the authors created a control and monitoring system to monitor soil conditions or growing media in cucumber plants. In this system there is a soil pH sensor, temperature sensor, soil moisture sensor and automatic sprinkler for fertilizer when the soil pH value is less than the specified limit. This system also applies the Internet of Things concept for sending data on the Telkom IoT Platform platform. *Based on the test results of testing the soil temperature sensor, it gets an average error value of 0.67% and an accuracy value of 99.33%. Testing the soil moisture sensor obtains an error value and accuracy of 4.80% and 95.20%, respectively. Whereas in testing the pH sensor which was calibrated using the linear regression method, it obtained an average error value of 1.69% and an accuracy of 98.31%.*

Keywords: *Cucumber, Soil Fertility, Internet of Things, Soil pH, Accuracy*