

ABSTRACT

During Covid-19 pandemic, most activities are directed at home (work from home). Aglaonema plants are popular in the community because of their beautiful leaf colors and various motifs. In its care, Aglaonema requires special attention because it is a sensitive plant, so the room temperature and soil moisture are factors that affect the growth of Aglaonema. Therefore we need a system that can care for Aglaonema sp plants with sprinkler control features and monitor air temperature and moisture of the growing media on Aglaonema sp plants based on the Internet of Things (IoT). By utilizing several components such as capacitive soil moisture sensors, DHT11 sensors and relays, monitoring the moisture of the growing media, air temperature and controlling watering will be more effective. The tool's design is made with a NodeMCU ESP8266 microcontroller with WiFi data communication, while the monitoring system uses the MQTTdash application through the MQTT broker. In testing the sensors of the tools that have been made, have different error rates. The DHT11 temperature sensor has been tested 30 times with an error of 2,89% and an accuracy of 96,99%. Meanwhile, the soil moisture sensor SEN0193 has been tested 30 times on dry soil with an error of 3,78% and an accuracy of 96,22%, and 30 test on wet soil with an error of 2,52% and an accuracy of 97,48%.

Keywords : Aglaonema sp, Internet of things, NodeMCU ESP8266, MQTT