

ABSTRACT

Eggplant (Solanum Melongena L.) is a type of vegetable that is very popular and in demand by many people, but eggplant production has decreased due to pests that exist in eggplant plants. Eggplant plants must be sprayed with pesticides to eradicate or prevent pests from coming, so farmers must spray pesticides to repel pests. However, the pesticides used by farmers can cause health problems for the farmers themselves if they often encounter or inhale pesticides.

At this time the development of Internet of Things (IoT) technology is very rapid, so the authors design tools that are IoT with the aim of facilitating the work of farmers both in automatic watering and spraying of pesticides automatically to maintain the health of farmers. This tool will be connected to the internet and data can be accessed via a smartphone.

This tool is designed to make it easier for farmers to water and spray pesticides automatically on eggplant plants to repel or prevent pests from coming and maintain the health of farmers, besides that farmers can monitor plants remotely. With the NodeMcu ESP8266 microcontroller and the assistance of the soil moisture sensor to monitor the water content in the soil and the Real Time Clock (RTC) which is used to schedule pesticide spraying, data is also collected from all sensors which will later be displayed through the Mit App Inventor application.

In the results of this final project, the average delay value is 394 ms and the average throughput value is 1774,143 bps.

Keyword: *Eggplant, Pest, Pesticide, Auto spray, RTC, Android*