

ABSTRACT

Chili production has decreased due to disturbances from pests such as aphids, red mites, thrips and others. Chili plants must be sprayed with pesticide liquid to repel pests that come and gnaw at chili plants, with this farmers must work extra in spraying pesticides to get rid of pests. However, the pesticides used can also affect the health of the farmers if the farmers are exposed to pesticides too often and inhale residues from pesticides.

At this time the development of technology has been very rapid, especially for technology that is IoT (Internet of Things) the author designs an IoT-based tool with the aim of making it easier to spray pesticides on pests automatically, so that the health of farmers is guaranteed. This tool will be integrated with the internet and can be accessed via smartphones because it is based on (IoT).

The existence of this tool design can make it easier for farmers to spray pesticides on chili plants to repel existing pests and maintain the health of farmers, because then farmers can monitor the spraying of pesticides on chili plants from a distance. With ESP32 as a microcontroller and the help of Real Time Clock (RTC) Pesticide spraying on pests is carried out by scheduling the spraying time, also data collection from raindrop sensors, temperature data retrieval (DHT11) and data retrieval from DFrobot Soilmoisture which can be accessed or viewed through the application.

In the results of this final project, the average throughput value in the morning is 600.96 bps and in the afternoon is 747.54 bps and the average delay value is 1777ms in the morning and 1447ms in the afternoon.

Keywords: Chili, Pest, Pesticide, Internet of Things(IoT), Automatic Spraying, Soil Moisture, Rain Sensor, Real Time Clock, Android