

IMPLEMENTATION OF IOT IN MOBILE-BASED WATERING AND LIGHTING MONITORING SYSTEMS FOR ONIONS

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ABSTRACT

Shallots are a short-lived horticultural commodity with high commercial value and high risk. In cultivation management, shallot plants are often disturbed by pest attacks, one of which is beet armyworm. Apart from that, problems also often occur in the irrigation of shallots, whereas this plant requires sufficient water from initial growth until before harvest. The Internet of Things or often referred to as IoT is the idea that all real world objects can communicate with each other as part of an integrated system that uses the internet network as a link. A tool was created to carry out watering and lighting using an IoT prototype by measuring soil moisture and light entities. This research aims to produce a monitoring system application for watering and lighting on shallot plants. This IoT prototype has been adjusted to the soil moisture levels needed by shallot plants, above 100 for dry soil conditions and below 90 for wet soil conditions, the light conditions are also adjusted at 18.00 to turn on the lights and 06.00 to turn off the lights. The sensor measurement results will be stored in a database, then displayed in the application in the form of real-time information on humidity and light conditions. After testing, this application succeeded in displaying data from sensors in real time.

Keywords: *Monitoring; IoT; Sprinkling; Lighting; Censorship*