ABSTRACT

Fertilization is an important process in agriculture that contributes significantly to crop growth and yield. The right nutrients in the soil can improve plant health, productivity and yield quality. Timely and properly dosed fertilization can meet the nutritional needs of plants, optimize vegetative and generative growth, and minimize the risk of nutrient deficiencies.

In the Final Project, the design of a liquid fertilizer watering automation system using an android application for system control. The main purpose of making this application is to provide convenience in controlling and monitoring the process of watering liquid fertilizer on plants automatically.

The output of this application is that users can set a watering schedule, monitor water conditions, and control the device directly through an easy-to-use interface. The results of the application include information on the water level in the tank, as well as information on the automatic schedule. This system is expected to increase the efficiency of plant watering and reduce manual human intervention, so that plants can grow well. The test results show that the system has a good level of accuracy with an average error of 2.88% in measuring water volume and an accuracy rate of 97.12%.

Keywords*: Fertilization, Automatic watering, Android application, Control system, Water condition.*