

ABSTRACT

In agriculture, plant is an important object for research. The data will be collected and analyzed to find the optimal conditions for the plant to live. Soil conditions are important factor for plants to grow, but humans still encounter difficulty to collect data from plants so when watering or irrigating plant, soil conditions are ignored.

To overcome these problem, the automatic watering system based on microcontroller was built. Watering from the pump was set up by system based on interval or duration that specified in the software. Sensors get moisture value of the soil and processed by the system so it can display the data of soil. The plant in this study were mung beans.

There are 4 systems that were created based on watering time. System 2 was proven to be able to distribute 25 ml of water according to the needs of mung beans plants per day so that it can grow optimally. Watering time begin at seven in the morning with 13 ml of water and 12 ml of water at four in the afternoon. The height of bean sprouts reached 5.2 cm on day three and 8.5 cm on day four. This system can be used for all plants as long as the water needs of the plant are known in one day, so we can adjust the time and amount of water in the system.

Keyword : Plants, Soil Moisture, System, Automatic Irrigation, Mung Beans