

ABSTRACT

Water and light from the Sun is the most important substance for plant life. Without water and sunlight, plant life will not last long, because the water and sunlight are very supporting plant life, therefore the plant need water and light for photosynthesis. Time and conditions of granting of water and sunlight are also entered in the factors for plant life. At the green house, farmers are difficult to pay attention to the condition which the plants really need water or sunlight, such as on the conditions of rain and drought. Or the number of more energy wasting for watering a lot of plants on the green house.

In this final project, the watering system in the greenhouse will be made automatically by using a water-efficient drip watering system to watering a lot of plants, as well as the lighting system in the greenhouse is also arranged automatically. The system of watering and lighting of plants is regulated automatically by comparing three factors temperature, light intensity, and soil moisture. And for ease of observation in the green house, all the factors and results will be displayed on the LCD screen that is integrated with the system inside the greenhouse. Therefore the greenhouse on this final task is called smart greenhouse.

The result of this thesis is smart greenhouse can keep the existing plants in the smart greenhouse from pests of plants that exist around the greenhouse. Watering in the smart greenhouse can work well as well as lighting on plants. In this smart greenhouse there is an alarm as a reminder when the water inside the water sprinkler has run out.

Keywords : *plants, greenhouse, automatic control system, fuzzy logic.*