

ABSTRACT

Hydroponics is activities cultivating plants without using soil but using water and nutrient solutions as a growing medium. In the process of farming using the hydroponic method, temperature becomes an influential factor. But the temperature can change due to several factors. Therefore, efforts are needed to control the temperature of the hydroponic solution so that the cultivation results can be maximized. In this study, monitoring and control of the automation temperature of the nutrient solution in hydroponics will be carried out. Mega Arduino is used as a controller. The temperature sensor used is the DS18B20 sensor. This study using fuzzy logic controller. In this case the fuzzy inference system used is the Mamdani Method. The composition of rules using the AND and IF-THEN operators, the defuzzification process using the Centroid method. The controlling element in this control system is a microcontroller with set point input and DS18B20 temperature sensor. Information from the controller will be sent to the plan in the system namely are AC 220V control and Heater. The temperature is set at 25⁰C. From the experiments obtained fuzzy logic control system can make the temperature of hydroponic lettuce nutrient solution close to the setpoint. Lettuce planted at temperature control still can live during tested.

Keywords: *Hydroponics, Nutrition of Temperature, Fuzzy Logic Control.*