

## **ABSTRACT**

*This research was conducted to control the air temperature in the spinach nursery room. The temperature and humidity in the nursery room can affect the growth of plant seeds. However, in this study, temperature was used as the main topic as a medium to be controlled in spinach nurseries. The optimum air temperature in spinach nurseries is 20°C - 32°C. If the resulting air temperature does not match the ideal temperature, it will inhibit the growth of spinach plant seeds. So that the air temperature can be maintained in the plant nursery room, it is necessary to have a control system that can control the air temperature. In this final project, the temperature will be controlled with a set point of 25°C-30°C. The control system that will be used is fuzzy logic control. The microcontroller will work as the brain of the temperature control system that will be used. Fuzzy logic will control the heating actuator in the form of keeping the air temperature value in a system in accordance with the specified. Based on the testing of the air temperature control system in spinach nurseries, the error value is minimal. The average error on the temperature sensor is 4.05% and the accuracy rate on the sensor is 95.95%. So that the use of an air temperature control system can affect the growth of spinach seedlings by 53% by using a greenhouse.*

**Keywords :** *Air temperature control system, Spinach plant, Fuzzy Logic.*