

ABSTRACT

The tea plant comes from the subtropics which can grow optimally at a temperature of 13-25 °C, humidity (Rh) 70%, pH 4.5-5.6 and rainfall not less than 2000 mm. Tea plants can grow well in ideal conditions, but on the other hand, this plant is sensitive to environmental changes, so its quality is hard to be controlled and get die easily.

To create an ideal nursery growing media environment, an integrated tea seedling automation system is a solution to control the parameters in the tea seed planting media so that tea plants can grow optimal. This tool can monitor and control the parameters of soil moisture content, air humidity, and air temperature. The method used in this research is Fuzzy Logic Sugeno for the decision of the actuator activity.

With this integrated automation system, the environmental conditions in the tea seedling growing media can be controlled by the system to the ideal conditions for tea plant seeds. This system can make air temperature parameters below 25°C, humidity levels above 70% and soil moisture levels above 30%, making it easier for farmers to seed tea plants optimally and efficiently from a distance.

Keywords: *Air temperature and humidity control system, soil moisture control system, fuzzy logic Sugeno.*