

ABSTRACT

Provision of land for food today is full of competition. Such conditions cause agricultural land to be increasingly limited, while food needs continue to rise. This problem can be solved by hydroponics, with the existence of hydroponics, the community can easily grow crops, so that for food, the community does not need to worry anymore.

Hydroponics that existed in the past few years now requires the help of detailed handling of the farmers to get quality plants. Plants not only need water for photosynthesis but also need nutrients for the growth process. The nutrients needed by plants vary in size, so it is needed a tool to measure nutrient elements or nutrients needed. Plant nutrients needed are in the form of electrical conductivity (EC), which is used to measure electrical conductivity EC sensors. EC sensor is used as *feedback* from a system that functions to move the actuator.

A hydroponic plant nutrition control system that is made will produce plants that are better than the hydroponic plants in general. In the physical form, the process of growing plants is 0.4 cm higher, leaf width 0.3 cm and many leaves 1 sheet. EC sensor on the tool made produces accuracy of 99.90% and this system will also go through a stirring process for 10 minutes for maximum results. This nutritional control system has a rise time of 0,96 second, a peak time of two second, a maximum overshoot of (Mp) of 3.52%.

Keywords: Hydroponics, Nutrition, Control System