

ABSTRACT

The problem that arises in hydroponic plants is that it requires accuracy in providing ABmix or nutrients and pH Down or pH Up fluids and regular monitoring, which can provide optimal results in hydroponic plants, thus covering the deficiencies in the main problem, namely accuracy in pH and nutrient control and monitoring of nutrient solutions.

The fuzzy logic used in this automatic control has been 100% validated by experts in the *rules* used to control pH and nutrients, and has a maximum delivery time interval of 1.3 seconds. The system can perform maintenance on the hydroponic nutrient tank with 0% overshoot with 11 repetitions and the control system is said to be stable at 300 seconds by using an iteration delay of 60 seconds as the mixer pump time can mix perfectly.

Keywords: Hydroponic, *Fuzzy* Logic, NB-IoT