ABSTACT

Broccoli (*Brassica oleracea L.*) is a plant that has many advantages such as having high vitamins that are beneficial for the body and food plants that are much popular. Broccoli cultivation has elements that must be considered, namely broccoli grows in cold climates with temperatures of 15.5^{o}C – 24^{o}C and humidity in the range of 80% - 90%, the suitability of temperature and humidity of the environment greatly affects the quality of broccoli plants such as the size of the flower crop diameter and the weight of the flower crop. Giving nutrient solution in the broccoli growth process is also very important to improve the quality of broccoli plants provided that the EC value of nutrient solution is 2.8mS/cm – 3.5mS/cm. The hydroponic system *with the Deep Flow Technique* (DFT) method is used for broccoli cultivation planting media that has a circulating water flow and there is a high pool of nutrient solution with a height of 4-5 cm on the bailout with the condition that the plant roots are in the nutrient solution, so that the nutritional needs of plants are fulfilled. Fuzzy logic is used as a kontrol system and can simplify a difficult or complex system that conventional kontrol systems do not have. The *input* variabels are temperature, humidity, EC value of the nutrient solution and height in the reservoir, while the *output* variabels are fan, *exhausfan* and pump. The accuracy of the temperature sensor is 99.7%, the humidity sensor is 99.5%, the analog electrical conductivity sensor is 99.8*%, and the height sensor is 99.8*%. The performance of the kontrol system used temperature kontrol has a settling time value (ts) *of 200 minutes, humidity kontrol* setting time is 110 minutes, *the kontrol increases the EC value has a setting time (ts) of 555 seconds* and a steady state error value of 6.6%, the kontrol lowers the EC value of the nutrient solution has *a settling time value of* 145 minutes and *a steady state error* of 3.3%. Plants with a kontrol system have a flower weight after harvest of 70g.

Keywords: Broccoli, *Deep Flow Technique*, *Electrical Conductivity, Fuzzy Logic Kontroller,* Temperature and Humidity.