

ABSTRACT

Sangkuriang catfish (Clarias gariepinus var. Sangkuriang) is a superior commodity that continues to be developed to increase production in the fresh water aquaculture sector. The cultivation of sangkuriang catfish seeds in tarpaulin pond media has advantages including not smelling of mud because at the bottom of the tarpaulin pond there is only sediment from dirt, and the survival rate can reach 99% due to easier and more intensive monitoring of water quality. Water quality is an important factor in cultivating catfish seeds, especially the pH level and for sangkuriang catfish it is 6.5 to 9 pH. If the pH is less than 6 it results in mucus clumping in the gills, while a pH of more than 9 results in reduced appetite. From these factors, a pH monitoring system and automatic circulation of tarpaulin pond water was created in the cultivation of sangkuriang catfish seeds (clarias gariepinus var. sangkuriang) using the Simple Additive Weighting (SAW) method. In this study using the NodeMCU ESP32 microcontroller, the water pH sensor measures the pH level of the pool water, the ultrasonic sensor measures the pool water level. The measurement results of the SAW method for the pH level of pool water obtained an average accuracy of 97.151% and then the decision to circulate automatically based on pH levels in pool water using the SAW method is less than 0.5, ultrasonic sensor measurements obtained an average accuracy of 97.846% . The results of the QoS calculation are Delay 4,656 ms, Throughput 0.441762 kbps, and 0% packet loss. With the creation of this monitoring system, it is hoped that pH levels and water circulation that are maintained can improve quality dan economic value when harvested.

Keywords: *Sangkuriang catfish (Clarias Gariepinus var. Sangkuriang), tarpaulin pond, SAW (Simple Additive Weighting) method, NodeMCU esp32, MQTT Dashboard..*