

**PENGARUH PENGGUNAAN TEKNOLOGI BIOFLOK TERHADAP  
PERBAIKAN KUALITAS AIR, PERTUMBUHAN TANAMAN SAWI  
SAMHONG DAN IKAN NILA PADA SISTEM AKUAPONIK PASANG  
SURUT**

**SKRIPSI SARJANA KIMIA**



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## ABSTRACT

### THE EFFECT OF USE OF BIOFLOC TECHNOLOGY TO IMPROVEMENT OF WATER QUALITY, GROWTH SAMHONG MUSTARD AND TILAPIA IN A FLOOD & DRAIN

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Utilization of Biofloc Technology (BFT) in Flood and Drain (F&D) Aquaponics System, an integrated of Tilapia (*Oreochromis niloticus*), and Samhong Mustard (*Brassica juncea*. L) has been done. The objective of this study to determine the effect of the use BFT to ammonia, nitrite, nitrate, temperature and pH, growth samhong mustard and tilapia in the F&D Aquaponics System. This system consists of a Fish Pond Tank (TKI), Mechanical Filter Tank (TFM), Biofilter Tank (TB), Tank After Biofilter (TSB), and hydroponic plant circuits (STH), supported by recirculating Aquaculture System (RAS) and aeration/oxygenation. The results of this study were ammonia (0.3013-5.9625 mg/L), nitrite (0.1438-0.374 mg/L), nitrate (1.0764-9.33923 mg/L), pH (7.7 - 8.7), and water temperature (27.5-29.7)°C. Then, Then the data compared to previous studies and Indonesian Government Regulation No. 82 of 2001 classes 2 and 3, and the compromised of water quality. In general the value nitrate, pH, and temperature were still below the permissible, except ammonia and nitrite. The highest ammonia concentration found in the 35 day fish pond tank is 5,9625 mg/L while the highest concentration of nitrites is found in the 7 day tank after biofilter which is 0.3774 mg/L. The use of biofloc in aquaponic systems, compared to without the use of biofloc, shows that the use of biofloc is more appropriate to be used in improving water quality. This is also supported by good crop yields, namely that there is no yellowing of plants due to nutrient deficiencies and reducing the number of dead fish.

**Kata kunci:** *Biofloc, Flood & Drain Aquaponic System, Water quality (ammonia, nitrite, nitrate, pH and temperature)*

