

Comparison of water quality in Biofloc system with different level of cane molasses in intensive farming of common carp (*Cyprinus carpio*)

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Abstract

In this study, biofloc system with cane Molasses as carbon source prepared with three different ratio of C:N A(15:1), B(20:1),C(25:1) and D(control) in the 100 liters tanks in triplicates with a density of 17.5 kg/m³ and various indicators of water quality and floc production were evaluated during 90 days . Water quality indices including: DO, TAN, No₂, No₃, pH, Hardness, Total bacterial count, total acid lactic bacteria, BOD and the rate of water exchange as and some floc quality : FVI(floc volume index),TSS, number of Microorganisms and proximate analysis of biofloc were investigated and compare among the treatments. The results showed that some water quality index were improved by using biofloc system, No₂ in biofloc treatment was lower than control group (P<0.05) but there was no significant difference in TAN level among the groups despite the daily water exchange in control group. Water microbial assay showed that there was significant difference between biofloc and control tanks. Biochemical biofloc analysis showed that level of protein (%28.4) and lipid (%1.6) had beter quality compare to fish diet. . According to this study it can be cocluded that notonly some water biochemical factors improved in biofloc system, but also water exchange were extremely decreased and The floc quality were comparable to standard carp diet. Then this technology can be used in common carp in indoor situation. if done daily accurate monitoring this system could be useful for aquaculture species and cause of improving of cultural condition.

Key word: Biofloc, Intensive aquaculture, Water quality, Cane Molasses, *Cyprinus carpio*

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