Comparison of Microorganisms (DOF 1 and DOF 2) and Effective Microorganisms (EM) Efficiency on Black Tiger Shrimp (*Penaeus monodon, Fabricius 1798*) in Earthen Pond

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Abstract

The evaluation of the efficacy of the microorganisms (DOF 1 and DOF 2) and effective microorganisms (EM) products on black tiger shrimp culture was determined. The field experiments were carried out at private shrimp farms in Chantaburi province during January-September, 2007. Three experiments were assigned into the microorganism treatment, EM treatment, and the control. Each treatment has 3 replications, and shrimp were cultured for 120 days at stocking rate of 25 inds of PL 15 \text{/m}^2\text{.

Results showed that shrimp production was significantly difference among treatments (p<0.05) and the microorganisms treatment achieved the highest yield, while survival rate was not significantly different among treatments (p>0.05). Overall, the microorganisms treatment exhibited good result for shrimp culture.

Water quality was examined throughout the culture period. Total ammonia was checked as followed; 0.060, 0.071, and 0.151 mg/l, respectively. Total ammonia was better treated in the microorganisms and EM treatments than the control. Moreover, soil bottom quality was examined. The EM treatment reached the highest accumulation of organic matter (4.82\%) and was significantly higher than the control (p>0.05). Total ammonia in soil bottom was checked as followed; 24.311, 5.476, and 12.140 mg/kg, respectively, which was higher accumulated in microorganisms treatment than the EM treatment and the control (p>0.05). Similar accumulation pattern was observed in nitrate.

The results signified that microorganisms products (DOF 1 and DOF 2) have good potential as an alternative agent for water treatment in black tiger shrimp culture.

Key words: microorganisms (DOF 1 and DOF 2), effective microorganisms (EM), *Penaeus monodon*

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