

USE OF NILE TILAPIA *OREOCHROMIS NILOTICUS* AND *SPILULINA PLATENSIS* AS NUTRIENTS CONTROL FOR LOW SALINITY SHRIMP CULTURE

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Tilapia, *Oreochromis niloticus* and *Spirulina platensis* controlling of nutrients in low salinity *Penaeus monodon* culture was conducted using 3x3 completely randomized design involved factorials. Three concentration of *S. platensis* 0, 4.2×10^8 and 8.4×10^8 trichomes/l and 3 densities of tilapia (0, 3, and 6 individuals/tank) were used in treatment combinations. The culture system was 150 litre-cylinder fiber tank with salinity 5 ppt. In each tank, a $0.1 \times 0.1 \times 0.1$ m³ net-cage was provided for tilapia culture. Continuous aeration was provided during the experimental period. Each treatment was run in triplicates. The system was designed as no water exchange and out-doors. Nutrients such as NH₄-N, NO₂-N, NO₃-N and PO₄-P and chlorophyll were determined every two days. Water temperature pH, DO, salinity and light intensity were determined daily. The results of 3 month-experiment indicated that a treatment with *S. platensis* 8.4×10^8 trichomes/l and 3 tilapias could minimize nitrate concentration, while the culture system with *S. platensis* 8.4×10^8 trichomes/l and no tilapia could decrease phosphate concentration in cultured water during the whole culture period of *P. monodon*. In addition the treatment with *S. platensis* 8.4×10^8 trichomes/l also provided better yield of shrimp when compared to the treatment without *S. platensis*.