Effect of Recirculating Aquaculture System on The Growth of Spotted Scat

(Scatophagus argus Linnaeus)

Aranya Assava-aree* Youngyut Predalamphabrut and Pramaiporn Thongkanarak
Coastal Aquaculture Research Institute

Abstract

Study on effect of recirculating aquaculture system (RAS) on growth of spotted scat was conducted. The experiment has two treatments. Each treatment has three replications. The first treatment use seawater renewed 50% everyday where the second treatment use RAS. Spotted scats juveniles. (17.87 ± 5.43 g, 8.09 ± 0.76 cm) were stocked in 2-ton tank with density of 62.5 inds/ton for culture period of 160 days. The recirculating aquaculture system was consisted of 1 sedimentation tank (700 liters), 2 biofilter tanks (700 liters and 1000 liters) and 1 water stocking tank (700 liters). At the end of experiment, the results showed that fish from the first treatment had 77.70 ± 16.08 g of body weight, 12.84 ± 0.80 cm Of total length, 0.37 g/day of daily growth rate, 1.95 of FCR, 3.75 kg/ton of production and 77.2% of survival rate. While the second treatment had 82.90 ± 15.31 g of body weight, 12.95 ± 0.64 cm of total length, 0.41 g/day of daily growth rate, 1.90 of FCR, 4.05 kg/ton of production and 79.4% of survival rate. The result showed that RAS was able to reduce the concentration of ammonia, nitrite and nitrate about 25.15%, 11.68% and 4.93% in respectively. Although RAS showed some efficiency, the statistical test did not show any significant different (p > 0.05) of growth and survival rate comparing to the first treatment. But water quality showed significant different (p < 0.01). This indicats that RAS using in this experiment does not have any effect on growth and survival rate of fish.

Key words: Recirculating Aquaculture system, Growth rate, Spotted scat (Scatophagus argus)

*Corresponding author: Kaosan Rd. Soi 1 T. Khaorupchang Muang Songkhla 90000 Tel. 0 7431 1895
E-mail: aranya@nicaonline.com