Effect of Food on Molting, Growth and Survival Rate of Mud Crab (*Scylla olivacea*, Herbst 1796) in Soft Shell Crab Production

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Abstract

Effect of 3 kinds of feed on molting, growth and survival rate of mud crab (*Scylla olivacea*, Herbst 1796) in a soft-shell crab production trial was studied at Ranong Coastal Aquaculture Station in nine 3.5x3.5x0.8 m³ concrete tanks. Each tank contained 3 rafts and each raft contained 20 floating baskets, in which young crab was stocked at 1 crab per basket. Three different feeds including yellow-stripe trevally meat, fish meatball and formulated feed, were tested and assigned as the treatment 1, 2 and 3, respectively. The experiment was terminated at 180 days. Results showed that after the 1st molt, the average body weight of the crabs in the treatment 1, 2 and 3 were increased from 77.94 ± 1.24, 75.20 ± 1.85 and 77.77 ± 2.26 gm to 102.94 ± 2.41, 96.21 ± 1.90 and 89.84 ± 3.13 gm, respectively, while the average carapace width were increased from 7.03 ± 0.07, 6.96 ± 0.02 and 7.05 ± 0.05 cm to 7.94 ± 0.09, 7.81 ± 0.07 and 8.17 ± 0.87 cm, respectively. Statistical analysis showed that the average body weight of the crabs in the treatment 1 and 3 were different significantly (P<0.05), but not significantly different (P>0.05) from that of the crabs in treatment 2. When the crabs pass through the 2nd molt, the average body weight and the carapace width of the crabs in the treatment 1, 2 and 3 were 133.99 ± 1.28, 124.24 ± 3.07, 106.86 ± 7.44 gm and 10.20 ± 2.39, 8.65 ± 0.12, 8.39 ± 0.17 cm, respectively. The average body weight of the crabs in the treatment 1 and 2 were not significantly different (P>0.05) but were significantly higher than that of the crabs in the treatment 3 (P<0.05). However, the average carapace width of the crabs in all 3 treatments were not significantly different (P>0.05) at both the 1st and 2nd molt. Results also showed that the average molting period at the 1st molt of the crabs in the treatment 2 and 3 were significantly different (P<0.05), but they were not significantly different (P>0.05) from that of the crabs in treatment 1. At the 2nd molt the average molting period of the crabs in the treatment 1, 2 and 3 were not significantly different.
(P<0.05). Although the survival rate of the crabs in the treatment 1 (75.00 ± 15.90 %) and 3 (32.22 ± 14.17 %) were significantly different (P<0.05), but they were not significantly different (P>0.05) from that (58.89 ± 10.84 %) of the crabs in treatment 2.

It may be concluded that crabs fed on yellowstripe trevally and fish meatball got higher weight gain and soft shell crab production than those fed on formulated feed. However, the formulated feed has an advantage on the ease of storage and feeding.

**Key words:** Soft shell mud crab, Molting, Feed

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