

Growth Performance of *Panulirus ornatus* (Spiny lobster) with Three Different Feeds in Indoor Culture in Jaffna, Sri Lanka

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Indoor fattening practices of *Panulirus ornatus* (spiny lobsters) operated in Jaffna, Sri Lanka practicing with typical trash fish feeding. Effect of growth was evaluated with different feeds and water quality of *P. ornatus* culture and suggest a proper feed among the aquafarmers for *P. ornatus* due to unaware about feeds. Study entailed Completely Randomized Design with three different feeds (trash fish, crab meat, and clam flesh) and three replicates, 45 wild-caught *P. ornatus* of mean body weight 440.91 ± 29.11 g mean carapace length 8.00 ± 0.37 cm were stocked at the rate of two per m², cultured for 11 weeks, fresh chopped flesh fed at optimum rate of 5% of body. Water quality including temperature, pH, salinity, Dissolved Oxygen, nitrate, nitrite and total ammonia and growth performance indicators of Average Daily Weight gain (ADW), Average Daily Length gain (ADL), Specific Growth Rate (SGR), Feed Conversion Ratio (FCR) and survival rate were examined and proximate analysis was done. *P. ornatus* had grown best on clams which containing highest crude protein $70.26 \pm 13.26\%$ lowest fat $0.60 \pm 0.18\%$, indicating highest SGR as $0.19 \pm 0.02\%$ where trash fish and crab fed lobsters showed lowest SGR $0.16 \pm 0.02\%$ and $0.13 \pm 0.04\%$ with the crude protein, and fat levels of $18.13 \pm 4.64\%$, $8.58 \pm 1.09\%$ and $10.66 \pm 1.77\%$, $1.64 \pm 0.22\%$ respectively. Highest ADW was recorded from clam fed lobsters as 0.94 ± 0.11 , 0.77 ± 0.11 and 0.58 ± 0.15 g day⁻¹ for lobsters fed with trash fish and crabs respectively. Lowest FCR of 1.42 ± 0.05 showed with clam fed lobsters, crab and trash fish fed lobsters showed relatively high FCR indicating 2.76 ± 1.37 , 1.63 ± 0.37 respectively. Growth significantly ($P < 0.05$) affected by water quality and maximum growth occurred at 29 - 30°C temperature, 0.01 - 0.02 mg L⁻¹ of Ammonia, 6.5 - 6.9 mg L⁻¹ of the Dissolved Oxygen levels. Survival rate was similar as 100% in all treatments. Findings show that spiny lobsters grow well when fed clams high in protein and lowest fat indicating suitability in lobster farming industry.

Keywords: *Panulirus ornatus*; SGR; Growth performance