Effect of Density, Feeding Frequency and Salinity on Growth and Survival Rate of Juvenile Giant Grouper (*Epinephelus lanceolatus* Bloch, 1790)

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Abstract

The effect of density, feeding frequency and salinity on growth and survival rate of juvenile giant grouper (*Epinephelus lanceolatus* Bloch, 1790) was studied. This research was consisted of 2 sections. Each section was studied for 8 weeks and consisted of 3 experiments with 3 treatments and 3 replications.

The first section was nursing juvenile with the initial weight 1.56±0.35-1.69±0.33 g and total length 4.59±0.27-4.68±0.31 cm. The nursing experiment with different stocking densities of 100, 200 and 300 individual/300 liters, feeding frequency with 2, 3 and 4 times/day and nursing with salinity 10, 20 and 30 ppt. The results showed that, the nursing density, feeding frequency and salinity were effects on juvenile growth rate, survival rate and feed conversion ratio (FCR). The best result of growth and survival was nursing with 100 individual/300 liters (p<0.05), while the feeding frequencies with 3 and 4 times/day showed were not significantly different (p>0.05), but higher than feeding twice a day (p<0.05). The highest growth rate and the best FCR was nursing in 20 ppt compared to those 10 and 30 ppt (p<0.05).

The second section was rearing juvenile with the initial weight 39.18±1.49-67.66±0.94 g and total length 12.65±0.15-15.09±0.10 cm. The rearing experiment with different stocking densities of 25, 50 and 75 individual/m³, feeding frequency with 2, 3 and 4 times/day and rearing with salinity 10, 20 and 30 ppt. The results showed that, the density of 75 individual/m³ had effect on FCR significantly different with 25 and 50 individual/m³ (p<0.05) but the frequency of feeding and salinity had no effects on growth and survival rate of giant grouper.

Key words: density, feeding frequency, salinity, juvenile giant grouper

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