Effect of Astaxanthin on Giant grouper, *Epinephelus lanceolatus*, Bloch, 1790 Color

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Abstract

Results of astaxanthin on coloration of giant grouper, *Epinephelus lanceolatus* were studied. Experimental fish, that had initial weight 484.12±18.89 g, were fed basal diet and supplemented with astaxanthin at level of 100, 200 and 300 mg/kg feed for 8 weeks. The results showed that the diet supplemented with astaxanthin were made deep yellow color on fin, body and spot on the body of fish. Fish fed diets supplemented with astaxanthin at levels of 200 and 300 mg/kg feed had higher color values than fish fed astaxanthin at level 100 mg/kg feed and basal diet significantly different since week 6th. The color values at week 8th were 7.50±0.00 8.00±0.50 5.17±0.27 and 1.17±0.29, respectively. However, the stable color of fish fed the diet without astaxanthin showed that the coloration of fin, body and spot of fish become gradually pale similar as the control within 35, 52 and 62 days in the group of fish previous fed on diet supplemented with astaxanthin at the level of 100, 200 and 300 mg/kg feed, respectively. For growth results, fish fed with basal diet and supplementing with astaxanthin at 100, 200 and 300 mg/kg feed were not significantly different (P>0.05) in average weight, survival rate and feed conversion ratio. The average weight ranged between 1,361.16-1,394.90 g. The survival rate was 100% and feed conversion ratio ranged between 1.42-1.48. Base on these results, the supplemented diet with astaxanthin at level of 200 mg/kg feed not less than 6 weeks feeding are best possible increasing color of giant grouper. Moreover, the astaxanthin should be constantly enhanced due to neutral color.

Key words: Giant grouper, *Epinephelus lanceolatus*, Astaxanthin, Coloration

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