The Optimum Protein and Lipid Level in Tiger Grouper

*(Epinephelus fuscoguttatus* Forsskal, 1775) Diet

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Abstract

A feeding trial of three dietary protein levels (40, 45 and 50%) and two dietary lipid levels (6 and 12%) was conducted to investigate the optimum dietary protein and lipid levels for tiger grouper (*Epinephelus fuscoguttatus*). Each of the six diets was fed to triplicate groups of fish with average weight 17.66±0.14g for 12 weeks to satiation.

The results showed that fish fed 50% dietary protein and 6% dietary lipid was significantly (p<0.05) higher in growth rate, survival rate and lower in food conversion ratios than those fed with 45% and 40% dietary protein among dietary lipid levels. Feeding rate, protein efficiency ratio, apparent protein retention and hepatosomatic index were not significantly different (P>0.05) among treatments. The digestive enzyme activities, protease of liver and lipase of liver and digestive tract were not significantly different among treatments, whereas protease activity in digestive tract of fish fed 50% protein and 12% lipid was higher than other groups. On the other hand, amylase activities in liver and digestive tract of fish fed 40% protein and 6% lipid were significantly (p<0.05) higher than other treatments.

There were interaction between protein and lipid dietary on the growth rate, apparent protein retention and enzyme activity. Consequently, it can be concluded that dietary protein and lipid levels of 50% and 6% were suitable for tiger grouper.

Keyword: Tiger Grouper, *Epinephelus fuscoguttatus*, Protein, Lipid

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