Assessment on the acceptability of hybrid grouper, Epinephelus fuscoguttatus ♀ × Epinephelus lanceolatus ♂ to soybean meal-based diets

Abstract

This study was conducted to evaluate the acceptability of hybrid grouper, Epinephelus fuscoguttatus ♀ × Epinephelus lanceolatus ♂ on diets with different inclusion levels of soybean meal. A total of five dietary treatments with 0, 30, 40, 60, and 80% of fish meal protein replaced by soybean meal (SBM) protein (namely SBM0, SBM30, SBM40, SBM60, and SBM80, respectively) were fed to triplicate groups of fish for 14 days, and the feed intake, weight gain, specific growth rate, and survival were evaluated. The overall feed intake (mean ± SD, n = 3) of fish fed all dietary treatments with SBM inclusion (SBM30, 13.6±0.9 g fish-1; SBM40, 14.3±1.6 g fish-1; SBM60, 13.9±1.6 g fish-1) were not significantly different (p > 0.05) with that of the SBM0 (15.4±1.2 g fish-1), except SBM80 (9.4±2.9 g fish-1). The fish acceptance to SBM30, SBM40, and SBM60 were also as good as the SBM0 diet in the feed intake calculated once every 2 days. The fish fully accepted SBM30, SBM40, and SBM60 diets after 2 weeks as the feed intake at 14-d were significantly higher (p < 0.05) than those at 2-d, similarly to the SBM0. In conclusion, the hybrid grouper can accept diets with maximum SBM inclusion level at 60% without any diets palatability problem. However, the fish fed SBM40 and SBM60 showed significantly lower (p < 0.05) weight gain and specific growth rate than the fish fed SBM0, respectively. These results confirmed the poor utilization of SBM40 and SBM60 by the fish. Therefore, the research focus in future to develop practical diets with high SBM inclusion level for this hybrid grouper should be emphasized to improve the feed utilization instead of the diets palatability.