

A comparison of the growth performance and body composition of the humpback grouper, *Cromileptes altivelis* fed on farm-made feeds, commercial feeds or trash fish

ABSTRACT

Development of pelleted feed for cultured fish is an important aspect in aquaculture industry. Two farm-made feeds were formulated with a blend of alternative ingredients (poultry by-product meal and palm oil) in the place of marine fish meal and fish oil and fed to humpback grouper (*Cromileptes altivelis*) fingerlings (4.1 ± 0.1 g) for 14 weeks. The performance of the poultry by-product-based farm-made feeds was compared with a local commercial marine fish feed, an imported commercial marine fish feed and with trash fish (*Sardinella* spp.). Growth performance of groupers fed the farm-made feeds was better than or comparable to fish fed the commercial feeds or trash fish. Feed Conversion Ratios (FCR) in fish fed pelleted feeds (1.3 to 2.4) were significantly better than the FCR of fish fed trash fish (5.0). The survival rate of fish fed trash fish (50%) was significantly lower compared to other fish groups which had a survival rate of more than 95%. Body proximate and fatty acid composition of the fish at the end of the feeding trial reflects the composition of the diet. The present study showed that not all marine fish feeds are of equal quality but when correctly formulated to meet the requirements of humpback grouper, pelleted feeds consistently give better performance compared to a diet of trash fish. Therefore, switching from trash fish to pelleted feeds is highly recommended for grouper farmers.