

Dietary lipid requirement of lemon fin barb hybrid

ABSTRACT

The present study has been conducted to determine the optimal dietary requirement lipid of lemon fin barb hybrid fingerlings. Five isonitrogenous diets (35% protein) with graded lipid levels of 0%, 4%, 6%, 8% and 12% were fed to 225 lemon fin barb hybrid fingerlings (4.3 ± 0.5 g), which were randomly and equally distributed into twelve 60 l aquaria. The diets were randomly assigned to the aquaria in triplicates, and the feeding experiment was conducted for 10 weeks. Fish were fed at 5% body weight and the feeding ration was adjusted fortnightly. The weight gain, specific growth rate (SGR), protein efficiency ratio (PER) and feed conversion ratio (FCR) of fish fed 4% dietary lipid were significantly superior ($P < 0.05$) than those fed with other diets, except for 6% lipid. Except for whole body moisture content, there were significant differences ($P < 0.05$) between whole body proximate composition and nutrient retentions of fish fed with different test diets. The results showed that palmitic acid was the main saturated fatty acid (SFA), oleic acid was the predominant MUFA while arachidic acid and docosahexanoic were the major PUFAs in the muscle and liver tissue of fish. The n-3/n-6 ratio ranged from 0.66 to 2.65. From the results of this study, a dietary lipid of 4% was recommended for lemon fin barb hybrid.

Keyword: Fatty acids; Growth; Lemon fin barb hybrid; Lipid requirement