Effect of Dietary Protein and Lipid Levels on Growth and Nutrient Utilization of Freshwater Angelfish *Pterophyllum scalare*

Kedar Nath Mohanta*, Sankaran Subramanian, Veeratayya Sidweerayya Korikanthimath

ICAR Research Complex for Goa, Ela, Old Goa, Goa, 403402, India

(Received 13.9.11, Accepted 21.11.11)

Key words: protein, lipid, diet, nutrient utilization, growth, angelfish, *Pterophyllum scalare*

Abstract

Nine semi-purified diets containing three levels of protein (300, 350, 400 g/kg) and three levels of lipid (60, 80, 100 g/kg) were fed *ad libitum* to juvenile freshwater angelfish *Pterophyllum scalare* (1.64±0.01 g) to determine the optimum dietary protein and lipid levels. Fish were stocked in 27 flow-through fiber-reinforced plastic tanks with 100 l water (10 fish/replicate) and fed 60 days. Fish were batch-weighed every 15 days to determine growth. The dietary protein level had a significant effect on protein efficiency rate (PER) but not on weight gain, feed conversion ratio (FCR), or specific growth rate (SGR). In contrast, the dietary lipid level had a significant effect on weight gain, FCR, and SGR but not on PER. The interaction of dietary protein and lipid had a significant effect on weight gain, FCR, SGR, and PER. No protein-sparing effect of the lipid was observed. Fish fed the diet containing 300 g protein and 60 g lipid per kg diet had a significantly better weight gain, SGR, PER, and FCR.

* Corresponding author. Present address: Fish Nutrition and Physiology Division, Central Institute of Freshwater Aquaculture (CIFA), Bhubaneswar, India, 751002, Tel.: +91-674-2465446, 2465421, mobile: +91-889-5211657, fax: +91-674-2465407, e-mail: knmohanta@gmail.com