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RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

Title: Effects of dietary protein levels on growth performance of claroteid catfish, *Chrysichthys nigrodigitatus*, fingerlings

Author(s): N.W. Agbo¹, S. Amisah¹, E. Tettey¹ and E.A. Frimpong²

¹Department of Fisheries and Watershed Management, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

² Department of Fish and Wildlife Conservation, Virginia Polytechnic Institute and State University, Blacksburg, USA

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A 10-week experiment was conducted to determine the optimal protein requirement of *Chrysichthys nigrodigitatus*, claroteid catfish in twelve 60-L indoor flow through rectangular glass tanks provided with aerated underground water. Four isoenergetic diets were formulated to contain varying crude protein (CP) levels of 32.1%, 34.6%, 42.8%, and 47.1% using fish meal/soybean meal as protein sources. Each diet was fed to triplicate group of 12 fingerlings (initial weight 16.30 ± 0.07 g, mean \pm SE) in a completely randomized design. A digestibility trial was conducted with all the diets after the growth trial. Results after ten weeks of feeding showed an increase in body weight gain (BWG%) and specific growth rate with increasing levels of dietary protein up to 42.8% ($P < 0.05$) but a decline at 47.1% CP. Protein efficiency ratio followed similar trend but there were no significant differences between the treatments. Feed conversion ratio (FCR) reduced as dietary protein level increased, with the minimum FCR in the 42.8% protein diet, although this was not significantly different from the 34.6% and 47.1% protein diets. Analysis of dose (protein level)-response (BWG%) with polynomial broken stick regression suggested that the optimal dietary protein requirement for the juvenile of *C. nigrodigitatus* was 42.8%. Key words: Dietary protein requirement, growth performance, feed utilization, *Chrysichthys nigrodigitatus*, weight gain.

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