

Apparent Digestibility Coefficients of Feed Ingredients for Black Carp, *Mylopharyngodon piceus*

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ABSTRACT

*The apparent digestibility coefficients of dry matter, crude protein, crude lipid, ash, and gross energy in five test ingredients – fishmeal, meat and bone meal, soybean meal, cornmeal, and brewers yeast (*Saccharomyces cerevisiae*) – were determined for black carp, *Mylopharyngodon piceus* (78.3±2.5g), at the Aquaculture Laboratory, Vietnam National University of Agriculture, Vietnam. A reference diet and test diets (a 70:30 mixture of the reference diet to test ingredient) were used with 1% chromic oxide (Cr₂O₃) as an external indicator. Experimental fish were stocked in 500-L composite tanks at a density of 10 fish per tank. Faeces were collected by faecal collection column. The results indicated that the apparent digestibility coefficients of all test ingredient nutrients, except ash, differed statistically ($P < 0.05$). The apparent digestibility coefficients were 78.4-90.2% for dry matter, 71.2-92.6% for crude protein, 66.0-87.0% for crude lipid, 52.6-61.9% for ash, and 54.1-80.9% for gross energy. Findings from this study will help formulate cost-effective feed for black carp.*

Keywords: Black carp, *Mylopharyngodon piceus*, Apparent digestibility coefficients, Ingredients

INTRODUCTION

Black carp, *Mylopharyngodon piceus*, is an economically important freshwater-cultured fish for food product markets in China and northern Vietnam, due to its high meat yield, delicate flavor, and high nutritional value (Leng and Wang, 2003; Nico et al., 2005). In China, black carp is the one of the four most famous pond-cultured fish species, with annual farming production of more than 380,000 tonnes (Hu et al., 2014). In Vietnam, black carp has been widely farmed in the northern provinces, including Hai Duong, Ninh Binh, Hung Yen, Vinh Phuc, and Bac Ninh. For black carp, the average net profit was VND 54.2 million ha/year (USD 2,555) in poly-culture systems and VND 68.0 million ha/year (USD 3,205) in monoculture systems in 2008 (Phuong et al., 2009), and up to VND 464.0 million ha/year (USD 21,871) for intensive farming in 2009 (Van et al., 2010).