

DIETARY EFFECTS ON DIGESTIVE ENZYMES FROM TILAPIA (*Oreochromis niloticus*)

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The culture of tilapia (*Oreochromis niloticus*) is widely spread in various regions of the world. Thus, studies concerning the relation between enzymatic activity and biomass growth are of interest for the aquaculture. In this work, it was evaluated the effect of digestive enzymes from *O. niloticus* fingerlings (cultivated under controlled laboratory conditions during 45 days) on three different diets (containing 37% of crude protein). The first diet tested was a commercial one using fish meal as major protein source (C); the second diet was processed in our laboratory using soybean flour as an alternative protein source (SPH-0); whereas, the third diet used soybean flour added of 5% shrimp protein hydrolysates (SPH-5). The unspecific enzymatic activity was determined with hemoglobin (pH 2.0), starch (pH 7.5) and azocasein (pH 7.2) as substrate. It was also used specific proteolytic substrates for trypsin, chymotrypsin and aminopeptidase. Biometric measurements were performed for final weight (FW), specific growth rate (SGR), food conversion rate (FCR) and protein efficient rate (PER). The feeds prepared in our laboratory (SPH-0 and SPH-5) showed better growth parameters and higher enzymatic activities than the commercial one. Positive correlation was found between growth parameters and digestive enzymatic activities, except that for amylase and acid proteolytic activity.

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