Extended Abstract

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Effects of reduced protein level and dietary amino acid supplementation on growth, body composition and intestinal morphometry of silver catfish (*Rhamdia quelen*)

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Abstract

The reduction in the protein level and the supplementation of lysine (Lys) and methionine (Met) in the diet were evaluated in the performance and intestinal morphometry of silver catfish (*Rhamdia quelen*). The study was used in a completely randomized design for 63 days, where 320 fish (26.33 ± 0.40 g) were distributed in 20 tanks (250 L, 16 fish each) and fed until the apparent satiety was reached. Five diets were formulated, a positive control [38% of crude protein (CP) (38CP)], a negative control [34% of CP (34CP)] and three test diets [34% of CP supplemented with Lys (34L), 34% of CP supplemented with Met (34M) and 34% of CP supplemented with Lys plus Met (34LM)]. Final weight and condition factor were greater in fish fed the 34LM diet than in those fed the 34CP diet ($p < .05$). Body lipid deposition was lower in fish fed the 34CP diet than other diets ($p = .0002$). In the fillet, there was a lower deposition of lipids in fish fed with 34L diet than in fish fed with 34M and 34LM diets ($p < .0001$). Fish fed the 34LM diet had a higher AA content in the plasma than those fed 34L and 34CP diets ($p < .0001$). The lower villus height was observed in fish fed the 34L diet compared to the 38CP diet ($p = .021$). It is possible to reduce 4% of the CP level in silver catfish diets with supplementation of Lys and Met.

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