

The effects of dietary inclusion of garlic on growth performance and disease resistance of African catfish (*Clarias gariepinus*) fingerlings against *Aeromonas hydrophila* infection

ABSTRACT

The present study aimed to investigate the effects of dietary inclusion of garlic (*Allium sativum*) peels and cloves on the growth performance and disease resistance of African catfish (*Clarias gariepinus*) fingerlings against *Aeromonas hydrophila* infection. Seven isonitrogenous (36% protein) experimental diets were formulated to contain graded levels of garlic (peels and cloves) at 0, 10, 20 and 30gkg⁻¹. Fish were fed twice a day for 12 weeks. The results demonstrated that no significant differences were observed with respect to growth performance or feed utilization efficiency (i.e., body weight gain (WG) (133 ± 0.3g), specific growth rate (SGR) (2.23 ± 0.04%), and feed conversion ratio (FCR) (1.00 ± 0.2g) of fish fed with different inclusion levels of garlic peels and cloves as compared to control group. The plasma biochemical results showed higher total protein, albumin and globulin content in control group (T1) as compared to the experimental groups, but these results were not significant. After the fish were challenged with *A. hydrophila*, low survival (13 %) was found in control group which was significantly lower as compared to all the treatment groups (> 35 %). Meanwhile, the highest survival (64%) was observed for fish fed with garlic cloves at 20gkg (T3). The results showed that inclusion of garlic cloves at 20 gkg could enhance the resistance of African catfish fingerlings to *A. hydrophila* infection.

Keyword: African catfish; *Aeromonas hydrophila*; Disease resistance; Garlic clove; Garlic peel; Growth performance