
Abstract

A three month feeding trial was conducted to determine the effect of dietary spirulina on growth performance, antioxidant enzymes, digestive enzymes and histological studies of intestine of grass carp, *Ctenopharyngodon idella*. Total 98 fingerlings were stocked in 8 fiber glass aquaria tanks with stocking density of 12 fingerlings. Four experimental diets with 0, 1%, 5% and 10% *spirulina platensis* supplements were formulated. Fingerlings were fed twice daily. For studies of growth performance, weight was calculated after every two weeks. At the completion of feeding trial, all groups were harvested and samples of liver, and intestines were stored for enzyme analysis as well for histological studies. The obtained results showed that group fed with 5% spirulina showed highest result in %WG, SGR, FW, and TCR as compared to other treatment. Catalase, GST and GSH activity showed significant results in treatment in which 1% spirulina was added as supplement while SOD and GST. Highest activity of SOD was observed in treatment four in which 10% spirulina was added as supplement. Digestive enzyme activity like protease and lipase were best studied in treatment 3 while amylase activity was highest observed in treatment 4. Intestinal morphology of grass carp fed diets with different levels of *Spirulina* showed normal intestines layers like serosa, mucosa and submucosa while Villi surface area was increased in fish intestine fed with *Spirulina* supplements as compared to control group.
