

## ABSTRACT

The health status of fish with a high growth performance is a predominant argument in the choice of feed additives in aquaculture. Current study has been designed to evaluate the effect of *Curcuma longa* based diet on growth performance and survival rate of tilapia. Fish diet with four inclusion levels, viz: 0% (control), 10%, 20% and 30% were prepared and proximate analysis was done. A trial comprising of 15 individuals in each treatment was run for 8 weeks. Finally, blood samples were collected for serum analysis, and fish were dissected to collect organs for histological studies. Antioxidant status was evaluated by monitoring endogenous enzymes, such as superoxide dismutase (SOD), catalase (CAT) and Glutathione peroxidase (GPx). Maximum survival rate, specific growth rate, thermal condition factor, net weight gain, and percentage weight were found in the group fed with 10% turmeric supplemented diet. Additionally, at 10% inclusion level, increased level of SOD (...), CAT (...), and GPx (...) were recorded. Histological studies showed impaired status of liver and intestine were observed. Hence, 10% turmeric inclusion level diet was found to be the best amongst all the other treatments in tilapia. Also, the same has been found to alleviate the oxidative stress as compared to the other treatments.