Sadek, M.F. and El Deeb, K.A. (2021). Effect of exogenous enzymes supplementation with different levels of fiber in diets on growth performance, feed utilization and health of African catfish *Clarias gariepinus*. Egyptian J. Nutrition and Feeds. 24: 439 – 450.

Abstract

The effect of various exogenous enzymes on growth performance in African catfish *Clarias gariepinus* (initial mean weight 80 g) were examined in feeding trial for 55 days. A multi enzyme complex (xylanase, amylase and protease) were used with two levels of fiber in the diet (5 and 9%), Eight isonitrogenous and isoenergetic experimental diets were formulated to contain 5, 9 % fiber without multi enzymes (T1 and T2) and 5, 9% fiber with 2, 4, 6 % of the diets fiber multi enzymes. Each of the eight dietary treatments was fed to triplicate groups of *Clarias gariepinus* raised in tanks (1×1.5×1 m) and each tank was stocked with 20 fish. *Clarias gariepinus* fed the diets supplemented with enzymes had significantly higher growth and feed intake compared to control groups ($P < 0.05$). Protein efficiency ratio, feed conversion ratio and protein productive value were significantly higher in all enzyme complex groups ($P < 0.05$). Exogenous enzymes significantly affected the whole fish body components ($P < 0.05$), the highest quantity of fat contents was observed in treatments contained exogenous enzyme and high content of fiber (9%) in contrast to T1. The blood parameters were also affected, as liver enzymes were decreased while total protein and white blood cells were increased in treatments contained exogenous enzymes and low fiber. In conclusion, the results suggested that enzyme supplementation can significantly improve growth performance, feed utilization and health in African catfish *Clarias gariepinus*. The group fed 4% multi enzymes complex with low fibers content (5%) showed the best results.

Keywords: African catfish, exogenous enzymes, dietary fiber, growth performance, feed utilization and blood parameters.