GROWTH PERFORMANCE, FEED UTILIZATION AND SURVIVAL AGAINST STRESS TEST OF JUVENILE NILE TILAPIA *Oreochromis niloticus* FED WITH LACTIC ACID BACTERIA (LAB) *Pediococcus acidilactici*

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ABSTRACT

The present study evaluated the growth performance, feed utilization and survival against stress test of Nile tilapia, *Oreochromis niloticus* fingerlings (mean initial average body weight 0.39g ± 0.01) fed with commercial probiotics. The experimental design was randomized, with four treatments and four replicates: Treatment 1 (control) with 0g kg^{-1} probiotics inclusion, Treatment 2 with 1g kg^{1} probiotics inclusion, Treatment 3 with 2g kg^{-1} probiotics inclusion and Treatment 4 with 4g kg^{-1} probiotics inclusion. Three hundred and twenty fingerlings were distributed in 16 50L containers and fed for 40 days. Differences in the mean values of total weight were found at the end of the experiment. After 40 days of feeding trial, percent weight gain (%WG), specific growth rate (SGR) and and feed conversion ratio (FCR) was significantly high ($P < 0.05$) in treatments with probiotics compared to probiotic-free treatments; no differences on survival rate (SR) was observed among dietary treatments. The best growth performance and feed conversion was observed in fishes fed with 4g kg^{-1} probiotics inclusion. Challenge was done immediately after the period of application. The stress challenge test was done to the experimental animals by exposure to oxygen deficient water or asphyxia. No significant difference ($P < 0.05$) on SR was observed after 3 hours exposure to asphyxia. It could be concluded that probiotics can improve growth performance and feed utilization. However, further studies are recommended to assess the effects of probiotics to fish when exposed to asphyxia.

Keywords: Probiotics; *Oreochromis niloticus*; Asphyxiation