



Can dietary *Lactobacillus plantarum* enhance growth performance in zebrafish (*Danio rerio*)?

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Abstract

Lactic acid bacteria, as growth promoters have positive effects on fish growth efficiency. In order to increase the knowledge of the effects of lactic acid bacteria on fish growth efficiency, this study investigated the effects of different levels of probiotic *Lactobacillus plantarum* on the growth parameters in zebrafish (*Danio rerio*). For this purpose, 720 zebrafish with an average weight of 0.283 ± 0.015 g were fed in four treatments with experimental diets containing 0% (T1), 0.5% (T2), 1.5% (T3) and 3% (T4) probiotics for 60 days. The results of the growth pattern among the treatments showed the highest amount of final weight, final length, and weight gain and condition factor in T4 treatment with a significant difference ($p < 0.05$) compared to the control treatment. In addition, the lowest feed conversion ratio was observed in T4 treatment, which had a significant difference ($p < 0.05$) compared to the control treatment. On the other hand, evaluation of specific growth rate did not show a significant difference ($p > 0.05$) between treatments. The findings of this study indicate a significant effect of the probiotic *L. plantarum* at a level of 3% on the growth parameters in zebrafish.

Keywords: Probiotic, *Lactobacillus plantarum*, growth performance, *Danio rerio*