

عنوان مقاله:

Effect of *Pediococcus Acidilactici* on Intestinal Microbiota and the Oxidative Parameters of Blood and Muscles in
(Common Carp (*Cyprinus Carpio*)

محل انتشار:

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خلاصه مقاله:

Introduction: The present study aimed to assess the effects of *Pediococcus acidilactici* as a dietary supplement on some oxidation parameters and intestinal microbiota in common carp (*Cyprinus carpio*). **Methods:** In this study, 60 carps (weight: 75 ± 5 g) were randomly divided into two groups of 30. In the first group (control), the fish received a basic dietary plan, and the second group (treatment) received a basic dietary plan supplemented with 0.9×10^7 CFU of *Pediococcus acidilactici* per gram of diet for 30 days. At the end of the trial and after blood sampling, the fish were dissected, and muscle and intestinal samples were obtained. Some oxidative status biomarkers were measured in the blood samples (superoxide dismutase, glutathione peroxidase, and glutathione) and muscle samples (malondialdehyde [MDA], protein carbonyls, and total antioxidant status) using validated spectrophotometric methods. Moreover, the microbial culture of the intestinal samples was performed. **Results:** Measurement of the erythrocytic antioxidants showed no significant difference between the treatment and control groups. However, muscle MDA levels significantly decreased in the treatment group compared to the control group ($P < 0.05$). In addition, muscle protein carbonyls significantly decreased in the treatment group compared to control group. Total antioxidant status was evaluated based on ferric-reducing antioxidant power and increased significantly in the treatment group compared to the control group. Microbial culture also indicated that the level of lactic acid bacteria increased in the intestinal microbiota of the probiotic group. **Conclusion:** According to the results, supplementation with 5% *Pediococcus acidilactici* was effective in enhancing the antioxidant system against oxidative stress, while it also had remarkable effects on the intestinal microbiota of common carp.

کلمات کلیدی:

Pediococcus acidilactici, Common carp, Lipid Peroxidation, Protein carbonyls, Intestinal microbiota

