Effect of dietary ImmunoWall on liver oxidative status in juvenile Persian sturgeon

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Abstract
Yeast cell wall (YCW) products are a well-known class of prebiotics for use in aqua feeds. Several studies have been conducted to study the effects of yeast cell wall on growth, feed utilization and immune system in sturgeon. To date, however, very few studies have demonstrated the effect of prebiotics on oxidative status in sturgeon. The current study aims to determine the effects of ImmunoWall® as commercial YCW prebiotic on liver oxidative status by measuring Malondialdehyde (MDA), Superoxide dismutase (SOD) and catalase in juvenile Persian sturgeon. For this purpose, fish were fed diets supplemented with 0% (control), 0.5% (I) and 1% (II) ImmunoWall® for 8 weeks. At the end of feeding trails, the level of MDA and activity of SOD and Catalase were determined in liver of test fish. Based on the obtained results, MDA level and activities of SOD and catalase were significantly increased in group I and II compared with those in the control group ($p<0.05$), suggesting that the dietary dose of YCW can lead to oxidative stress in liver. Histopathological examination and assessment of biochemical indices of liver are needed to further investigate the possible effects of dietary prebiotics on liver.

Keywords: Persian sturgeon, ImmunoWall®, Prebiotic, Liver, oxidative status