Effects of Copper Sulphate ($CuSO_45H_2O$) & Potassium Permanganate ($KMnO_4$) on Bacterial Load of Water, Skin & Gill of Iranian Sturgeon Fingerlings (*Acipenser persicus*)

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Abstract

It is difficult to control the fish diseases, because they are being bred in systems which depend on environmental conditions. A disease can occur when the disease making factors pass the primary barriers. There are 3 main ways for the transmission of putrefaction through skin, Gill and digestive vessels. In the present study, we studied the effects of Copper sulphate and Potassium permanganate on the bacterial fluor of the skin, gill and surrounding water of 360 Iranian sturgeon fingerlings (*Acipenser persicus*) with the average weight of 1.57±0.32 in Rasht international sturgeon research institute. During the experiment the temperature of water was 23.7±0.38°C, soluble oxygen 7.08±0.2 mg/lit and the pH of water was 8.25±0.06. The bacterial load (CFU/g) of gill (CFU/g), skin (CFU/cm^2) and surrounding water(CFU/ml) was lower in 0.07 mg/l copper sulfate treatment and 1 mg/l potassium permanganate treatment ($P<0.05$) than in other treatments. In conclusion, our results showed that the certain doses of the copper sulfate and potassium permanganate have disinfecting effects on the bacterial load of gill, skin and surrounding water, although this is along with some histopathological alternations. Also, it seems that the copper sulfate has higher disinfecting power than potassium permanganate.

Keywords: *Iranian sturgeon, Acipenser peraicus, Copper sulphate, Potassium permanganate, Bacterial load.*