



Effects of feeding four types of lactic acid bacteria isolated from the Persian sturgeon (*Acipenser persicus*) on the hematological and biochemical indices of this fish

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Abstract:

Probiotic dietary supplements are able to improve health and nutrition of fish, but respective bacteria have mainly been isolated from terrestrial, warm-blooded hosts, limiting an efficient application in fish. Native probiotics adapted to the gastrointestinal tract of the respective fish species will establish within the original host more efficiently. In this research, the effect of four lactic acid bacteria (native probiotics) includes a combination of *Pediococcus pentosaceus*, *Lactococcus lactis*, *Enterococcus faecalis* and *Weissella cibaria* on hematological and biochemical indices of Persian sturgeon (*Acipenser persicus*) in juvenile stage were examined. 300 Persian sturgeon with mean weight of 92.5 ± 0.5 (gr) with diet 4 treatments (3 replicates for each treatment) were nurtured in 500-l fiberglass tanks (25 fish per tank) for 8 weeks. Treatments included: 0 (control), 1.5×10^7 (treatment 1), 3×10^7 (treatment 2) and 4.5×10^7 (treatment 3) CFU kg^{-1} specific probiotics per kg of feed consumed by these fish. At The end of the experiment, the results indicated with use to probiotic did not affect hematological factors such as Hb, , MCV, MCH, MCHC and changes in neutrophils, eosonophils, monocytes and lymphocytes ($P > 0.05$) however, significant changes observed in RBC, WBC and Hct ($p < 0.05$). Blood biochemical factors such as ALT, AST and ALP, which are important liver enzymes, did not show a significant changes ($P > 0.05$), but glucose and total protein in the treatments compared to the control group showed statistically significant difference ($P < 0.05$).

Keywords: Persian sturgeon, native probiotics, hematological indices, biochemical indicators