عنوان مقاله:

Research Article: Effects of adding two native bacterial strains (Lactococcus lactis and Weissella confusa) on growth (performance, immune indices, and intestinal flora of juvenile great sturgeon (Huso huso

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خلاصه مقاله:

This study was carried out to determine effects of diets supplemented with two bacterial strains (Lactococcus lactis and Weissella confusa) on the growth performance, immune indices and intestinal microflora of great sturgeon juveniles. At the beginning of the feeding trial, the mean weight (±SD) of the fish was ۷۹.۴۴±۳.۱۸ g. At random, ۱۵ fish were stocked per each fiberglass tank (۱m×۱m×۰.۵m) containing ۳۰۰ L freshwater. The diets were prepared through spraying ۵۰ ml bacterial suspensions containing ۱۵۰, ۳۰۰, and ۴۵۰ mg of the bacterial strains per kg of pelleted diets to make certain concentrations ۱.۵×۱۰۹ cfu/g (T۱), ۳×۱۰۹ cfu/g (T۲), ۴.۵×۱۰۹ cfu/g (T۳). The blood neutrophils in the T۱ and T۲ significantly increased as compared to the control group and T۳. Lymphocytes in the control and T۳ were significantly more than T۱ and T۲. However, eosinophils showed no change between the fish fed with the supplemented diets and control group. Monocytes in T۳ considerably decreased when compared to T۱, T۲, and control. IgM and C۳ in the experimental treatments were significantly higher than the control. Lysozyme, C۴, and ACH۵۰ in T۱ an T۲ were significantly higher than T۳ and control. Colony count of lactic acid bacteria in the intestine of fish in T۱ and T۲ was significantly higher than the control and T۳ groups. Colony count of the aerobic and facultative anaerobic bacteria in the intestine of fish in the medium of TSA in control was significantly more than T۱ and T۲. Since the TSA medium is a kind of non-selective environment and provides sufficient nutrients for a wide range of microorganisms, the medium indicated that intestinal microflora condition was worse in the control fish. The growth performance indices (weight gain, biomass increase, specific growth rate, daily weight gain, and condition factor) demonstrated no significant difference between treatments and control. There was no significant difference in term of FCR between control, T۱, and T۳. Overall, it can be stated that the two bacterial strains could induce favorable influence on intestinal microflora, immune indices, biochemical parameters, and growth performance at two levels of

۱۵۰ mg (T۱) and ۳۰۰ mg (T۲) especially in the T۲.

کلمات کلیدی:
Huso huso, Probiotic, Growth performance, Intestinal microflora, Immune indices