Growth and Hemato-Immunological Response to Dietary i-Carrageenan in *Labeo rohita* (Hamilton, 1822) Juveniles

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Abstract

The study was performed over a period of 60 days to evaluate the effect of dietary carrageenan on growth, hematology, biochemistry, and innate immunity in rohu *Labeo rohita*. A basal diet supplemented with iota (i)-Carrageenan at 5, 10 and 20g/kg was fed to three different groups of fish for 60 days. The fish were examined 15, 30, 45, and 60 days after commencement of the study. Parameters for growth (absolute growth, specific growth rate, and percentage weight gain), hematology (total erythrocyte count, total leucocyte count, thrombocyte count and hemoglobin value), biochemistry (total serum protein, albumin, globulin and albumin-globulin ratio), and innate immunity (nitroblue tetrazolium NBT, and myeloperoxidase MPO, activity) were monitored to assess the effect of the i-Carrageenan based diet in *L. rohita*. All the parameters examined (growth, hematology, biochemistry, and innate immunity) increased significantly (\(P<0.05\)) in carrageenan-fed groups compared to the control group. However, the highest values for those parameters were found on the 60th day in the group which was fed a 10 g/kg i-Carrageenan diet. The study suggests that a 10 g/kg diet of i-carrageenan enhances immunity and the overall health status in *L. rohita*.

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