

ASSESSMENT OF EFFECTS OF ADMINISTRATION OF LEVAMISOLE THROUGH FEED ON THE IMMUNE SYSTEM OF AN INDIAN CARP, *Labeo rohita*, A CULTURABLE FOOD FISH IN SRI LANKA

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Recent studies have shown that Levamisole is a potential immunostimulant in some species of cultured fish. In the present study, effects of oral administration of Levamisole on the immune system of *Labeo rohita*, were studied with a view to assess the potential of using this compound as an immunostimulant in culturing this fish. Sub-adults of *Labeo rohita* were fed with Levamisole incorporated (5mg/ kg body weight) dry diet, every 3rd day for 16 days and effects on immune system were tested 14 days and 21 days after the treatment. The fish fed with normal feed served as controls. The parameters tested were haematocrit level, white blood cell count, differential white blood cell count, phagocytic activity of neutrophils (NBT activity), total phagocytic activity, phagocytic index, lysozyme activity, total protein level and total immunoglobulin level in the blood.

Oral application of Levamisole enhanced total white blood cell count, and the abundance of neutrophils and lymphocytes in the blood significantly. Percentage and abundance of monocytes in the blood of Levamisole treated fish increased significantly 21 days after the treatment. In the treated fish total phagocytic activity and phagocytic index increased significantly 21 days after the Levamisole treatment. Although lysozyme activity, NBT activity and immunoglobulin levels increased in Levamisole treated fish in comparison to the respective controls, the differences were not significant. The results revealed that activities of the immune system of *Labeo rohita*, especially the non-specific components, could be enhanced by feeding the fish with Levamisole incorporated diet (5mg/ kg body weight).