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## **Effect of *Spirulina platensis* powder on digestive and liver enzymes and biochemical parameters in *Mugil cephalus* Linnaeus, 1758**

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### **Abstract**

This experiment was conducted to evaluate the effect of *Spirulina platensis* powder on the liver and digestive enzymes and biochemical parameters of *Mugil cephalus* for 60 days. The experiment was conducted in a completely randomized design with 450 of grey mullet larvae (with average weight of  $0.72 \pm 0.02$  g) in 5 treatments and 3 replicates ( $n=30$  in each replicate) and included: control group without using algae extract, and another groups (treatment 2, 3, 4 and 5) the amounts of this extract were 5, 10, 15 and 30 g/kg food. The results showed that at the end of experiment, although the highest the activity of protease and lipase enzymes, the lowest the activity of alanin aminotransferase (ALT) and alkaline phosphates (ALP) were observed in treatment containing 15 g/kg spirulina algae powder, in all of these parameters, treatment 5 (20 g/kg) (4) showed a significant difference compared with control treatment ( $P < 0.05$ ), in ALT, amylase and lipase, there were no significant difference among treatment 4 and 5 ( $P > 0.05$ ). The lowest cholesterol, glucose and triglyceride, the highest globulin, albumin and total protein were recorded in treatment 4. Finally, the present results showed that providing diet containing 15 g/kg spirulina algae had positive effects on the activity of liver and digestive enzymes and blood biochemical parameters of grey mullet.

**Keywords:** Aminotransferase, Biochemical parameters, Digestive enzyme, *Mugil cephalus*, *Spirulina platensis*