

## Effect of Dietary Spirulina Powder on Growth Performance, Body Composition, Hematological, Biological and Immunological Parameters of Oscar Fish, *Astronotus ocellatus*

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**Abstract :** In this study, the changes in survival, growth, body composition, hematological, biochemical and immunological parameters of oscar fish (*Astronotus ocellatus*) have been investigated with dietary spirulina powder supplementation. Total of 300 fish with an initial weight of  $8.37 \pm 0.36$  was distributed to three treatments and one control (0%). The fish were fed 8 weeks with diets containing different concentrations of S. powder: (control (0%), 2.5%, 5%, and 10%). Then sampling was done, and different parameters were measured by standard methods. Growth performance such as weight gain (%), specific growth rate (SGR) and feed conversion ratio (FCR) significantly improved in fish fed with S. powder ( $p < 0.5$ ). Crude protein significantly increased in the S. powder supplemented groups ( $p < 0.5$ ). However, crude lipid decreased with the increasing of dietary S. powder levels. Total protein increased in fish fed with 10% S. powder. Triglycerides and cholesterol decreased with the increasing of dietary S. powder levels. Immunological parameters including C3 and C4 increased significantly with the increasing of dietary S. powder levels, and lysozyme was improved in 10% S. powder. Results of this study indicated that S. powder had positive effects on Oscar fish and the best values were observed at 10 % S. powder.

**Keywords :** spirulina powder, growth performance, body composition, hematology, immunity, *Astronotus ocellatus*

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