



Influences of Different Water Temperatures on Growth Performance, Biochemical Body Composition, and Hematological Indices of Asian Sea Bass

ARTICLE INFO

Article Type

Original Research

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How to cite this article

Sotoudeh E, Naserifard I, Oujifard A, Morshedi V. Influences of Different Water Temperatures on Growth Performance, Biochemical Body Composition, and Hematological Indices of Asian Sea Bass. *Journal of Fisheries Science and Technology*. 2018;7(2):117-123.

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Article History

Received: October 15, 2017

Accepted: January 23, 2018

ePublished: June 21, 2018

ABSTRACT

Aims In recent years, marine fish farming has been one of the most important aquaculture activities in tropical regions, and their cultivation has grown considerably in most parts of the world. Thus, this study aimed at investigating the effects of different water temperatures on growth performance, biochemical body composition, and hematological indices of Asian sea bass (*Lates calcarifer*).

Materials & Methods In the present experimental study, 3 temperature treatments, including 20, 27, and 33°C with 3 replications for 6 weeks were run on 8 sea bass fish, which were randomly transported to 500 liter tanks and fish feeding was done, using commercial concentrate food. At the end of the experiment, the growth performance, hematological indices, and biochemical body composition of the fish were measured. The data were analyzed by SPSS 18 software, using one-way ANOVA and Duncan tests.

Findings The final weight of the fish reared in 27°C was significantly higher than the other 2 treatments. Specific growth rate, weight gain, feed intake, and protein efficiency ratio of 27 and 33°C were significantly higher than 20°C group. Hematological parameters did not show significant differences. Among the hematological biochemical compositions, glucose and cholesterol were significantly affected by temperature. The activity of liver enzymes in the reared fish plasma and the biochemical body composition of the fish (fat, protein, ash, and moisture) were not significantly different.

Conclusion A total of 1000mg/kg-1 levamisole of rainbow trout diet causes the least amount of damage to the gill, kidneys, and liver tissues, as well as the increase of total immunoglobulin and lysozyme activity of serum.

Keywords Barramundi; Temperature; Growth; Body Composition; Blood Metabolites

CITATION LINKS

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