Gorgan University of Agricultural Sciences and Natural Resources

J. of Utilization and Cultivation of Aquatics, Vol. 7(2), 2018
http://japu.gau.ac.ir
DOI: 10.22069/japu.2018.13749.1398

The effect of stocking density on growth performance, survival and hematological parameters in giraffe cichlid (*Nimbochromis venustus*)

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Received: 08/01/2017; Accepted: 09/02/2017

Abstract

In this study, the effect of stocking density (20, 25, 35 and 50 piece of fish /m^3) was studied on growth performance, survival rate and blood parameters in giraffe cichlid (0.5± 0.01 g). Based on the results, the percentage of weight gain decreased by increasing the density from 793.98 ± 8.86 at 20 piece of fish to 89.97 ± 7.35 at 50 piece of fish. In addition, the specific growth rate and condition factor decreased significantly from 2.38 ± 0.03 percent and 1.61 ± 0.01 percent in day at 20 piece of fish to 1.25 ± 0.01 percent and 1.41 ± 0.07 percent in day at 50 piece of fish (P<0.05). Food conversion ratio increased significantly by increasing the density from 1.03 at 20 piece of fish to 4.26 at 50 piece of fish. During the study, there was no mortality among treatments. Analysis of blood parameters indicated the existence of significant differences among treatments and the number of red and white blood cells increased significantly as well as hematocrit and hemoglobin amounts by increasing the density (P<0.05). The maximum numbers of red blood cells (1816700 ± 30550) and white blood cells (21100 ± 212), with the significant differences with other treatments, were accounted at 50 piece of fish. Further, the maximum amounts of hemoglobin and hematocrit were measured in the same treatment. The results showed that, although an increase in stocking density in these levels caused no mortality in giraffe cichlid, had significant effect on growing and fish health regarding stress.

Keywords: Density, Hematological parameters, Giraffe cichlid

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