

Alterations in leukocytes parameters of pacu *Piaractus mesopotamicus* fed diets with graded levels of sunflower oil

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Intensification of fish culture systems can raise stress levels of fish and lead to depression of the organic defense mechanisms and increase susceptibility of fish to pathogenic agents. The nutritional status of farmed fish drives the cellular responses to environmental disturbances. Hematological analysis is an important tool to diagnose the inset of diseases, and leukocytes play important roles in the non-specific immunity. Values of leukocytes count are good indicators of fish health status. This work aimed at evaluating the influence of the substitution of dietary soybean oil by sunflower oil on the hematological performance of pacu *Piaractus mesopotamicus*. Juvenile pacu (14.4 ± 0.4 g) were stocked in 70-L aquaria (15 fish per aquarium) under partial, continuous, individual water renewal system, continuous aeration (dissolved oxygen 5.02 ± 0.87 mg L⁻¹), controlled temperature (26.3 ± 1.4 °C) and photoperiod (12 L: 12 D), and fed for 85 days with diets containing increasing levels sunflower oil (20, 40, 60, 80, 100%) in substitution of soybean oil, a control diet (no sunflower oil) and a commercial feed, in a totally randomized design trial (n=4). Blood samples were drawn at midterm and final experimental period and differences in white blood cells count – total leukocytes, lymphocytes, monocytes, neutrophils and eosinophyls – were determined. Data were submitted to ANOVA and Dunnet’s test to determine contrasts between treatments and control means. Increased levels of sunflower oil elicited increased proliferation of leukocytes, specially the lymphocytes (P<0.05).

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