

TITLE: PERFORMANCE OF MATRINXÃ FISH (*Brycon cephalus*) EXPOSED TO AFLATOXINS

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ABSTRACT:

Matrinxã (*Brycon cephalus*, *B. amazonicus* and *B. orthotaenia*) is a teleost fish found in the Brazilian Amazon and widely cultivated in Brazil. The species can reach 80 cm length, 5 kg weight, and the fillet carcass yield is approximately 40%. The production of matrinxã in Brazil in 2015 was 9,366,203 kg. The aim of this study was to verify the effects of aflatoxins on performance of matrinxã fish. Aflatoxins were produced from *Aspergillus parasiticus* NRRL 2999 in culture material, incorporated to extruded commercial feed and the levels were confirmed by high performance liquid chromatography. Treatments were constituted by: A. Control – feed without toxin; B. Feed + 10 µg AFB₁/kg; C. Feed + 20 µg AFB₁/kg e D. Feed + 50 µg AFB₁/kg. Fish were allocated in tanks with 150 fish and were daily fed at 5% of animal biomass for 180 days. The evaluations were performed monthly using 10 fish per treatment, with three repetitions. It were measured length, weight, feed consumption and survival rate. Weight was evaluated using a precision scale and total length was achieved with an ictiometer. Feed consumption was analyzed taking into account the amount of feed offered and the dried leftover. Survival rate was calculated by counting the fish in each tank. For total length, there was effect of treatment (P<0.0001) and time of exposition (P<0.0001), but no interaction (P=0.2393) between variable was found. Fish presented a similar size in the beginning, growing through the 180 days, but from day 60 of exposure fish from control treatment were significantly larger than the others and at 180 days fish from control measured 26.2 cm while fish from treatment C measured 23.7 cm. Considering the weight, there was effect (P<0.0001) of treatment and time of exposure, besides interaction between both (P=0.0111). From day 90, fish from control treatment were weightier than the others, reaching 282.0 g at 180 days, against 223.5 g in treatment C. Feed consumption was similar among treatments (P>0.05). Survival rate were 98.9% in control, 99.1% in treatment A, 99.8% in treatment B and 98.0% in treatment C. It can be concluded that aflatoxins can be deleterious to the performance of matrinxã fish daily exposed to levels allowed in regulations.

Keywords: AFB₁, mycotoxins, aquaculture, biometry.

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