

DIET NaCl EFFECT ON BODY CHEMICAL COMPOSITION AND PROTEIN EFFICIENCY OF NILO TILAPIA

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The inclusion of NaCl in diets for Nile tilapia fingerlings was evaluated in a 48-day experiment using 750 fingerlings (4.61 ± 0.09 g) distributed in a completely randomized design with six treatments and five repetitions (recirculation system with 30 1,000L tanks and 27,000L biofilter). Increasing levels of NaCl (0.00, 0.25, 0.50, 0.75, 1.00 and 1.25%) were used in extruded diets based soybean meal and corn; fish were fed (08:00, 13:00 and 17:00) to apparent satiation. At the end of the experiment, the animals were weighed, slaughtered and eviscerated to evaluate body chemical composition and fillet. Analysis of dry matter (DM), crude protein (CP), ethereal extract (EE) and mineral matter (MM) were made. All data were submitted to Levene test, analysis of variance and Tukey's test. The fish chemical composition showed a significant difference ($p < 0.05$) for EE and DM contents. The lowest value observed for the EE was with the treatment of 0.25% NaCl and the highest was with 0.50%, the other treatments presented intermediate values and were similar to each other. The highest DM content was present in the treatment of 0.75% NaCl and the lowest in 1.25% NaCl, but it was similar to the other treatments. Regarding the fillet, there was a significant difference ($p < 0.05$) for EE and CP. Where the highest EE value of fillet was observed in the treatment that did not receive NaCl in the diet, statistically similar to the treatment with 1.25% NaCl, and the lowest CP content was observed in the treatment with 0.25%. Significant differences ($p < 0.05$) were observed for protein efficiency (PER) and apparent protein retention (APRR) between treatments, in both results a better PER and APRR was observed in the treatment without inclusion of NaCl in relation to the other treatments. PER decreased linearly ($p < 0.05$) with the increase in NaCl inclusion ($y = 3.7804 - 0.0116x$; $r^2 = 0.65$). The APRR of the fillet presented significant differences ($P < 0.05$) between the treatments, where the best result was observed in the treatment without NaCl that was similar to the treatments of 0.25, 0.50, 0.75 and other treatments. The use of NaCl for soybean meal and corn meal for Nile tilapia fingerlings is not recommended.

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