ZOOTECHNICAL ANALYSIS, BIOCHEMICAL AND PROTEOMIC IN *Oreochromis niloticus*, L. UNDER DIFFERENT CULTURES SYSTEMS.


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The Nile tilapia, *Oreochromis niloticus*, is one of the main species in brazilian aquaculture for its biological characteristics and commercial meat acceptance. The culture of those animals is usually carried out in two different ways, semi-intensive and intensive culture. As we know that the farming conditions greatly affects the productions of aquaculture animals, the present study aims the analysis the zootechnic growth of the animals submitted to the two culture types, evaluation of enzymatic activities gut proteases and to obtain and to compare the proteomic profiles of the stomach and gut of those fish, in order to elucidate any adaptations of those animals to the semi-intensive and intensive systems. The culture were realized for 120 days with two types of nutritional plans. Biometrics were made during the whole period and used for calculations of zootechnic parameters. After this period, the guts and stomach were collected and a crude protein extracted was prepared for each sample for evaluation of protein content and enzymatic assays: alkaline proteolytic activity with azocasein as substrate and trypsin using BApNA as substrate. For the proteomic profiles, 2D-PAGE were prepared using strips of 13 cm and pH ranging from 3 to 10. From the analysis of the zootecnic parameters, we found that the final medium weight, food conversion and survival were statistically different. As for the enzymatic assay, it did not differ along the time. In the proteomics profiles of the guts, 731 different spots can be detected, in the analysis of the stomach the presence of 543 different spots was observed when comparing the treatments. According to these data, it can be suggested that the culture systems influenced the animals directly. The present results contribute to elucidate the influence from factors of the systems on the growth and digestive physiology of Nile tilapia.

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Key words: Nile tilapia, proteases, semi-intensive and intensive culture.