

## Effect of Amino Acid Taurine on Grass Carp *Ctenopharyngodon idella* Fingerlings during Salinity Stress

Aliaa S. Salman & Fatima A. H. M. Sultan

Department of Fisheries and Marine Resources, College of Agriculture, University of Basrah, Basrah, Iraq

\*Corresponding author: [alyaasami96@gmail.com](mailto:alyaasami96@gmail.com)

**Abstract:** The present study was carried out to evaluate the effect of different levels of dietary taurine (0%, 1%, 2% and 3%) on grass carp *Ctenopharyngodon idella* fingerlings during salinity stress. Fishes (1.73-8.57 g) were fed a diet up to satiation twice daily for ten weeks in four treatments: T1, T2, T3 and T4. At the end of the feeding trial, fishes were stressed by exposure to 10 PSU salinity for 14 days during which fish survival rates, total protein, glucose, oxygen and energy consumption were observed. The results showed that there were no significant differences ( $P>0.05$ ) in the survival rates between treatments, which ranged from 73.3% to 93.3%. Total protein and glucose were significantly ( $P\leq 0.05$ ) improved by a dietary taurine diet after 14 days of salinity stress in T2 and T3. Taurine supplementation significantly ( $P\leq 0.05$ ) influenced oxygen consumption with the highest value observed for T1 (255.8 mg O<sub>2</sub>/kg/hr) and T2 (213.6 mg O<sub>2</sub>/kg/hr), while the lowest value was in T3 (131.5 mg O<sub>2</sub>/kg/hr) and T4 (112.4 mg O<sub>2</sub>/kg/hr) after 14 days of salinity stress. Energy consumption rates were significant ( $P\leq 0.05$ ) different between the treatments on the 14th day, T1 (0.85 kcal/kg/hr) significantly exceeded the other treatments, followed by T2 (0.72 kcal/kg/hr), T3 (0.44 kcal/kg/hr) and T4 (0.38 kcal/kg/hr). It appeared that taurine could be used as a feed supplement to confirm better energy consumption and blood biochemical parameters during salinity exposure of grass carp fingerlings with the optimal level of a 2% and 3% diet.

**Keywords:** Fingerlings, Grass carp, Glucose, Oxygen consumed, Total protein, Salinity stress