

## GROWTH OF COBIA (*Rachycentron canadum*) JUVENILES FED DIETS CONTAINING INCREASING LEVELS OF SHRIMP PROTEIN HYDROLYSATE

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Cobia aquaculture has grown substantially over the last years. Along with nutritional requirement studies, the search for alternative protein sources in order to decrease the dependence of fish meal is a vital aspect to guarantee the sustainability of this emerging activity. Due to the recent interest in cobia culture in Brazil and elsewhere, the effects of increasing dietary levels of a shrimp protein hydrolysate (HP) on the survival (S), weight gain (WG), specific growth rate (SGR), feed conversion ratio (FCR) and feed intake (FI) of laboratory-reared cobia juveniles were evaluated.

Four isoproteic (43% CP) and isoenergetic diets were formulated so that 0%, 12%, 24% or 36% of the dietary protein content was derived from HP. A commercial diet was used as an external control. A 30 day growth trial was carried out in a flow-through system (250 L/h), consisting of 15 (500 L) circular fiberglass tanks equipped with supplemental aeration. Ten juveniles (initial weight of  $11.93 \text{ g} \pm 1.03$ ) were stocked per tank. Fish were hand fed to apparent satiation twice daily.

Water quality variables (temperature, salinity, pH, dissolved oxygen, ammonia and nitrite) remained within recommended levels for cobia development. S, WG, SGR, FCR and FI ranged between 80.0 and 96.7%, 6.3 g and 56.5 g, 1.30 and 6.06% day<sup>-1</sup> and 0.90 and 1.17, and 145.99 and 592.25 g, respectively. WG, SGR and FCR were subjected to regression analysis, which showed a quadratic effect and the R<sup>2</sup> were 68.20%, 51.14% and 74.63%, respectively. Results of the regression analysis indicate that increasing dietary levels of HP had no effect on the performance of cobia juveniles. However, fish fed the 12% HP diet presented a significantly higher WG compared to 24% and 36%, while those fed the 0% diet were not significantly different.

Results indicate that up to 12% of the dietary protein content of cobia diets may be derived from HP with no significant effects on performance. Further studies addressing inclusion levels of HP between 0% and 15% are warranted to determine more precisely the optimal level of inclusion of this ingredient in cobia diets.