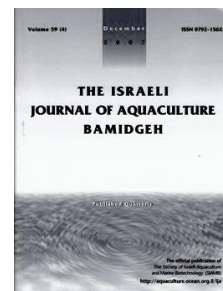




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## Effects of Dietary Pregelatinized Corn Starch on Growth, Apparent Digestibility, and Digestive Enzyme Activity of Large Yellow Croaker Fingerlings (*Pseudosciaena crocea*)

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### Abstract

An 8-week feeding trial in floating seawater cages (1.0 × 1.0 × 1.5 m) was conducted to investigate the effects of dietary carbohydrate level on growth, digestion, and feed utilization of large yellow croaker fingerlings (6.0±0.10 g). Six isonitrogenous (crude protein 41%) and iso-lipid (11%) diets were prepared with pregelatinized corn starch as the carbohydrate source to obtain starch contents of 1.9% (control), 7.3%, 13.6%, 19.4%, 24.8%, or 31.86%. Weight gain, specific growth rate, feed efficiency, and protein efficiency ratio were significantly enhanced ( $p<0.05$ ) by the dietary starch supplementation, and peaked in fish fed the diet containing 19.4% starch. There were no significant differences in survival ( $p>0.05$ ). Dietary starch enhanced the whole body crude lipid but there were no significant differences in crude protein, moisture, or ash. Concentration of liver glycogen, muscle glycogen, and serum glucose positively correlated with the dietary starch level. Dietary starch tended to enhance protease and amylase activity of the liver, intestine, and stomach, while amylase activity of the intestine was significantly improved ( $p<0.05$ ). Apparent digestibility coefficients decreased as the dietary starch increased. Results suggest that the optimum dietary starch level for growth in large yellow croaker is 19.4%.

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