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Studies on the nutrition of spotted sand bass, *Paralabrax maculatofasciatus*. Effect of the dietary protein level on growth and protein utilization in juveniles fed semipurified diets

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Two feeding trials were conducted to determine the digestibility of a casein-based semi­purified diet and the effects of different protein levels on growth and protein use of spotted sand bass *Paralabrax maculatofasciatus* juveniles. For trial 1, a semipurified diet with vitamin­free casein as the sole source of protein was fed three times a day to apparent satiation, for a period of 20 d. Feces were collected by siphoning each tank. The digestibility of the experimental diet was high: 97% for protein, 89% for lipids, and 84% for gross energy, whereas that of organic matter was 78%. For trial 11, seven diets were formulated using vitamin-free casein at graded levels (25, 30, 35, 40, 45, 50, and 55% protein). Triplicate tanks for each dietary treatment were stocked with fish and fed by hand three times a day to apparent satiation for 6 wk. Performance of fish fed the different diets was evaluated for survival, percent weight gain, specific growth rate, feed conversion ratio, and protein efficiency ratio. Survival was 100% for all treatments. Growth of spotted sand bass juveniles increased as the dietary protein increased, but no evidence of reaching a plateau was found. The daily feed intake values showed an inverse relation to the protein content of the diets. The feed conversion ratio did not differ among diets containing 40% protein or greater. The results indicate that spotted sand bass juveniles with 2.5-g mean weight need at least 55 % dietary protein for best growth when casein is the sole protein source. However, in terms of feed conversion ratio, the requirement apparently could be lower.

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