

**Recent advances in nutritional researches in olive flounder,  
*Paralichthys olivaceus***

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Recently, we conducted a series of experiments to determine the nutritional requirements of olive flounder, *Paralichthys olivaceus*. The optimum dietary protein level for maximum growth could be 60% crude protein for olive flounder larvae upto 80 days of hatching. The optimum dietary protein level for maximum growth could be greater than 46.4%, but less than 51.2% CP for the initial body weight of  $4.1 \pm 0.02$  g and equal to or greater than 40% CP, but less than 44% CP for the initial body weight  $13.3 \pm 0.06$  g in the fish meal and casein based diets containing 17.0 kJ/g in olive flounder. After 8 weeks of the feeding experiment we concluded that the optimum dietary protein to energy ratio was 27.5 mg protein  $\text{kJ}^{-1}$  with the diet containing 45% crude protein and  $16.7 \text{ kJg}^{-1}$  energy in juvenile olive flounder. The optimum dietary phosphorus level could be between 0.45 and 0.51% TP for maximum weight gain in juvenile olive flounder. In order to evaluate the Vitamin C requirement in olive flounder, six experimental diets containing 0, 25, 50, 75, 150 and 1500 mg ascorbic acid  $\text{kg}^{-1}$  in the form of L-ascorbyl-2-polyphosphate were fed to fish for 12 weeks. Based on the broken line analysis of weight and protein efficiency ratio, the dietary vitamin C requirement equal to or greater than 93 mg/kg diet, but less than 150 mg/kg diet in the defatted fish meal and casein based diets to support reasonable growth in juvenile olive flounder. Vitamin E requirement in olive flounder was determined by feeding the fish on diets containing graded levels (0, 15, 30, 60 and 600) of dl- $\alpha$ -tocopheryl acetate/kg, and the results show that the optimum dietary vitamin E is between 18-24 mg/kg diet for olive flounder.

More researches are still required to develop the economical nutritionally complete formulated feeds in olive flounder.

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