

Nutritive Advantage of Mealworm (*Tenebrio molitor*) in the Diet of White Shrimp (*Litopenaeus vannamei*)

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Abstract : Mealworm (*Tenebrio molitor*) was evaluated to investigate the effect of partial or total replacement of fish meal in diets for white shrimp, *Litopenaeus vannamei*. Experimental groups of shrimp with average initial body weight (2.43 ± 0.54 g) were fed each with 4 isonitrogenous (38% crude protein) diets formulated to include 0, 25, 50 and 100% (diets 1 to 4, respectively) of fish meal substituted with mealworm. After eight weeks of feeding trials, shrimp fed with diet 3 and 4 revealed the highest values for live weight gain (8.01 ± 2.51 and 7.93 ± 1.12), specific growth rates (2.70 ± 1.12 and 2.59 ± 0.51) as well as better feed conversion ratio (2.69 ± 0.09 and 2.72 ± 0.19) compared to the control group with statistically significant manner ($p < 0.05$). Survival range was 98% in all the treatments. An increase in weight gain and other growth associated parameters was observed with higher replacement. These results clearly indicate that 50% and 100% of fish meal protein in shrimp diet can be replaced by mealworm not only without any adverse effect but also the effect of promoting growth performance.

Keywords : mealworm, *Litopenaeus vannamei*, *Tenebrio molitor*, white shrimp

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