

عنوان مقاله:

Growth response and tail-muscle fatty acid quality of Pacific white shrimp, *Litopenaeus vannamei* (Boone) fed with diets containing different levels of rice protein concentrate

محل انتشار:

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خلاصه مقاله:

The effect of five isonitrogenous diets (۳۶.۶% protein), formulated by replacing ۰, ۲۵, ۵۰, ۷۵, and ۱۰۰% of fish meal (FM) with rice protein concentrate (RPC), was investigated on the growth and tail-muscle fatty acid (FA) quality of juvenile Pacific white shrimp, *Litopenaeus vannamei*. The feeds were fed to shrimp (initial weight of 6.99 ± 0.08 g) five times daily to apparent satiation for ۶۰ days. Final weight of shrimp fed with FM, ۲۵ and ۵۰% RPC was higher than that of shrimp fed with ۷۵ and ۱۰۰% RPC. Survival in shrimp was not significantly affected by dietary protein source and level ($p > 0.05$). Regarding FAs, $\sum n6$ and PUFA increased significantly as the RPC levels increased, but the $n-3/n-6$ ratio, EPA+DHA, MUFA, SFA and $\sum n3$ were significantly declined ($p < 0.05$). However, tail-muscle FA composition reflected the inclusion of plant protein. Lipid quality indices (AI and TI) showed significant variation, but were very favourable for the consumers' health. The present study suggests that RPC can replace FM up to ۵۰% in diets for *L. vannamei* with no significant effect on the growth, but a decreasing trend in quality of tail-muscle FAs was observed when the RPC level increased.

کلمات کلیدی:

Fish meal, Fatty acids, Growth, Rice protein concentrate, Tail-muscle

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