

Utilization of Skipjack tuna offal (*Katsuwonus pelamis*) on growth of juvenile koi carp (*Cyprinus carpio*)

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The effects of skipjack tuna (SJT) offal (*Katsuwonus pelamis*) on growth performance of juvenile koi carp (*Cyprinus carpio*) were studied for 42 days. Two isonitrogenous (416.6 kg g⁻¹) and isocaloric (2.02 kcal g⁻¹) diets were prepared by using SJT offal and marketed fish meal with lipid levels (dry matter) of $6.93 \pm 0.03\%$ (mean \pm SD). A total of 900 juvenile fish (*Cyprinus carpio*) averaging 0.58 ± 0.03 g (mean \pm SD) were randomly distributed in nine square cement tanks, and each tank was randomly assigned to one of three replicates of three diets containing 36% fish meal (FM) (T1), and 8% FM and 32% SJT offal powder (T2) with commercial diet (T3). After 42 days, weight gain (WG), feed efficiency (FE) and protein efficiency ratio (PER) of fish fed T2 were significantly higher than those of fish fed T3 ($P < 0.05$). Even though no significant difference was seen in WG, FE and PER of fish fed T1 and T2, and; T1 and T3. However there were no significant differences in final weight (FW), specific growth rate (SGR), and survival among fish fed three different diets ($P > 0.05$). Although significant differences were not recorded in proximate composition fish fed experimental diets. The total cost for T1 and T2 feeds were 210 and 155 (Sri Lankan Rupees (LKR)) respectively while commercial feed was available for 180 (LKR). The results indicate that the SJT offal could be utilized cost effectively as a protein supplement in juvenile koi carp feeds to replace high cost fish meals.

Key words: Fish offal, Juvenile koi carp, Growth and Protein supplement

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