

Replacement of imported fish oil with locally made fish oil for economical supplementary feed formulation for Koi carp

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The study aimed to develop a nutritionally balanced cost-effective feed for Koi carp juveniles (*Cyprinus carpio*). Two trial feeds with crude protein 34% and crude lipid 7 %; diet D2 incorporated with local fish oil produced from fish offal and diet D3 incorporated with imported fish oil was prepared considering the nutritional requirements of juvenile stages of Koi carp. Imported commercial Koi carp feed JPD Yamato (Crude Protein 34 %, Crude Lipid 7%) available in the local market was used as the control feed (diet D1). A total number of 180 Koi carp juveniles of similar age and size of 0.27 ± 0.04 g (mean \pm SD) was equally and randomly distributed in nine glass tanks with a water capacity of 70 L at NARA Regional Research Center, Panapitiya. Each tank was randomly assigned with three replicates for three diets D1, D2 and D3. Fish was fed two times daily, 4% of body weight for the first six weeks (powder form) and two times daily, 3% of body weight for the second eight weeks (2 mm pellets). Weight measurements of fish in each tank were obtained biweekly to adjust the feeding ratio. The weight of total fish in each tank was measured separately at the end of the trial period and growth performance indices were evaluated. Diets D1, D2 and D3 did not show significant differences in the growth performance (final weight, weight gain and specific growth rate) of fish, the survival rates of fish and the Feed Conversion Ratio ($P > 0.05$). Estimated prices for diets D2 and D3 were LKR 224 and 265 respectively while the price of imported Koi carp feed was LKR 1400. The results indicate the possibility of use of local fish oil extracted from fish offal to manufacture cost-effective nutritionally balance formulated feeds for Koi carp juveniles.

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