

**UTILIZATION OF UNTAPPED FISH SPECIES AS A
PROTEIN SUPPLYMENT IN JUVENILE KOI CARP
(*Cyprinus carpio carpio*) FEED**

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By

WELIGALAGE CHALANI UMESHA SOORASENA

Aquatic Resources Technology Degree Programme

Faculty of Animal Science and Export Agriculture

Uva Wellassa University

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ABSTRACT

Six weeks of feeding trial was conducted to evaluate the effects of minor cyprinids (*Dawkinsia singhala* and *Puntius chola*) on growth of juvenile koi carp (*Cyprinus carpio carpio*). Two isonitrogenous (350 g kg^{-1}) experimental diets with average lipid level (dry matter) of 8.96 ± 0.41 (mean \pm SD) were prepared (T₁: *Dawkinsia singhala* based diet, T₂: *Puntius chola* based diet). Commercial diet was used as the control (T₃). Each treatment was followed by three replicates and nine cement tanks of $1.5\text{m} \times 1.2\text{m}$ were used. 100 of juvenile koi fish with initial average weight of $0.58 \pm 0.03 \text{ g}$ (mean \pm SD) were randomly allocated for each tank. Initially fish were fed with 10% of biomass and then 7%, 6%, 5% and 4% of biomass consecutively for each tank and feeding was done thrice per day (09:00, 12:00 and 3:00). All feed ingredients, formulated diets and carcasses were analyzed for proximate composition including moisture, ash, fat and protein in triplicate following AOAC (1995) method. After the six weeks of feeding trail there were no significant differences in weight gain, specific growth rate, feed conversion ratio, protein efficiency ratio and survival rate among three treatments ($P > 0.05$). However weight gain, specific growth rate and protein efficiency ratio were higher in fish fed T₁ and T₂ diets than those of fish fed commercial diet (T₃). The total cost for T₁ and T₂ feeds were 160 and 165 (Sri Lankan Rupees (LKR)) respectively while commercial feed was available for 180 (Sri Lankan Rupees (LKR)). The results indicate that selected two minor cyprinid species could be utilized cost effectively as a protein supplement in juvenile koi carp feeds to replace high cost fish meals.

Key words: Minor cyprinids, fish feed, Growth and Protein supplement, Aquaculture