

**A STUDY ON PRODUCING AN ARTIFICIAL DIET
FOR INDIAN CARP (*Catla catla*) FRY USING
LOCALLY AVAILABLE, LOW-COST INGREDIENTS**

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by

**WICKRAMASINGHE RAJAPAKSHA MUDIYANSELAGE
DUMINDA MADUSHANKA BANDARA WICKRAMASINGHE**

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ABSTRACT

The fisheries sector is considered as an important protein supplier to the population of Sri Lanka. Therefore the fishery sector plays a vital role in human health and nutrition. *Catla catla* is an Indian major carp that commonly used for seed production in inland fishery. Balanced diet is essential for fish growth and survival and formulated feeds are the one of popular feeds used in aquaculture industry. The study was carried out to evaluate an artificial diet for *Catla catla* fry using locally available, low-cost ingredients. A total number of 600 fish fries (2.5 cm in length) were used. Fish were divided in to 3 groups and fed with three different feed types i.e poultry feed, fish feed and formulated feed. Fish feed was used as a control treatment and three replicates were used for each of treatment. All feed types were analyzed for protein, lipid and moisture. The experiment was conducted for 40 days. The results showed that Crude protein level of the formulated feed was 26.97%. It was lower than the Fish feed but higher than the Poultry feed. 15.62% of moisture was found and Lipid amount was estimated as 15% which was higher than the required lipid amount by *Catla catla* fry. The survival rates among treatments are significantly different ($p < 0.05$) and the highest mean survival rate was recorded in formulated feed as $(92.22 \% \pm 6.40)$. The survival rates of Fish feed and Poultry feed were $72.00B \pm 2.36$ and 86.33 ± 4.48 respectively. Variations of the SGR, Weight gain, FCR, PER were not significantly different ($p > 0.05$) among the three treatments. Cost of the Fish feed to gain one gram of body weight was significantly greater ($p < 0.05$) than the other two feeds. Cost of the formulated feed for production of 1 g of body weight in fry (Rs. 35.60) was lower than the cost of Poultry feed to obtain 1 g of fish (Rs. 41.31). Therefore the Formulated feed can be incorporate as an alternate feed for *Catla catla* fry.

Key words: *Catla catla*, Feed conversion ratio, Protein efficiency ratio, Specific growth rate