Proceedings of the 25th Anniversary Scientific Conference of NARA on Tropical Aquatic Research Towards Sustainable Development

Feasibility of rearing of *Labeo rohita* (Hamilton) fry in cages with community participation: A case study in Sri Lanka.

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Key words: aqua-feed, floating cages, fingerling rearing, community participation, *Labeo rohita*

Abstract

This trial was carried out with community participation in 2 perennial reservoirs i.e. Chandrikawewa and Kiri-Ibbanwewa in Sri Lanka. In this study, an attempt was made to find out suitable, low cost, farmer made aqua-feed that has better growth and higher % survival *L. rohita*. Six types of farmer made aqua-feed (F1=4fm:3cf:3rb; F2=4fm:4cf:1rb; F3=2fm:5cf:1rb; F4= 4fm:3sbm:3rb; F5=4fm:4sbm:1rb and F6 = 2fm:5sbm:1rb) were tested in triplicate in a Completely Randomized Design with *L. rohita* in floating cages ($6m^3$) in these 2 reservoirs. These feed types were prepared in situ using rice bran (Rb), oil extracted soyabean meal (Sbm), locally prepared fish-meal (Fm) and cassava flour (Cf) in different ratios and according to the 10% of body weight of the fish in respective cages. The amount of feed was adjusted bi-weekly according to the body weight of fish. Feed were provided twice per day, in the morning (0830 hrs) and in the evening (1700 hrs).

Two sets of 28 days - old *L. rohita* fry with different mean lengths, i.e. 2.08±0.1403, 2.9±0.2797 cm and mean weights, i.e. 0.102±0.031, 0.3543±0.0780g that were stocked in Kiri-Ibbanwewa and two sets of *L. rohita* with mean length of 4.9±0.6148, 1.98±0.4782 cm and mean weight of 2.6055±0.3351, 0.1143±0.0745g that were stocked in Chandrika wewa were used for the four trials. The rearing period for each trial, varied from 80 – 90 days.

One-way ANOVA revealed that the Specific Growth Rate in weight (SGR-W), Average Daily Growth (ADG) and % Survival of the fish fed on 6 feed types were significantly different ($p>0.05$) in cages in both reservoirs. The pair-wise comparison by the Fisher's test showed that the ADG, SGR-W and % Survival with 6 feed types are significantly different in the two reservoirs, respectively. According to the normal distribution of ADG, SGR-W and % Survival of the fish with respect to these 6 feed types; F1, F3 and F6 could be considered as suitable feed for *L.rohita* seed production through cage culture.

The financial support received from ACIAR Project is gratefully acknowledged.

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