SUITABILITY OF A FORMULATED LOW COST FEED USING LOCALLY AVAILABLE RAW MATERIALS FOR GUPPY (*Poecelia reticulata*) GROWERS AND BREEDERS

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A constraint of the ornamental fish industry in Sri Lanka is high feed cost. Therefore, main objective of this study was to formulate a low cost fish feed using locally available raw materials for guppy (*Poecelia reticulata*) growers and breeders. New fish feed (T-1) was formulated using locally available *kota pethiya (Puntius chola)* fish as a protein supplement and compared with a standard fish feed (T-2). Two separate experiments were conducted using completely randomized design, six tanks (150x150x45 cm^3) were used for breeder study (Study 1) and another six tanks (90x90x45 cm^3) for grower study (Study 2). Thirty six breeding fries were introduced per tank at 1:6 male: female ratio in Study 1 whereas, sixty growing fries were introduced per tank in Study 2. Fish were fed three times per day. Feeding trials for both groups were conducted for three months. Proximate composition of the feed was analyzed. Live weight, survival rate, growth performances and water quality parameters were measured in weekly intervals. Number of fry count was taken daily. Highest body weight (0.82 g ± 0.12 g) and highest total body length (3.8 cm ± 0.47 cm) were recorded ($p<0.05$) in T-1, while lowest values for body weight (0.7 g ± 0.14 g) and body length (3.32 cm ± 0.59 cm) were observed in T-2. Highest ($p<0.05$) fry count (12.39 ± 5.41) was observed in T-1 whereas lowest values for fry count (10.39 ± 4.98) were in T-2. Survival rate and water quality parameters did not show a significant difference ($p>0.05$). The estimated total cost of production for 1 kg of the formulated feed (Rs 111.80) was found to be low when compared to standard feed (Rs.144.00). This concluded that by using locally available, cheap ingredients, low cost feeds could be successfully formulated for guppy growers and breeders.

Key words: Guppy, *Poecelia reticulata, Kota pethiya, Puntius chola*