

Cage culture of GIFT fish in Sri Lankan conditions; mono sex or mixed sex?

M. P. K. S. K. De Silva* and W.A.R.K. Senaarachchi

Department of Zoology, University of Ruhuna, Wellamadama, Matara, Sri Lanka.

Mono sex tilapia fish (males) culture is gaining more concern over mixed sex fish in variety of culture systems due to faster growth and larger size than their counterpart. Mono sex culture of tilapia is not practiced in commercial basis in Sri Lanka and the present study aimed to determine the suitability of mono sex male tilapia to introduce into cage culture in Sri Lanka by comparing the growth performances of mixed sex tilapia culture. Mono sex and mixed sex fry having initial mean weights ($1.23 \pm 0.23\text{g}$ and $0.93 \pm 0.25\text{g}$, respectively), were stocked in 2 m^{-3} cages, at $25/\text{m}^{-3}$, $50/\text{m}^{-3}$, $75/\text{m}^{-3}$ and $100/\text{m}^{-3}$ densities, each in three replicates. Fish were hand fed with 30% crude protein diet for 180 days. Weight of the fish in each cage (30% from the total) and physico-chemical parameters of water were recorded monthly. Growth parameters; mean final weight, mean weight gain, specific growth rate and feed conversion ratio showed no significant difference ($p > 0.05$) between mono sex and mixed sex GIFT in each density class from fry to post fingerling stage (approximately 60 days). Similar results were obtained for the growth indices for each density class of two groups, after the whole culture period of 180 days. Stocking density of 25 fish per m^{-3} in both groups indicated the highest value for all growth parameters while increasing stocking density had significant negative effect on all growth parameters. Present study reveals that culture of mono sex GIFT in cages has no significant difference in growth over mixed sex culture during fry to post advanced fingerling stages and up to sexual maturity.

Keywords: Cage culture, GIFT, Mixed sex, Mono sex, Specific growth rate

Acknowledgments: Financial assistance received from the ‘Transforming University of Ruhuna to International Status’ (RU/DVC/PRO/143) research grant is gratefully acknowledged.

*kumududs@zoo.ruh.ac.lk