

## **Establishment of farmer operated, low cost, simple technology mini hatchery for Genetically Improved Farmed Tilapia (GIFT)**

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Government hatcheries maintain the brood stocks of Genetically Improved Farmed Tilapia (GIFT) to supply fry and fingerlings for stocking programmes. The demand for fry cannot be fulfilled by the production of these hatcheries. To address this problem an experimental mini hatchery was established. A bricked hut (3m x 3m) with asbestos roofing, owned by a fisherman at Kattakaduwa, Hambantota was used as the hatchery. Water recirculating system having an overhead tank (1000 L), ground level storing tank (1500 L), and two large gravel filters (25L) in order to filter the water entering and leaving the hatchery was established. Transparent plastic bottles (4L, 22cm in height) and plastic trays (40cm x 28cm x 4cm) were used as incubation jars. Inflow water was supplied to the bottom of the each bottle and 28cm side of the trays through 1.25 cm PVC pipe. Outflow water was removed from the top of the bottle via a 2.5 cm pipe and through a series of holes pierced at the 40cm sides of the trays. Stocking density for eggs and yolk sac fry were 250/L. Different flow rates for incubation of eggs and for survival of yolk-sac fry were trialled. Plastic bottles were the best container for incubation of eggs resulting over 80% hatchability. Plastic trays proved the most suitable container (90% survival) for development of yolk sac larvae. Optimized flow rates were 2.7 L min<sup>-1</sup> for egg incubation and 5.4 L min<sup>-1</sup> for yolk-sac fry. Total cost for the hatchery was approximately Rs. 77000. As one hatchery cycle lasts for approximately 10 days, this cost is recoverable in few rounds of hatchery cycles. No high technology being involved in construction, this mini hatchery provides a suitable system for fry production for farmers to fulfil their own seed requirements.

Key words: GIFT eggs, hatchability, mini hatchery, survival rate, yolk sac larvae

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