

Juvenile on-growth

Preparations

- The tanks for the on-growth phase of the fish must be prepared in advance (Figure 1)
 - Tanks should have an initial water depth of 10 cm
 - Water quality parameters should be same as those employed for the start feeding
 - Water inlet should be below the water surface to prevent too much disturbance
 - The outlet sieve requires significantly smaller openings to prevent the escape of larvae
 - Waterflow should be maintained at 500 L/hour and the flow must be smooth, and should not induce a strong current in the tank
 - Feeder should be as close to the surface as possible to maximize feed distribution on the surface and reduce the sinking of feed particles
- Disinfect all equipment before, in between, and after every operation



Figure 1: Standard fiberglass on-growth tank with Arvotec feeders and below-surface water inlet. A deep tank as shown in the figure is not required. Any smooth flat-bottomed tank is technically suitable for the on-growth phase.

General guidelines for on-growth

- In one tank there should not be more than 5000 larvae. The standard tanks are 0,75 m² floorspace, and according to “Tomma-manual procedures” a density > 6-7000 larvae per m² will increase larvae mortality.
- Water level can be increased if there is a need to rear the fish in the same tank for a long time.

- As the larvae grow, they require feeds of larger size
- The outlet sieve size should be adjusted as the larvae grow. This is to allow the exit of the larger feed particles.

Feeding

As the larvae grow, there will be a transition from a surface- to bottom-feeding behavior. Nevertheless, during the first few weeks they mainly feed from the surface. We tested both disc feeders (1 L, during the early stages) and Arvotec feeders (as feed size increased). Fish were also hand-fed several times per day by evenly distributing the feed over the whole surface. As for the automatic feeders, a lot of feed was found just below the feeder, indicating the uneven distribution in the tank. This resulted in lower feed intake of the population.

Cleaning

A squeegee can be used to gather all the excess feed and dirt that have settled at the bottom to one spot. Thereafter the collected dirt can be siphoned out. The hose from the siphon can be indirectly connected to the main water drainage system to avoid the spillage of the waste on the floor. A dish cleaning brush can then be used to carefully clean the outlet sieve, the bottom, and the side walls of the tanks. If needed, excess dirt can be siphoned out again after the brush-cleaning. It is important to clean all surfaces thoroughly every day to avoid build-up of fungus and bacteria in the tanks. Skim off the dirt on the surface of water in the tanks using either a tissue paper or a measuring jug. Every second day, the water level in the tanks should be lowered temporarily to flush off any loose particles from the tanks.

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