

## Information for Schools

### Production – How do we do it?

Kingfish was recognised as a finfish species (native to Spencer Gulf) for potential of lifecycle closure and commercialisation because it is a large pelagic (ocean going) fish, presenting many of the challenges and potential solutions to breeding Southern Blue Fin Tuna. It also has the capacity to achieve a weight of up to 4kg within 18 months of transfer to sea cages which is fundamental to commercial viability.



Suzuki Mulloway



Hiramasa Kingfish



Maguro Tuna

Wild caught Kingfish and Mulloway broodstock, weighing between 25kg-30kg are maintained onshore in their own temperature and light controlled recirculation facility. The hatchery has direct access to the cool and clean waters of the lower Spencer Gulf. Water is pumped from the Spencer Gulf to the hatchery via a four megalitre settlement dam, at a rate of 55 litres per second.

Initially we replicate a breeding environment for the adult fish by altering the temperature of the water in their tanks and adjusting the photoperiod to create a 'spawning season' and they begin to reproduce.

Fertilised eggs are collected and placed into incubation tanks for a couple of days where they hatch into larvae.

To feed these larvae, the hatchery technicians grow algae to feed organisms which are then fed to the larvae.

These organisms are called rotifers. Rotifers are a small zooplankton that feed on algae. The technicians must grow in excess of 20 billion rotifers and enough algae (in excess of 9 tonnes per day) to feed these rotifers for one spawning season.

When the fish are a little bigger they are fed Artemia, commonly known as sea monkeys or brine shrimp, which are also grown at the hatchery.

In about a month, the larvae have grown to approximately 1cm in length and are weaned onto an artificial diet. This diet is a manufactured pellet, specifically formulated to meet the diet requirements of the fingerlings. In a further 30 days, the fish grow to approximately 10cm in length or 5gms and are transferred to the sea cages.

