

2003

Aquaculture of the mangrove red snapper

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Emata, A. (2003). Aquaculture of the mangrove red snapper. SEAFDEC Asian Aquaculture, 25(3), 24.

<http://hdl.handle.net/10862/1625>

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Total investment cost in snapper culture in brackishwater pens is P117,000. Return on investment after a year is 153%, and payback period is 7 months

Mangrove red snapper, *Lutjanus argentimaculatus*, is an important marketable species throughout the Indo-Pacific region, but it is never found in large quantities. It is an excellent food fish, and a good aquaculture species because it doesn't get rancid easily when frozen. It commands a good export price with no limit on body size. It is sold in Hong Kong's live fish markets. In the Philippines, it can be found all over the country but is more known in Negros and Iloilo areas.

Mangrove red snapper is a euryhaline species; it can tolerate freshwater, brackishwater, and marine water. Juvenile and young adult are found in mangrove estuaries and in the lower reaches of freshwater streams. An adult is often found in groups around coral reefs. It migrates offshore to deeper reef areas, sometimes penetrating to depths in excess of 100 m. It feeds mostly on fishes and crustaceans, mainly at night. Juvenile is hardy, readily accepts pellets, and grows fast. There were no reported damaging diseases yet.

Fry from the hatcheries is longer and heavier compared to fry collected from the wild. Hatchery-produced fry is about 3.4 cm in



There is an emerging local industry of snapper culture in Panay Island



The mangrove red snapper Lutjanus argentimaculatus

length, and 0.64 g in weight. On the other hand, wild fry is about 2cm in length, and 0.15g in weight. Each fry costs about P5. Hatcheries in the Philippines include SEAFDEC/AQD, and Alcantara Group of Companies, particularly the Fish Hatchery Inc. However, AQD is producing fry only for research purposes.

Modular culture is the common system in snapper production. Stocking density is 4,000 fry per cropping. Fry from the wild or hatchery is cultured in nursery cages for three months. On the fourth month, fry are transferred to grow-out pens for four months. Thus, a culture period of seven months. However, on the fifth month of culture, another batch of fry can be stocked in the vacant nursery cages for three months. This second batch will be transferred to the grow-out pens after harvest of the first batch.

There could be two croppings per year. Feeding rate is about 5% of body weight. Light should be provided at night in cages and pens to attract zooplanktons, the live food of snapper. Survival rate is about 95%. Production could be about 3,800 kg per year. Snapper costs about P130 per kg.

Technology presenter and contact person

Arnil Emata is a Scientist and the head of SEAFDEC/AQD's Breeding Section. He obtained his PhD in Fish Physiology from the Louisiana State University in 1990. He graduated with Masters of Science in Zoology from the same university in 1983. Dr.

Emata has been working on the breeding of the mangrove red snapper at AQD.

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- Grouper culture and seabass farming
 - Marine fish hatchery
 - Tilapia cage culture and hatchery-nursery operations
 - Bighead carp culture
 - Catfish seed production and grow-out ventures
 - Seahorses - an emerging fish species for aquaculture
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