

# Successful Production of Mangrove Jack (*Red Snapper Mangrove*) (*L. argentimaculatus* Forsskal, 1775) Seeds at Brackishwater Aquaculture Development Center Situbondo

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## Introduction

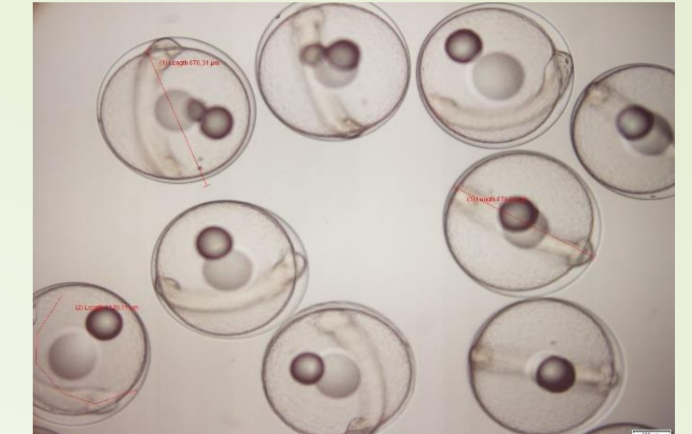
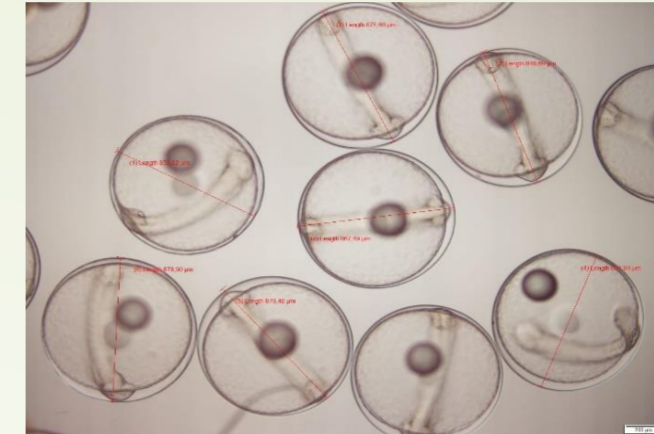
Mangrove Jack (*red snapper mangrove*) is one of marine fish as classified ornamental fish at small size and fish for consumption when adult size. The selling price is still high because its cultivation has not yet developed among farmers. Brackishwater Aquaculture Development Center (BADC) Situbondo has been able to cultivate mangrove red snapper since 2023. Larva rearing is carried out in a controlled larval rearing tank such as feeding management and water quality management. The purpose of this activity is to know the spawning cycle, number of eggs produced, fertilization rate, hatching rate and survival rate of larva.

## Material and Method

1. Mangrove jack broodstock (2-3 kg), 52 fishes, male and female 1 : 1 based on weight



Female and male

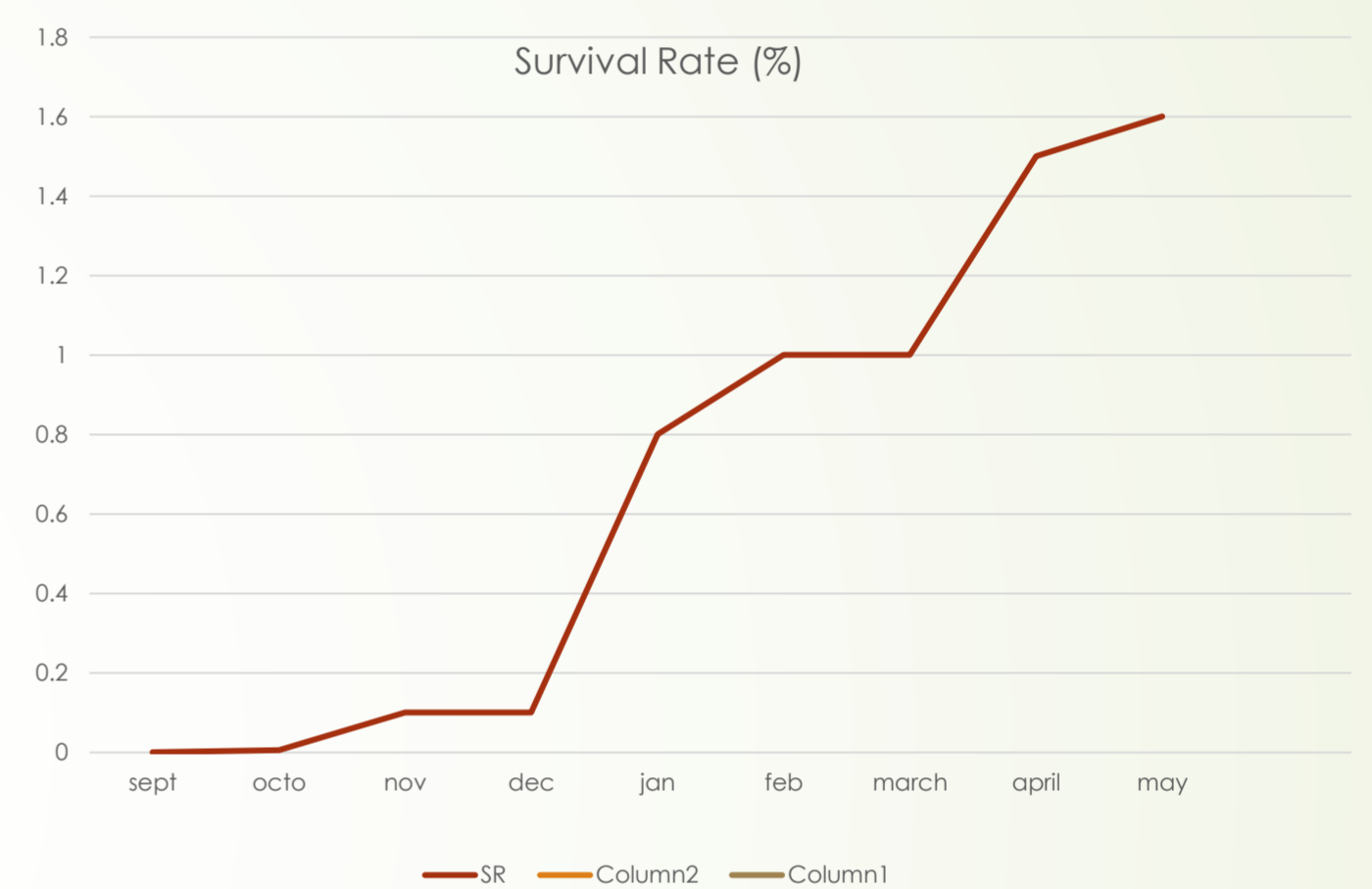
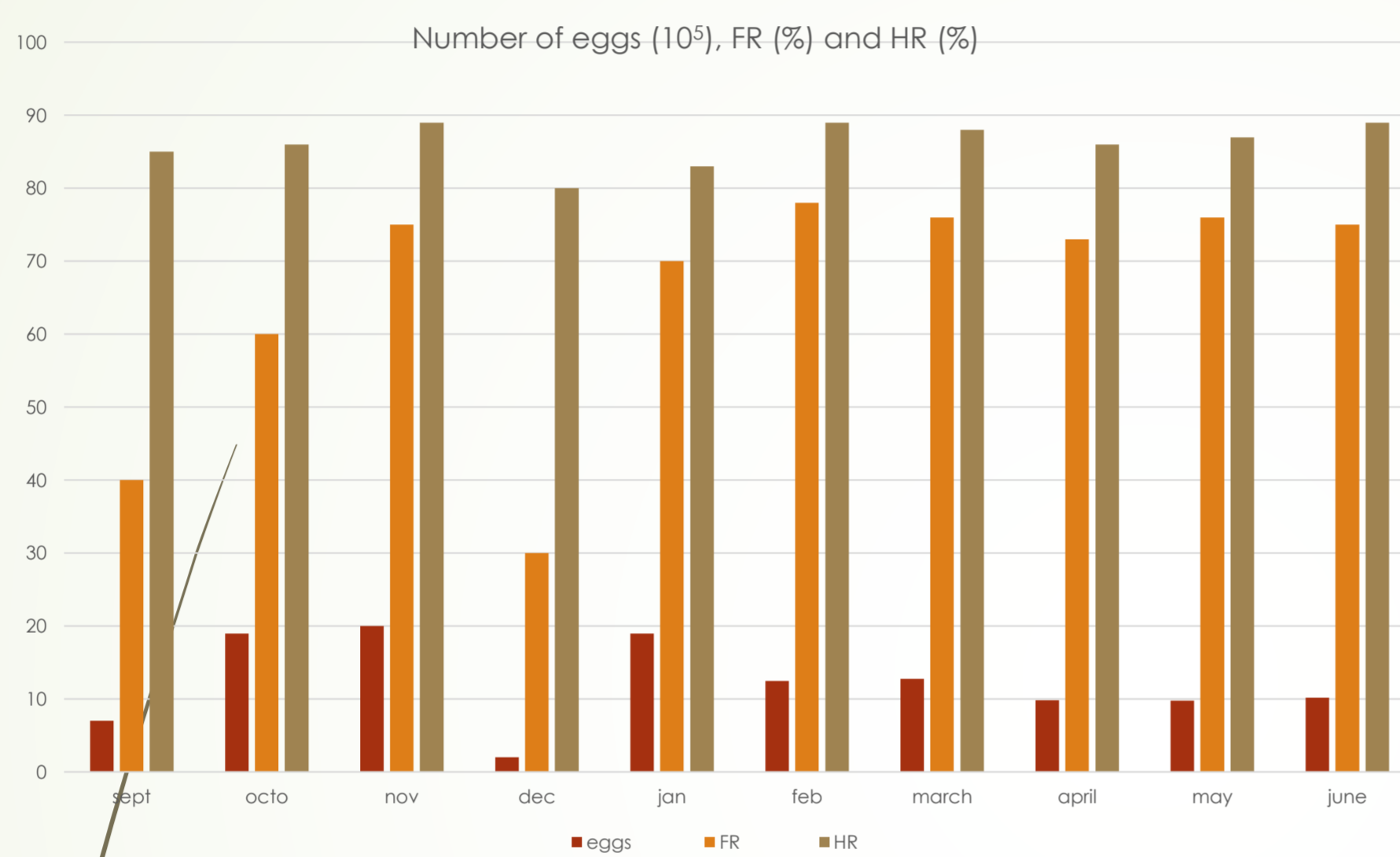


mangrove jack egg 8 hour after fertilization

2. Fresh food : squid/cattle fish, mackarel tuna (3% biomass weight), every 2 days
3. Multivitamin and vitamin e (1 mg) 2 times a week
4. Spawning : natural spawning (*environment manipulation*)

## Results

- Natural spawning broodstock every month during the dark moon by environment manipulation since September 2023, egg will hatch around 16-20 hours depends on temperature
- Number of eggs produced, fertilization rate, hatching rate and survival rate from September 2023 – June 2024 :



## Larvae development :

Ages	Picture	Information
D6		Body length 3127,86 µm Its look like there 2 black dots Feed : rotifer SS type and liquid feed 0,5 ppm
D7		Body length 3276,13 µm Feed : rotifer SS type up to D8 and liquid feed 0,5 ppm
D10		Body length 3936,26 µm Feed : rotifer, liquid feed dan artificial feed (Rotofier)
D11		Body length 4250,56 µm Feed : rotifer, liquid feed dan artificial feed (Rotofier)
D15		Body length 4033,34 µm The digestive tract begins to shorten
D20		Body length 5589,74 µm Dorsal dan pectoral fins are elongated
D26		Body length 1,2 cm Feed rotifer and artificial feed (Rotofier)
D34		Body length 1,2- 2,5 cm Black and white lines appear but not yet clear
D39		Body length 1,7-3 cm Line pattern its getting clearer, black and white and not cannibal

## Water quality for larvae rearing

Parameters	Value
Temperature ( ° C)	28 – 31
Salinity (ppt)	31 – 33
pH	7.8 – 8.3
DO (ppm)	>4
Nitrite	< 0.1
Nitrate	< 150
Ammonia	< 0.01

## Conclusions.

The broodstock spawning in September 2023 has been able to produce (7-20) x 10<sup>5</sup> eggs from 52 broodstock. Fertilization 40-78% and hatching rate is around 79 - 89% and it hatch after 16-20 hour depending on temperature.

The broodstock spawning every month during dark moon by environment manipulation, egg hatch around 16-20 hours

Survival rate of larvae is very low, around 0 – 1,6 %