Sea bass culture

Date published: 2017


Keywords: Hatcheries, Aquaculture techniques, Pond culture, Cage culture, Stocking density, Economic analysis, Lates calcarifer, Sea bass

To link to this document: http://hdl.handle.net/10862/3427

Share on:  

PLEASE SCROLL DOWN TO SEE THE FULL TEXT

This content was downloaded from SEAFDEC/AQD Institutional Repository (SAIR) - the official digital repository of scholarly and research information of the department
Downloaded by: [Anonymous]
On: August 18, 2019 at 5:39 AM CST
Is SEA BASS grow-out culture profitable?

Technical assumptions

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of pond (ha)</td>
<td>1</td>
</tr>
<tr>
<td>No. of crops per year</td>
<td>1.5</td>
</tr>
<tr>
<td>Days of culture per crop</td>
<td>180</td>
</tr>
<tr>
<td>Stocking density/ha</td>
<td>10,000</td>
</tr>
<tr>
<td>Total no. of fish/crop</td>
<td>10,000</td>
</tr>
<tr>
<td>Survival</td>
<td>85%</td>
</tr>
<tr>
<td>Feed conversion ratio</td>
<td>2.2</td>
</tr>
<tr>
<td>Feed cost/yr (Php)</td>
<td>695,640</td>
</tr>
<tr>
<td>Cost of fingerlings/gyr</td>
<td>375,000</td>
</tr>
<tr>
<td>Harvest weight (g/fish)</td>
<td>400</td>
</tr>
<tr>
<td>Production (kg/crop)</td>
<td>3,400</td>
</tr>
<tr>
<td>Production (kg/yr)</td>
<td>5,100</td>
</tr>
</tbody>
</table>

Financial investment analysis

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average selling price (Php)</td>
<td>260</td>
</tr>
<tr>
<td>Gross sales (Php/yr)</td>
<td>1,326,000</td>
</tr>
<tr>
<td>Total investment cost (Php)</td>
<td>96,250</td>
</tr>
<tr>
<td>(Paddle wheel aerators, Submersible pump, B-net, Fine Mesh and Monofilament #160)</td>
<td></td>
</tr>
<tr>
<td>Total operating cost per yr</td>
<td>1,118,040</td>
</tr>
<tr>
<td>Income per year (Php)</td>
<td>207,960</td>
</tr>
<tr>
<td>Return-on-investment (%)</td>
<td>216.06</td>
</tr>
</tbody>
</table>

*Economic analysis is for pond culture only

Get a copy of our manuals!

  
  An extension manual describing monoculture and polyculture operations including criteria for site selection, feeds and feeding, harvest, common diseases, economic analysis.

  
  This extension manual describes nursery pond requirements, nursery rearing procedures, common diseases of young marine fish, and economic analysis of cage nursery as an enterprise separate from hatchery and grow-out culture.

Need ASSISTANCE?

Attend our hands-on training!

November 14 to 30, 2017
Hatchery of Selected Marine Species (Milkfish/Sea Bass/Grouper) training course at AQD’s Tigbauan Main Station. To apply, kindly contact:

Training and Information Division
Tel: (63-33) 330 7030
training@seafdec.org.ph

Check out our training schedule:
www.seafdec.org.ph/training

Downloaded by [Anonymous] from http://repository.seafdec.org.ph on August 18, 2019 at 5:39 AM CST
Sea bass (Lates calcarifer, giant perch or saprao) is an economically important food fish in the tropical and sub-tropical regions of Asia and the Pacific. It is a highly carnivorous fish but can be trained to feed on formulated diets. It can tolerate a wide range of salinity from freshwater to full seawater. Improved growth has been generally observed when fish is cultured at low salinity (10-20 ppt).

Sea bass is easy to culture in cages or in brackishwater ponds. It is hardy, and the seedstock can be easily sourced from the hatchery. There is cultured at low salinity (10-20 ppt).

**Why SEA BASS?**

- **Sea bass** is a need, however, to implement a nursery before the grow-out so that hardy, and the seedstock can be easily sourced from the hatchery. There is cultured at low salinity (10-20 ppt).

**How to culture SEA BASS?**

**Hatchery**

- Procure sea bass breeders (2-8 kg) at a sex ratio of 1:2 female: male. Obtain egg samples by cannulation and make sure average egg diameter is at least 0.4 mm; males should give out milt. Inject with a fresh solution of LHRHAs at 20-100 µg per kg of fish. Put them back to spawning tank (LRT) but reduce this density to 15 per L on day 10, then to 6 per L on day 21.

- Collect and incubate eggs in tanks at 1,200 eggs per L. These hatch in about 14 hours.

- Eggs are prepared and fertilized at least one week before stocking to eradicate predators and grow zooplankton. This phase can take 10-20 days. Fish are stocked in ponds at 1.0-1.5 cm total length. Always remember to sort and size-grade.

- Concrete nursery tanks are 3-5 tons where fry can be weaned to formulated diet. They are fed every 2 hours, size-graded every 5-7 days and harvested or transferred at 2.5-3.0 cm total length. This can take 30 days.

- Net cages set in ponds can measure 2 x 1 x 1 m. Optimum stocking density is 150-200 fry/m². Fry are fed with natural zooplankton, mysids, mosquito larvae and/or formulated feed, graded every 5-7 days and harvested or transferred to B-net cage when the fry attains 2.5-3.0 cm total length. This can take 30 days.

- Light can be provided to attract zooplankton and encourage fish foraging during the night.

**Phase 2**

At this stage, fish juveniles are fed fish by catch or formulated feed six times per day until they reach 20-50 g, the ideal size for grow-out culture. Phase 2 nursery can be done in concrete tanks or cages in ponds.

- In concrete tanks (3-5 tons), juveniles are fed with formulated feed every 2 hours. Juveniles are graded and tanks cleaned every 5-7 days.

- In ponds, B-net cages can measure 2 x 3 x 1 m or 1 x 3 x 1 m. The same procedure is used as in the above and the fish are harvested at 7-10 cm total length.

**Nursery**

- **Phase 1**

  Sea bass fry can be reared in earthen ponds, land-based tanks, or in net cages (hapa) set in ponds.

  - Preferably, ponds should not be more than 2,000 m². Ponds are prepared and fertilized at least one week before stocking to eradicate predators and grow zooplankton. This phase can take 10-20 days. Fish are stocked in ponds at 1.0-1.5 cm total length. Always remember to sort and size-grade.

  - Concrete nursery tanks are 3-5 tons where fry can be weaned to formulated diet. They are fed every 2 hours, size-graded every 5-7 days and harvested or transferred at 2.5-3.0 cm total length. This can take 30 days.

  - Harvest after 26 days of rearing.

- **Phase 2**

  - **Grow-out**

    Sea bass juveniles with body weight range of 20-50 g is utilized. They are fed fish by catch at 5-10% biomass or formulated feed at 3-5% biomass given 2-3x per day. Sea bass can reach marketable size of 300-600 g in about 4-7 months. Grow-out culture can be done in ponds or cages.

    - **Pond culture.** The recommended stocking density is 10,000 pcs/ha. Pond water should be drained and replenished for 40-60% of the volume daily.

    - **Cage culture.** Cage size is 5 x 5 x 3 m with a recommended stocking density of 15-20 pcs/m².