**LARVAL FOOD LABORATORY**

### PRICES (in PhP)

1. **Microalgae**
   - Microalgal starter (test tube, unaerated) 200
   - Microalgal starter (75-150 mL, unaerated) 100
   - Microalgal starter (from indoor culture, 1 L) 100
   - Microalgal starter (from outdoor culture, 10 L) 150
   - Microalgal paste* (per kg) 500
     - *Chaetoceros calcitrans*
     - *Tetraselmis tetrathele*
     - *Chlorella sorokiniana*
     - *Nannochloropsis sp.*

2. **Zooplankton**
   - *Brachionus rotundiformis* (1 L) 100

3. **Media/Fertilizer**
   - Conwy medium (1 L) 1,310
   - F-medium (1 L) 1,260
   - TMRL (1 L) 240
   - Commercial fertilizer (1 L) 150

Orders of microalgal starters outside Iloilo are limited to 5 liters. Cost of shipping orders is included in the invoice/billing as follows (as of December 2016):

- Iloilo - Manila 1,000
- Iloilo - Cebu 1,000
- Iloilo - Mindanao 1,300

For orders, please email Ms. Annie Franco at avfranco@seafdec.org.ph/Ms. Ellen Ledesma at egtisuela@seafdec.org.ph or call (033) 330-7000 local 1129.

*Prices are subject to change without prior notice.*

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**Need ASSISTANCE?**

Get a copy of our manuals!

- **AEM 60 Culture of Rotifer (Brachionus rotundiformis) and brackishwater Cladoceran (Daphnonasoma celebensis) for aquaculture seed production Milagros de la Peña (2015)**
  - A 32-page manual with topics on the biology and cultivation techniques of zooplankton

- **AEM 55 Culture of marine phytoplankton for aquaculture seed production Milagros de la Peña, Annie Franco (2013)**
  - The 32-page extension manual describes the biology, culture techniques and mass propagation of 12 phytoplankton species used as live feed in marine hatcheries

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**Talk to us!**

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Natural food or plankton production is essential in producing quality seeds for aquaculture. Live food is crucial to the health and survival of larval and post larval fishes, crustaceans, and mollusks.

Microalgae are isolated in the laboratory from natural waters. After purification, the suitability of the microalgae in larviculture is evaluated.

The Larval Food Laboratory (LFL) of SEAFDEC/AQD cultures several species of microalgae which provide food for aquatic organisms. Presently, SEAFDEC/AQD’s LFL supplies algal starter cultures to interested buyers in the Philippines and other countries.

LFL maintains and preserves its algal culture collection and continues to search for other food organisms that may be suitable during the early larval stages.

**Why PHYTOPLANKTON?**

Phytoplankton are rich sources of proteins and lipids. The vitamins and pigments in microalgae are of better quality and are healthier. The nutritional value of live food organisms plays a significant role in the growth and survival of cultured species.

The use of microalgae (phytoplankton) in the hatchery has many benefits:

- Positive effect of beneficial bacteria associated with algal cultures;
- Presence of bioactive substances that have positive effect on the digestive or immune system of fish;
- Provision of visual contrast in the rearing water that have beneficial effect on the feeding behavior of larvae;
- Microalgae secretions can control harmful bacterial population, i.e., probiotic effects in the rearing water.

### Phytoplankton starters available:

1. **Green algae (Chlorophyta)**
   - Freshwater
     - Chlorella ellipsoidea
   - Marine
     - Nannochlorus sp.
     - Tetraselmis tetratehe

2. **Yellow-green algae (Eustigmatophyta)**
   - Nannochloropsis oculata

3. **Brown algae (Bacillarophyta)**
   - Skeletonema tropicum
   - Chaetoceros calcitrans
   - Amphora sp.
   - Thalassiosira
   - Navicula ramossisima
   - Isochrysis galbana

4. **Golden brown algae (Prymnesiophyta)**
   - Isochrysis galbana

### How to scale-up your microalgal starter?

<table>
<thead>
<tr>
<th>CULTURE CONDITION</th>
<th>STARTER CULTURE</th>
<th>LARGE-SCALE CULTURE</th>
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<tbody>
<tr>
<td>Container</td>
<td>Dextrose (1 L)</td>
<td>Carboy (10 L)</td>
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<td>Gallon (3.5 L)</td>
<td>Fiber glass (200 L)</td>
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<td></td>
<td>Carboy (10 L)</td>
<td>Fiber glass (1,000 L)</td>
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<td>Illumination</td>
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<td>Fluorescent tube</td>
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<td>Fluorescent tube</td>
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<td>Temperature</td>
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<td>22-30 °C</td>
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<tr>
<td>Volume of inoculum</td>
<td>20-50 ml</td>
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<td>100-200 ml</td>
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<td></td>
<td>1-3 L</td>
<td>200-500 L</td>
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<td>Grade of reagents</td>
<td>Analytical reagent</td>
<td>Technical grade</td>
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<tr>
<td>Media</td>
<td>Conway/F-medium</td>
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<td>TMRL</td>
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<td>Conway/F-medium</td>
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<tr>
<td>Water treatment</td>
<td>Boiled/Ozonated</td>
<td>Chemical (10 ppm chlorine)</td>
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<td>Chemical (10 ppm chlorine)</td>
<td>Chemical (10 ppm chlorine)</td>
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<tr>
<td>Sterilization of culture vessels</td>
<td>Hot Air</td>
<td>Chemical (HCl/chlorine)</td>
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<td>Culture period</td>
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