

Southeast Asian Fisheries Development Center

Aquaculture Department

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01 SEAFDEC/AQD Publications

Brochures and flyers

2016

Larval food laboratory

Aquaculture Department, Southeast Asian Fisheries Development Center

SEAFDEC Aquaculture Department. (2016). Larval food laboratory [Brochure]. Tigbauan, Iloilo, Philippines: Author.

<http://hdl.handle.net/10862/3546>

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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
<i>Chaetoceros calcitrans</i>	
<i>Tetraselmis tetrathele</i>	
<i>Chlorella sorokiniana</i>	
<i>Nannochlorum</i> sp.	

*Three weeks advance order

2. Zooplankton

<i>Brachionus rotundiformis</i> (1 L)	100
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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):

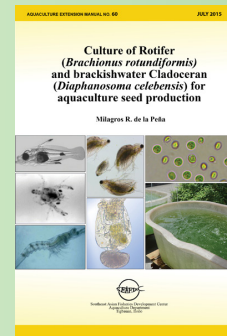
Iloilo - Manila	1,000
Iloilo - Cebu	1,000
Iloilo - Mindanao	1,300

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.

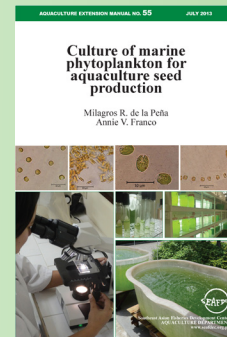
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AEM 60 Culture of Rotifer (*Brachionus rotundiformis*) and brackishwater Cladoceran (*Diaphanosoma celebensis*) for aquaculture seed production Milagros de la Peña (2015)

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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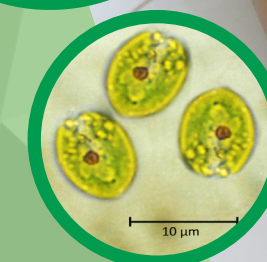
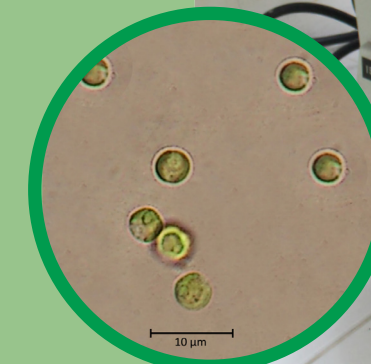
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LARVAL FOOD LABORATORY



Southeast Asian Fisheries Development Center
AQUACULTURE DEPARTMENT
www.seafdec.org.ph

Larval Food Laboratory @ SEAFDEC/AQD

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
Chlorella sorokiniana

Marine

Nannochlorum sp.
Tetraselmis tetrahele

2. Yellow-green algae (Eustigmatophyta)

Nannochloropsis oculata

3. Brown algae (Bacillariophyta)

Skeletonema tropicum
Chaetoceros calcitrans
Amphora sp.
Thalassiosira
Nitzschia sp.
Navicula ramossisima

4. Golden brown algae (Prymnesiophyta)

Isochrysis galbana



How to scale-up your microalgal starter?



CULTURE CONDITION	STARTER CULTURE			LARGE-SCALE CULTURE	
Container	Dextrose (1 L)	Gallon (3.5 L)	Carboy (10 L)	Fiber glass (200 L)	Fiber glass (1,000 L)
Aeration	Aerated	Aerated	Aerated	Aerated	Aerated
Illumination	1-2 units 40 watt Fluorescent tube	1-2 units 40 watt Fluorescent tube	1-2 units 40 watt Fluorescent tube	2-4 units 40 watt Fluorescent tube	Sunlight
Temperature	22-25 °C	22-25 °C	22-30 °C	27-30 °C	27-30 °C
Volume of inoculum	20-50 mL	100-200 mL	1-3 L	20-50 L	200-500 L
Grade of reagents	Analytical reagent	Analytical reagent	Technical grade	Technical grade	Agricultural fertilizer
Media	Conwy/F-medium	Conwy/F-medium	TMRL	TMRL	16-20-0 + 21-0-0 + 46-0-0 or 14-14-14
Water treatment	Boiled/Ozonated	Chemical (10 ppm chlorine)	Chemical (10 ppm chlorine)	Chemical/sand filtered	Chemical/sand filtered
Sterilization of culture vessels	Hot Air	Hot Air	Chemical (HCl/chlorine)	Chemical/sun-drying	Chemical/sun-drying
Culture period	1-4 days	1-4 days	1-4 days	1-4 days	1-4 days