

Southeast Asian Fisheries Development Center

Aquaculture Department

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2025-01

Giant freshwater prawn culture

Aquaculture Department, Southeast Asian Fisheries Development Center

SEAFDEC Aquaculture Department. (2025). Giant freshwater prawn culture [Brochure].

Tigbauan, Iloilo, Philippines: Author.

<http://hdl.handle.net/10862/6592>

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Is GIANT FRESHWATER PRAWN culture profitable?

Technical assumptions for grow-out (1 ha farm)

	Pond	Cage
Total farm area, m ²	10,000	10,000
Effective pond/cage area, m ²	10,000	8,000
Stocking density, pcs/m ²	15	15
Cost of postlarvae, PHP	3	3
Crops per year	2	2
Average weight at harvest, g	30	30
Recovery at harvest, %	75	75
Total number of stock per crop, pcs	150,000	120,000
Total recovery at harvest per crop, pcs	112,500	90,000
Total weight at harvest per crop, kg	3,375	2,700
Total weight at harvest per year, kg	6,750	5,400

Cost and return analysis (PHP per year)

	Pond	Cage
Gross sales	2,025,000	1,620,000
Variable costs	1,587,600	1,285,200
Fixed costs	47,480	96,350
Total cost	1,635,080	1,381,550

Economic Indicators

Item	Pond	Cage
Net income, PHP	389,920	238,450
Return of Investment, %	248.36	66.24
Payback period, years	0.37	1.16
Break-even price, PHP	242	256
Break-even production, kg	5,450	4,605
Investment cost, PHP	157,000	360,000

* as of 2024

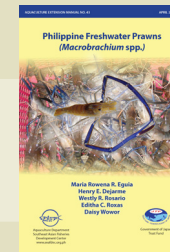
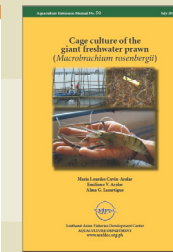


A grow-out pond at SEAFDEC/AQD's Dumangas Brackishwater Station

Need assistance?

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- **AEM 52 Breeding and seed production of the giant freshwater prawn (*Macrobrachium rosenbergii*)**
Maria Lourdes Cuvin-Aralar et al. (2011) 33 pp
- **AEM 50 Cage culture of the giant freshwater prawn (*Macrobrachium rosenbergii*)**
Maria Lourdes Cuvin-Aralar et al. (2011) 30 pp
- **AEM 43 Philippines freshwater prawns (*Macrobrachium* spp.)**
MRR Eguia et al. (2009) 50 pp



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GIANT FRESHWATER PRAWN CULTURE



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

Why GIANT FRESHWATER PRAWN?

Giant freshwater prawns live in freshwater environments but berried females migrate downstream to brackishwater where the eggs hatch into larvae. Ideal salinity of brackishwater for larvae to survive is 12 ppt. These crustaceans are common in the tropical and sub-tropical waters of the Indo-Pacific region and are reported to grow to a length of 25.5 cm. Based on breeding trials, they take at least six months to mature.



How to culture giant freshwater prawn?

BROODSTOCK MANAGEMENT

- Broodstock are stocked at about 4:1 female-male ratio. Blue- and orange-clawed males are preferred since these males are bigger and are able to mate more efficiently than smaller males.
- Orange eggs of berried females will take about 3 weeks to hatch while grayish or brownish eggs will hatch in 2 to 3 days, usually at midnight to early morning.



Brownish (left) and orange eggs (right)

LARVAL REARING

- Larval rearing tanks may be made of fiberglass, polyethylene, or concrete. Water with a salinity of 12 ppt is used and stocking density is 50–100 larvae/L. Total standing water volume at any given time to produce 700,000 postlarvae (PL) from 2.5 million stage I larvae is 50 tons excluding water change. Allocate 150 m² area for the tanks and other hatchery facilities. This is using the lower limit of stocking density at 50 larvae/m².
- Larvae are fed brine shrimp nauplii, egg custard (solidified egg emulsion), and *Moina* sp.
- Water quality is maintained at pH=7.2–8.5, dissolved oxygen (DO) >3 ppm, temp=28–31°C, ammonia <0.1 ppm.
- The larvae undergo several stages of development before they metamorphose to PL in 28–35 days depending on temperature, nutrition, and other factors.



Polyethylene larval rearing tanks (left) and giant freshwater prawn postlarvae harvested from the SEAFDEC/AQD Hatchery (right). Larval rearing tanks can range from 100 L capacity to several tons, depending on capacity and target production

NURSERY

- Primary nursery duration is 15 to 30 days; Secondary nursery to produce juveniles is up to 60 days.
- The larvae metamorphose to PL and are acclimated to freshwater.
- PL are reared in nursery tanks, ponds, or lake-based hapa net cages and fed commercial feeds at 10–20 % of body weight.
- Fifteen-day old PL (PL 15) and older are ready for grow-out.

Stocking density for nursery

Ponds	1,000 PL/m ² no aeration and substrates
	2,000 PL/m ² with aeration and substrates
Tanks	1,000 PL/m ² without substrates
	2,000 PL/m ² with substrates
Cages	1,000 PL/m ²

GROW-OUT

- Procure quality prawn PL from a reputable hatchery or supplier. Postlarvae are also available at SEAFDEC/AQD's Binangonan Freshwater Station and Tigbauan Main Station. Ensure minimal transport stress to PL.
- Stock PL 15 depending on the culture system to be used. Higher stocking densities could result in smaller prawns at harvest. Cage size varies from 25–200 m² submerged at 1 m depth.
- Provide submerged feeding trays for prawns cultured in cages. Formulated diets for shrimp or fish may be used.
- In both pond and cage culture, stock management could be by batch system (waiting until prawns reach average marketable sizes), or cull-harvest system where marketable size are periodically culled out before one final harvest of the stocks.
- In ponds, use shelters/substrates to increase pond surface area, improve survival of molting prawns, and allow for higher stocking densities.
- Prawns reach marketable size in 4 to 5 months. Mean size at harvest is 25–35 grams. Longer culture period may be required for higher stocking densities.

Stocking density for grow-out

Culture system	Density
Extensive	1–4 PL/m ²
Semi-intensive	5–20 PL/m ²
Intensive	more than 20 PL/m ²

Feeding rate (semi-intensive)

Average prawn weight (g)	Amount of feed (% of total prawn weight)
<5	10
5–15	7
15–25	5
>25	3



Net substrate inside nursery tanks. Substrate provides additional surface area for the PLs.



Floating cage module with plastic drums as floats