LighthouseVision

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nutrition through innovation

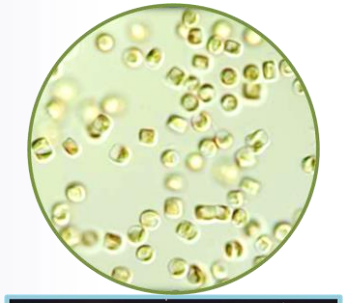
Advances in Hatchery Technology: Breeding and Disease Managment

What Drives Innovation in Shrimp Hatcheries?

CRISIS

- **Disease Out brakes**
- Demand for Higher Efficiency or Profitability
- **Technological breakthroughs for example: Nutrition & Feed**
- Sustainability & Regulations
- New Technology: AI & Automation
- Genetic Selection & Biotech
- Global Competition & Standards
- Industry-Research and **Collaboration Opportunities**

Refresh of Hatchery components:



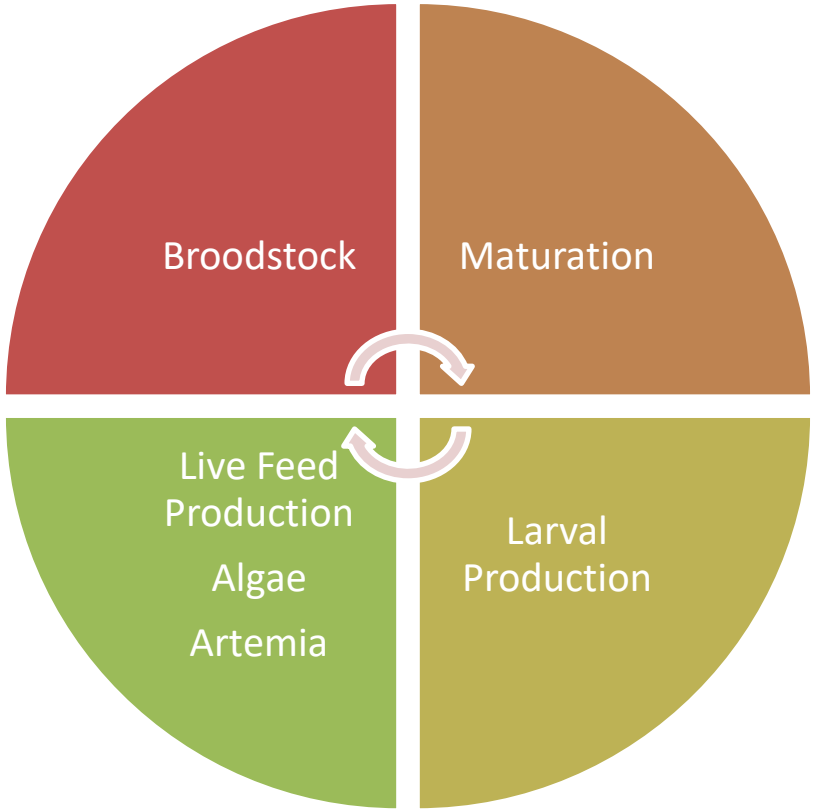
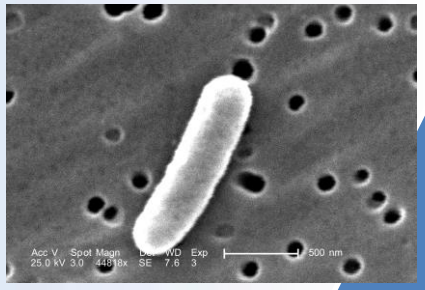


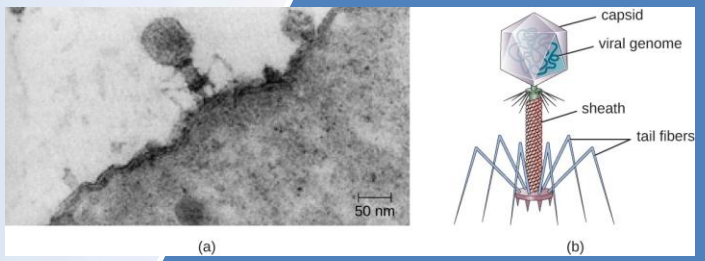
Photo Credit: Artemia Reference Center

Advancements in Larvae Production:

Hatchery Component	Crisis	Advancement
Broodstock	**Disease** Resistance and Growth.	Genetic Selection for disease resistance and growth. • Use of CRISP • Molecular Screening.
Maturation	**Disease**, Biosecurity.	• Artificial Feed to replace fresh feed. • RAS systems. • Non-Ablation.
Algae Production	**Disease,** Quantity and Quality.	• Photobioreactors • Artificial feed to supplement and eliminate disease.
Artemia Production	**Disease**, Quantity and Quality.	• Live clean Artemia delivery process technology. • Artificial Feed to supplement and eliminate disease.
Larval Rearing	**Disease,** Quality and Survival.	• Specialty feed to introduce probiotics and functional ingredients into digestive track. • Probiotics for water quality control. • AI Tools to track larvae quality and quantity.

Biggest Hatchery Challenge is Disease:





Bacterial and Viral

Global Production

What is the biggest challenge facing global shrimp production?

A. Disease	75%
B. Feed cost	0%
C. Market prices (yours)	14%
D. Threat of tariffs	5%
E. Deterioration of environmental water quality	3%
F. Lack of investment capital	0%
G. Government regulations	0%
H. Sustainability expectations	3%

Vibrios sp.

V. alginolyticus

V. anguillarum

V. harveyi

V. parahaemolyticus

V. mimicus

V. vulnificus

V. owensii

V. campbellii

V. fluvialis

V. splendidus

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Where is the highest Vibrio sp., load in the hatchery?

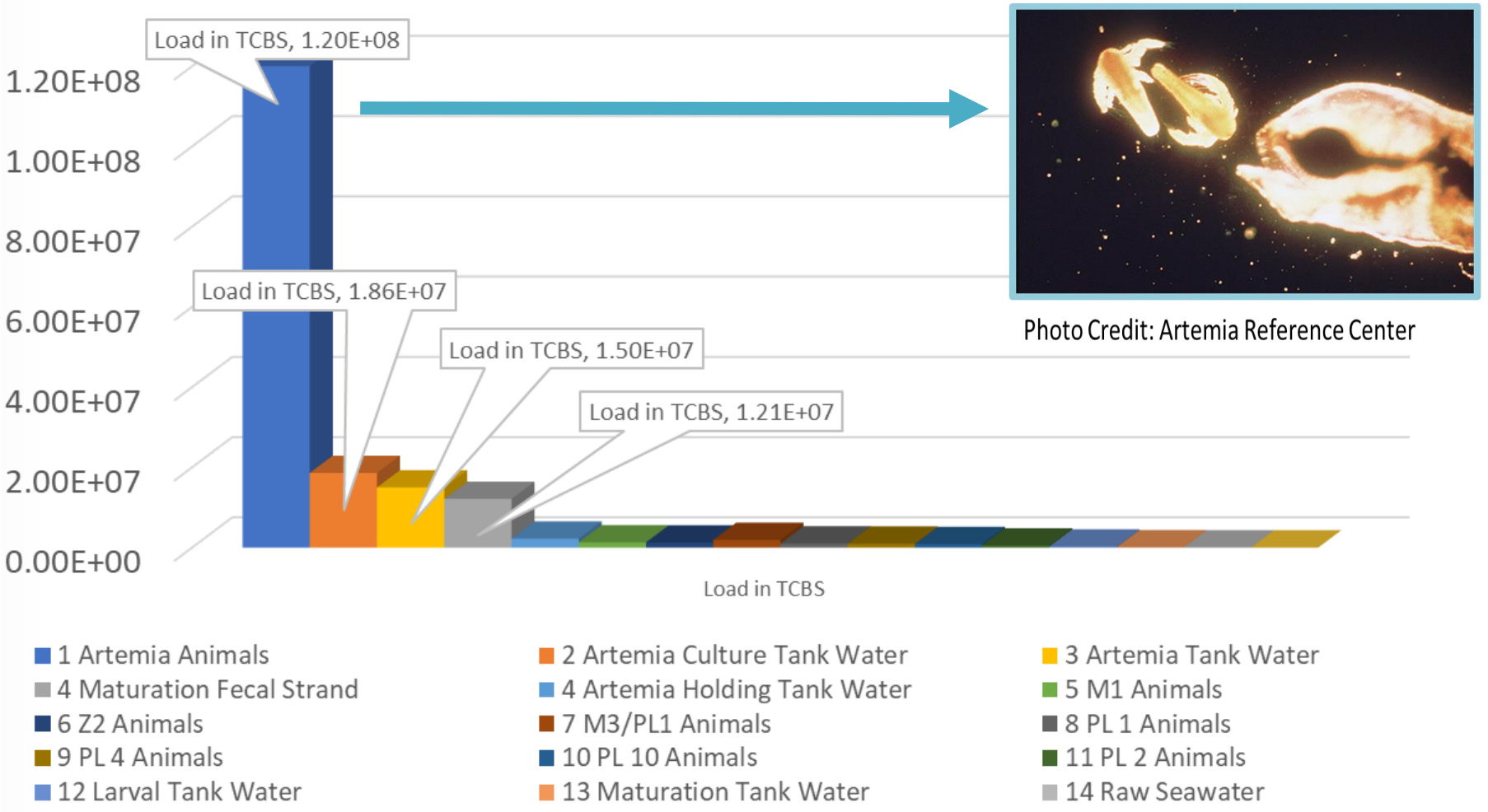


Photo Credit: Artemia Reference Center

Source: Aqua India data Feb 2024

Giving a name to advancements:

Photo Industrial Plankton

Algae

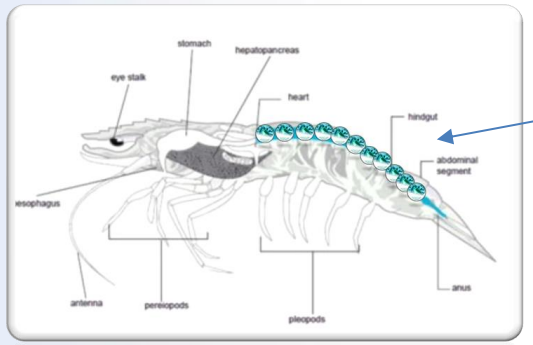
Maturation

Vibrio sp.

Artemia

Larvae

I&V BIO ... a better choice




No thanks!
We are too busy