

# New Artemia Nauplii Center in Ecuador

Luk Van Nieuwenhove and Frank Indigne, I&V BIO



Since the early beginning of shrimp aquaculture, Artemia has been recognized as a good nutritional feed for small shrimp and fish larvae. The fact that the Artemia cysts could be dried and stored for a long time made it convenient for the aquaculture sector in general. Ever since the early 1980s, the industrial fish and shrimp hatcheries have been buying and using Artemia cysts in the same way. The Artemia cyst suppliers offer dry cysts in a can, but the shrimp hatchery actually wants Artemia nauplii to feed to their shrimp.

## Uncertainties of traditional Artemia culture

Producing Artemia nauplii from cysts seems like an easy task, but there are important obstacles on the way to a

clean Artemia nauplii, such as good quality Artemia cysts, clean seawater at the right temperature, sufficient light and oxygen and right harvest timing.

The biggest concerns for the shrimp hatchery managers are:

- Will I have enough Artemia nauplii for today?
- Will these Artemia nauplii be contaminated with *Vibrio*?
- Will I be able to separate the Artemia nauplii from the empty and full (non-hatched) cysts?
- Will I be able to separate the cysts shells without damaging the Artemia nauplii?
- How can I know how much Artemia nauplii I am feeding to each shrimp tank?



All these risks result in frustration for the shrimp hatchery owners and managers. Actually, these people want to focus on shrimp cultivation rather than putting so much time and effort in hatching Artemia cysts. It is very disappointing to be confronted with hatching results not matching the promises of the cyst-can supplier and the unknown consequences of feeding Artemia nauplii loaded with bacterial contamination.

### Artemia Nauplii Centers

As the shrimp industry is rapidly evolving to more professional and controlled production from broodstock to market size shrimp, there is a task for the feed industry to keep the same pace. During the last decade, a lot has been achieved through improved feed formulation, development of probiotics, improved broodstock and more ecological awareness. Over all these years, one thing has remained the same which is the daily hatching of Artemia. Neither the packaging nor the instructions for use were ever changed.

Eight years ago, I&V-BIO started working on a revolutionary solution which finally took the Artemia burden away from the shrimp hatcheries by creating Artemia hatching facilities where all the know-how combined with new ideas could produce Artemia nauplii in a professional and industrial way. The result was a pure Artemia nauplii (Instar1) free of shell and other impurities that was undamaged thanks to a patented new technology and free of *Vibrio*.

The Artemia nauplii are disinfected and brought into suspended animation and de-watered until a consistent paste is achieved. It is then packed into 800 g trays and delivered daily to the shrimp farms.

One tray of 800 g is the equivalent in biomass of a GSL cyst can with 70% hatching rate. The Artemia nauplii are ready to use and can be scooped from the tray directly into the shrimp tank.

From a can, it is not sure if 70% would hatch. It all depend on the quality and the hatching conditions. It is also not sure if all of the Artemia nauplii could be recovered during manual separation with the risk of damaged nauplii and *Vibrio* contamination.

### New facility in Ecuador

I&V-BIO Ecuador S.A., a joint venture between the CODEMET Group and I&V BIO Group, opened a new, state-of-the-art Artemia Nauplii Centre in Ecuador. This is the first Artemia nauplii center in Latin America and the fifth world-wide.

Ecuador is the biggest producer/exporter of shrimp and has a great future. Today the Artemia consumption in hatcheries is relatively low compared to other shrimp producing countries. One of the reasons is the uncertainty of the bacterial load of the traditionally hatched Artemia cyst. With clean and *Vibrio*-free nauplii from I&V-BIO at an attractive price, the company expects hatcheries will use more nauplii as it is proven that feeding 100% Artemia nauplii from Mysis until PL5 produces bigger and healthier PLs compared to any other feeding regime.

Besides Ecuador, I&V-BIO has similar Artemia Nauplii Centers in Thailand, India, Indonesia and Vietnam that are all operational and successful. By August 2020, I&V-BIO Bangladesh will be operational, and two more locations are under negotiation.

#### More information:

**Luk Van Nieuwenhove**  
COO and co-owner  
I&V BIO, Thailand  
E: [luk@iandv-bio.com](mailto:luk@iandv-bio.com)



**Frank Indigne**  
CEO and co-owner  
I&V BIO, Thailand  
E: [frank@iandv-bio.com](mailto:frank@iandv-bio.com)

