



INVE AQUACULTURE NUTRITION  
LIVE FEED &  
ENRICHMENT DIETS



## THE VERSATILE LIQUID LIVE FEED ENRICHMENT

**LIQUID ENRICHMENT FOR BOTH ARTEMIA AND  
ROTIFERS**

**INNOVATIVE SUSPENSION-EMULSION TECHNOLOGY**

**FORMULATED WITH THE HIGHEST QUALITY  
INGREDIENTS**

**S.presso** is a liquid enrichment product for rotifers and Artemia. Formulated with the finest and sustainable raw materials, developed based on advanced knowledge on marine fish larvae nutritional needs.

The product itself is a suspension/emulsion. INVE Aquaculture developed this innovative technology as an update of the well known **SELCO®** emulsions in which liquid and insoluble particles are mixed. This guarantees an optimal intake of the various ingredients by rotifers and Artemia and to reach a DHA/EPA ratio above 7. **S.presso** is very flexible product that can be used for multiple enrichment strategies depending on your own protocols.



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# SELCO® S.presso

## PRODUCT CHARACTERISTICS

### MULTI-PURPOSE

One product for optimal enrichment of both Rotifer and Artemia.

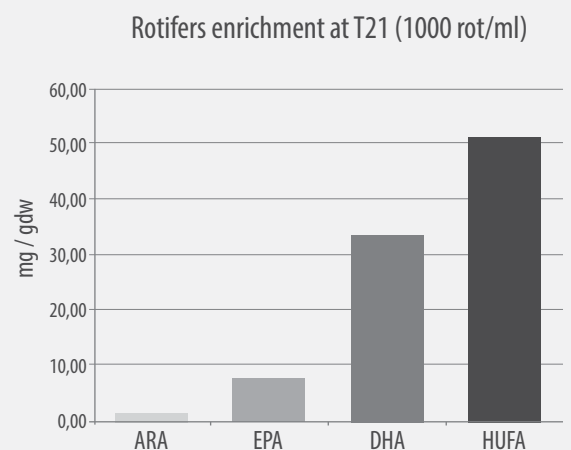
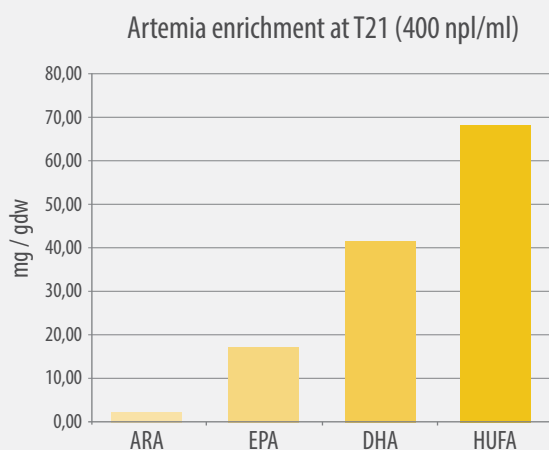
### COMPLETE

A complete liquid enrichment containing trace-elements, micro-elements, lipids, vitamins and natural Astaxanthin.

### CLEAN

It creates an unpolluted environment ensuring perfectly clean enriched rotifers and Artemia nauplii.

## A PREMIUM ENRICHMENT



## PREPARING THE PRODUCT



Fill a container with lukewarm fresh water (35-40°C)

1. Slowly add the product to the water (max. 300 g/liter)
2. Blend for 3-5 minutes.

Apply according to your enrichment strategy.

# INSTRUCTION FOR USE

## TANK PREPARATION

- Clean and disinfect the enrichment tank, airstones and air tubing prior to use and rinse well.
- Disinfect the water of the tank with e.g. 10 ppm OCI- and aerate gently for ± 1 hour.
- Deactivate any remaining chlorine by adding 12 ppm sodiumthiosulphate.

## OPTIMAL CONDITIONS

	Rotifers	Artemia
Density (/ml)	1000-2000	300-1000
Salinity	20-30 ppt	25-40 ppt
Temperature	25-27°C	26-28°C
Oxygen	> 5 ppm. Use leaky pipe or fine bubble device	
Aeration	medium-strong open tube to keep animals suspended	

## ENRICHMENT - FOR ROTIFERS

### Good to know before you start

- Always gently harvest the rotifers in a filter bag to avoid physical stress.
- Make sure the rotifers are always submerged and avoid "splashing" in the filter.
- After harvest, rinse the rotifers using same water T°C as the culture tank.
- Enrich in a separate tank.
- First add the enrichment (or background feeding), then the rotifers.
- Use rotifer culture diet as background feeding if the enrichment exceeds the recommended duration.

### Enrichment strategies

Short Enrichment (harvest after 6 hours)

Use up to 260 ppm of S.presso in 2 doses (T0 & T3) with a density of 1000 R/ml. doses must be fine-tuned according to, rotifer density, strain, and local conditions.

Standard Enrichment (harvest after 9-12 hours)

Use up to 260ppm of S.presso in 2 doses (T0 & T4) with a density of 1000 R/ml.

Long Enrichment (harvest after 20 hours)

Use up to 2 x 130 g S.presso per m<sup>3</sup>, 4 and 8 hours before the harvest with a density of 1000 R/ml.

A background feeding with rotifer culture diet needs to be given every 6 hours prior to the start of enrichment (max. 2 background feedings).

## ENRICHMENT - FOR ARTEMIA

### Good to know before you start

- Ensure tank and water are well disinfected
- Artemia can only be enriched from instar II 4-6 hours after hatching
- pH levels during enrichment must be 7.5-8.5
- INVE Aquaculture recommends the use of Sanocare® ACE in order to improve the quality of Artemia enrichment (for further information consult Tips & Tricks Artemia and water conditioner Technical card)

### Enrichment strategies

Add 2 x 500 g S.presso per m<sup>3</sup> (at T0 and T10) in the enrichment tank, containing up to 400 million npl/m<sup>3</sup>, or different dose for higher densities. (consult table below)

Enrich for a period of 18 to 22 hours.

Harvest with the Concentrator-Rinser not later than T22.

nauplii/ml	Amount of S.presso
up to 400	2 x 500 g/m <sup>3</sup>
700	2 x 900 g/m <sup>3</sup>
1000	2 x 1000 g/m <sup>3</sup>

Cold storage

Temperature: 5-8°C

Density: - Rotifer up to 20 million per liter  
- Nauplii up to 5million per liter

Oxygen: 4-6ppm (use soft point aeration and diffuser collar)

Salinity: 25-35ppt

SELCO®

# S.presso

## A QUICK GUIDE TO ENRICHMENTS

### I. What is an enrichment?

Enrichments in modern marine larviculture are ingredients or products, which are fed to the live food (usually to rotifers and Artemia) to enhance the nutritional or functional properties of live preys to the benefit of fish larvae.

### II. What type of enrichment are available?

Enrichments are made in 2 main forms: liquid emulsions and dry powders. Both work via the ingestion (bioincapsulation) by the live food, which make available the nutritional qualities of the enrichment products to the fish larvae.

### III. How to optimally use an enrichment?

For optimal use, the enrichments need to be dispersed in the water via a strong mechanical process (blending) and put into the enrichment tank where the live food will filter-feed on the small particles

It is therefore important:

1. To maximise enrichment availability to live food
2. To respect correct preparation, dosages, timings and parameters
3. Resulting in optimal enriched live food that secures efficient nutrient transfer to fish larvae

#### 1. Evaluation of the enrichment

This can be done under a microscope looking at the internal organs of the live prey. However, this only provides a very rough indication of the enrichment efficiency.

Enrichment performances need accurate analytical methods. We advise you to contact your INVE representative for more information.

#### 2. Dispersion in the water

It is very important to know that the better the enrichments are blended (dispersed into water), the easier it will be for the live food to catch and filter the essential nutrients.

In other words: the live food will be better enriched at the end of the enrichment phase, ultimately saving you costs because the live food will be more nutritional for the fish larvae.

#### 3. Avoid live food starvation

Live food have high metabolism and thus will consume enrichment, this is influenced by Temperature. In order to reduce this effect, soon after enrichment is terminated. Live food is harvested washed with clean water and either fed to larvae or kept at low temperatures 5-8°C for maximum 24 hour. Never store enriched live food at ambient T°C as a large part of the enrichment will be lost.

#### 4. Tips & tricks: rotifers

Never leave the rotifers hungry when starting the enrichment. Starvation will decrease their resistance stress and will decrease enrichment efficiency.

Monitor O2 and pH levels, constantly keeping them over the minimum advised values.

It is important to know that during the enrichment stage, rotifers will prefer to take up oil droplets,

making them lighter and allowing them to float on the water surface.

This floating phenomenon will occur especially in separate enrichment tanks with clear water. To avoid this, add a small quantity (50ppm) of culture diet - S.parkle or Roboost in order to increase the viscosity in the enrichment tank.

#### 5. Tips & tricks: Artemia

Artemia can be enriched starting from Instar II nauplii. For the best enrichment we advise to check the hatching kinetics or contact your INVE representative Monitor O2 and pH levels, constantly keeping them over the minimum advised values. Because of nutrient rich medium during enrichment microbial population might drastically increase. In order to control this effect and improve enrichment uptake by nauplii, INVE Aquaculture strongly advises the use of **Sanocare**® ACE during hatching and enrichment

## AVAILABLE PACKAGING

S.presso is available in cardboard boxes of 9 x 1 kg bottles.

## STORAGE/SHELF LIFE

The product should be stored in a cool, dry place (max. 10°C).

Once opened, it should be used within one month, kept well closed when not used and stored in a refrigerator. Do not freeze.

The shelf life is 24 months from date of manufacturing.

## TYPICAL COMPOSITION

### GUARANTEED

moisture		58%
crude oils and fats		35%
crude protein		2%
crude ash		0.2%
phosphorus		0.2%
sodium		0.2%
crude fibre		0.1%
calcium		0.1%
DHA		260 mg/g dwt
EPA		25 mg/g dwt

### ADDITIVES

#### VITAMINS

vit. A	3a672b	110,000 IU/kg
vit. D3	3a671	10,000 IU/kg

#### TRACE ELEMENTS

zinc (zinc chelate of glycine, hydrate (solid))	3b607	130 mg/kg
selenium (selenomethionine produced by <i>Saccharomyces cerevisiae</i> NCYC R646 (selenised yeast inactivated))	3b813	0.35 mg/kg

#### ANTIOXIDANTS

BHA	E320	72 mg/kg
BHT	E321	72 mg/kg
propyl gallate	E310	100 mg/kg

**S.presso** is formulated using premier marine ingredients, selected following INVE Aquaculture's stringent quality requirements. We source our ingredients only from certified and respected suppliers. **S.presso** does not contain feed materials derived from terrestrial animals. With regards to sustainability: as of 2013, INVE has applied criteria for sourcing fish meals and fish oils. These ingredients are purchased from suppliers whose products originate from responsibly managed fisheries (through IFFO RS certificates or equivalent).



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To the best of our knowledge, the technical data in this technical card is accurate and reliable as of the date of publication. We do not assume any liability for the accuracy and completeness of the above information. Please inspect and test our products in order to satisfy yourself as to the suitability of the products to their particular purpose.

For more information, please contact your local INVE Aquaculture Service Center or take a minute to visit our website:

[www.inveaquaculture.com](http://www.inveaquaculture.com)

