EVEN IN CHALLENGING CONDITIONS...

... PERFORMANCE WILL BE SUPPORTED
**SELISSEO® HELPS FISH AND SHRIMP FIGHT OXIDATIVE STRESS**

**Selisseo®** is your best investment in shrimp and fish feed.

It insures an enhanced stress resistance, better immunity and health, optimal growth and higher quality of filets.

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**SELISSEO®, THE INNOVATIVE ANTIOXIDANT**

Selisseo® contains 100% hydroxy-selenomethionine, a pure and highly available form of organic selenium.

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**FISH**

Fish receiving Selisseo® have better antioxidant capacities, translating into a higher amount of selenoproteins and also better growth.

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**TRIAL RESULTS HAVE SHOWN**

- Better antioxidant status:
  +50% GPx and +30% SOD vs seleno-yeast$^{(a)}$

- Improved survival rate after stress:
  +5% vs negative control$^{(a)}$
  +4.5% vs sodium selenite$^{(a)}$
  +2.2% vs seleno-yeast$^{(a)}$
SHRIMP

Selisseo® promotes better performance and stress resistance in shrimp.

TRIAL RESULTS HAVE SHOWN

- Higher biomass yield / tank:
  +10% vs negative control[4]

- +66% improvement of shrimp production at day of culture 86 in a commercial farm compared to selenite[2]

- Better antioxidant status:
  +10% GPx vs negative control[9]
  +7.5% SOD vs negative control[9]

- Improved survival rate under nitrite stress conditions:
  +20% vs negative control[10]

THE ANTIOXIDANT FUNCTION OF SELENIUM

At a cellular level, stress translates into an increased production of oxidative species, upsetting the balance between prooxidants and antioxidants and damaging cell structures.

Selenium, a key player in antioxidant defenses: Selenium is present in 2 amino acids: the storage form selenomethionine (SeMet) replaces regular methionine in proteins; the active form selenocysteine (SeCys) is found only in the catalytic site of several proteins called selenoproteins. Several of these selenoproteins are antioxidant enzymes.

Selisseo® promotes the functional form of selenium, SeCys, present in selenoproteins that maintain the oxidative balance in spite of external stresses.

Effect of Selisseo® on glutathione peroxidase concentration in serum GPx (µmol/L)[1]

![Graph showing the effect of Selisseo® on glutathione peroxidase concentration in serum GPx (µmol/L).]

Selisseo® is highly efficient in promoting selenoproteins, such as glutathione peroxidase. Fish and shrimp have therefore sufficient levels of GPx to counteract the negative effect of reactive oxygen species.

All the results reported in this document are extracted from trials where Selisseo® was compared to another source of selenium. They should be considered as examples demonstrating the effect of Selisseo®.

[1] Trial conducted in China, 2017 (Research center)
[2] Trial conducted in India, in a commercial farm, 2016
[4] Trial conducted in Spain, University of Las Palmas, 2017
[5] Internal trial, Adipora

More data are available upon request.

GPx = Glutathione Peroxidase, SOD = Superoxide Dismutase
LET’S USE SELISSEO® IN YOUR FEED!
IT’S RELIABLE, STABLE, SAFE AND EASY TO USE!

Selisseo® can withstand extreme feed processing conditions including high temperatures and pressures

Selisseo® provides 100% active OH-SeMet batch after batch

Selisseo® has consistent particle size without fines for safe and easy mixing into the feed, with low dust.

### DESCRIPTION

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<th>Selisseo® 2% Se</th>
<th>Selisseo® 0.1% Se</th>
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| Composition     | **Active substance**: Hydroxy-selenomethionine (OH-SeMet)  
                  **Chemical formula**: CH$_3$Se-(CH$_2$)$_2$-CH(OH)-COOH |                  |
| Carrier          | Silica          | Silica, Limestone fine |
| Appearance       | Powder          | Powder             |
| Color            | White to light beige | White to light beige |
| Selenium Content | Min 2%          | Min 0.1%           |
| HMSeBA           | Min 5%          | Min 0.25%          |
| Packaging        | 20 kg carton (400 kg/pallet)  
                  | 25 kg bag (1000 kg/pallet) |

*Under pet food processing: 115-130°C, 130 bar*