



Selisseo®

SELISSEO®, THE INNOVATIVE ORGANIC SELENIUM-BASED ANTIOXIDANT

HELPING ANIMALS FIGHT OXIDATIVE STRESS



Selisseo® is the only hydroxy-selenomethionine on the market

Fully delivering the benefits of organic selenium for better reproduction performance, enhanced stress resistance and immunity, optimal growth and high quality of end-products.



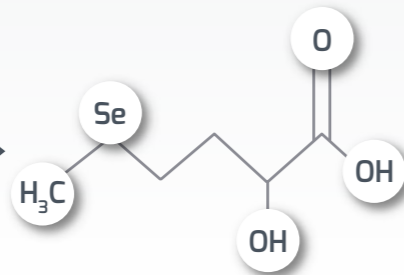
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ADISSEO
A Bluestar Company

SELISSEO® HELPS ANIMALS FIGHT OXIDATIVE STRESS

Selisseo® contains 100% hydroxy-selenomethionine (OH-SeMet), a pure and highly available form of organic selenium, enhancing the antioxidant defences of animals, and improving their reproductive and productive performance, as well as the end-product quality.

SELISSEO®
(EU registration 3b814)
is a pure source of OH-SeMet.
At the 2014 SPACE exhibition in France, Selisseo® received the highest 3-Star Innov'Space Award. This award recognizes new product innovation.



SELENIUM (Se)
is an essential nutrient for life
With established requirement from 0.1-0.3 ppm to support basic functions. Although inorganic Se sources are commonly used as feed supplements, recent research has firmly confirmed that organic Se sources, specifically selenomethionine (SeMet) or hydroxy-selenomethionine (OH-SeMet), are much more easily utilized.

100% EFFICIENT
It contains 100% OH-SeMet and is fully absorbed by the animal.

PURE
It is a well-defined chemical molecule: OH-SeMet, easy to analyze by HPLC.

SAFE & EASY TO USE
Its consistent particle size without fines makes it safe and easy to mix into the feed, with low dust.

RELIABLE
it provides 100% active OH-SeMet batch after batch.

STABLE
It can withstand extreme feed processing conditions including high temperatures & pressures.



RECOMMENDED USAGE*

Selisseo® 2% Se: 10-15 g/MT of feed
Selisseo® 0.1% Se: 200-300 g/MT of feed
Selisseo® 2% Se: 10 mL/T of feed
*vary per regulation and country

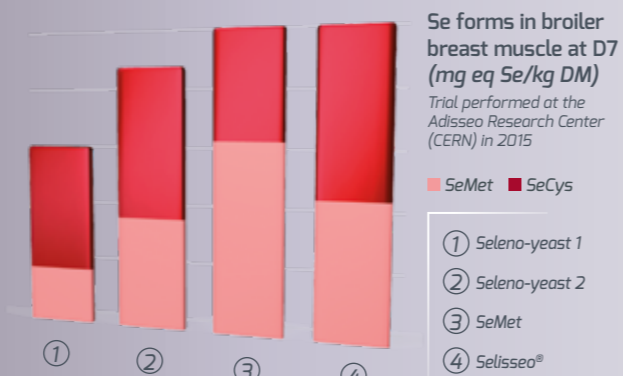
THE ANTIOXIDANT FUNCTION OF SELENIUM

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

Selenium, a key player in antioxidant defences:

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.



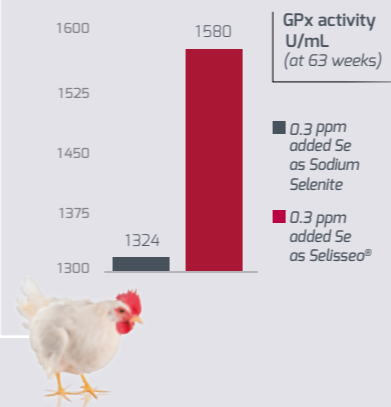
Selisseo® is the most efficient organic Se source inducing both higher Se deposition and a higher SeCys content, thus providing animals with high antioxidant capacities.

POULTRY

BREEDER

Selisseo® improves reproduction performance in breeders.

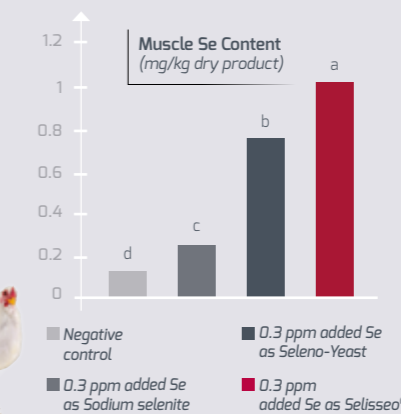
- Fertility rate **+3.5%**⁽¹⁾
- Higher hatchability: **+10.8%**⁽¹⁾
- Enhanced antioxidant status: **+19% GPx**⁽²⁾ offering greater robustness of day-old chicks.



BROILER

Selisseo® alleviates the effect of stress on growth and allows birds to maintain higher levels of performance and better meat quality parameters.

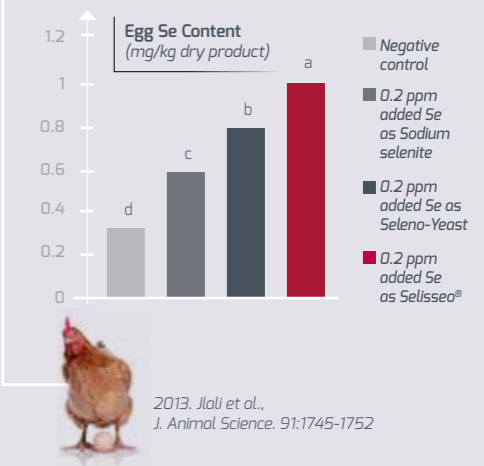
- Better selenium deposition: +39%** Se in breast muscle and induces two times more Se-Cys deposition than Se-yeast at 21 days of age. (2013. Briens et al., British J. Nutrition. 110: 617-624)
- In 42-day broilers, **+48%** Se deposition in muscle compared to Se-yeast. (2014. Briens et al., Poultry Science. 93:85-93)



LAYER

Selisseo® promotes higher egg production.

- Selenium enriched eggs: **+50%** selenium content⁽³⁾
- Improved and longer freshness: **+78%** Haugh units after 10 days storage⁽⁴⁾
- Better albumen viscosity: **+55%**⁽⁵⁾



SWINE

BREEDER

FERTILITY

Organic selenium helps:

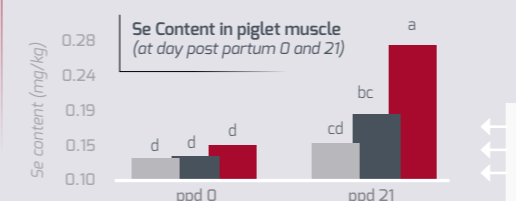
- Improve sow fertility through better ovarian follicular development, Optimal ovulation, better fertilisation, better embryonic development and implantation.
- Improve boar fertility through better spermatozoa motility and survival. Ref: Selenium in sow nutrition, Animal Feed Science and Technology, P.F. Surai, V.I. Fisinin.

PROGENY STATUS

Sows fed Selisseo® (0.3 ppm) from day 84 of gestation until the end of lactation were able to **better transfer Se to piglets through milk**, resulting in:

- Higher Se content in the muscle of piglets at 21 days: **+46%**⁽⁶⁾
- Higher antioxidant capacity at 21 days: **+16% serum GPx activity**⁽⁶⁾

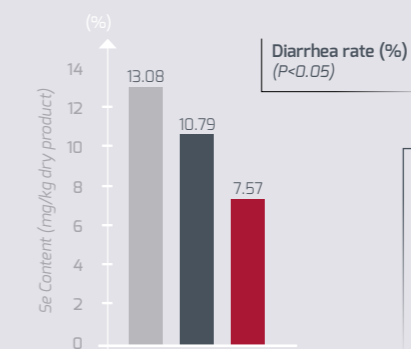
Better Se transfer through colostrum was also observed and resulted in better immunity.



PIGLET

Weaning is a delicate phase of swine production. It is also around that time that the pigs are vaccinated against various diseases. Selisseo® fed piglets can better withstand this phase thanks to:

- Higher antioxidant status: **+81% total antioxidant capacity in serum**⁽⁷⁾
- Lower diarrhoea occurrence: **+30%**⁽⁷⁾
- Greater immune response after exposure to a LPS challenge: **+101% IL-10 3 h. after the injection (anti-inflammatory response)**⁽⁸⁾



GROWER & FINISHER

Selisseo® significantly increased Se deposition in muscle, with greater bioavailability as compared to Se-yeast (up to **+62%**).

(2013. Jiali et al., J. Animal Science. 92:182-188).



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 University of Sao Paulo, Brazil 2016
⁽²⁾Trial conducted in Nalanda Broiler Research Farm, India 2015
⁽³⁾2013. Jiali et al., J. Animal Science. 91:1745-1752
⁽⁴⁾Trial conducted in Thailand, 2015
⁽⁵⁾Trial conducted in INRA-Agro Campus Ovest, France 2016
⁽⁶⁾Trial conducted in Huazhong Agricultural University, China 2016
⁽⁷⁾Trial conducted in Sichuan Agricultural University, China 2016
⁽⁸⁾Trial conducted in Schotthorst Institute, the Netherlands 2016
More data are available upon request.

GPx = Glutathione Peroxidase

SELISSEO® IS YOUR BEST INVESTMENT FOR ALL ANIMAL SPECIES

It insures an enhanced stress resistance, better immunity and health, optimal growth and high quality of end-products.

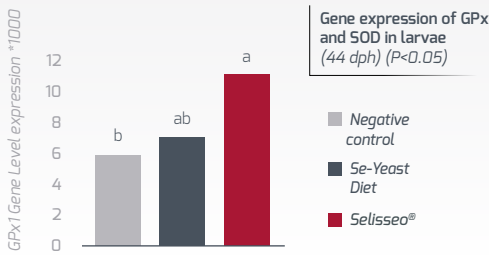
AQUA

FISH



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

- **Better antioxidant status:**
+50% GPx and
+30% SOD vs seleno-yeast⁽³⁾
- **Improved survival rate after stress:**
+5% u. vs negative control⁽³⁾
+4.5% u. vs sodium selenite⁽⁴⁾
+2.2% u. vs seleno-yeast⁽⁴⁾

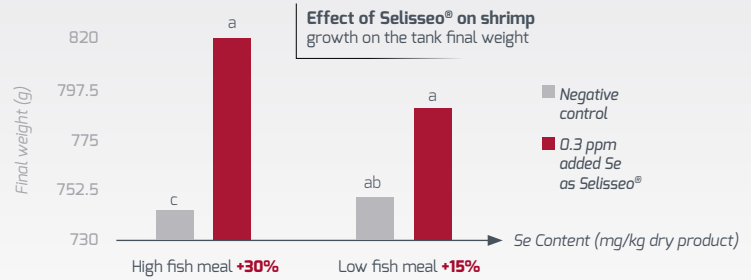


SHRIMP



Selisseo® promotes better performance and stress resistance in shrimp.

- **Higher biomass yield / tank:**
+10% vs negative control⁽¹⁾
- **Better antioxidant status:**
+10% GPx vs negative control⁽¹⁾
+7.5% SOD vs negative control⁽¹⁾
- **+66% improvement of shrimp production** at day of culture 86 in a commercial farm compared to selenite⁽²⁾
- **Improved survival rate under nitrite stress conditions:**
+20% vs negative control⁽¹⁾



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 a commercial farm, India 2016
- ⁽³⁾ Trial conducted in University of Las Palmas, Spain 2016
- ⁽⁴⁾ Trial conducted in University of Las Palmas, Spain 2017

More data are available upon request.
GPx = Glutathione Peroxidase, SOD = Superoxide Dismutase

DESCRIPTION	Selisseo® 2% Se	Selisseo® 0.1% Se	Selisseo® 2% Se Liquid
Composition	Active substance: Hydroxy-selenomethionine (OH-SeMet) Chemical formula: CH ₃ -Se-(CH ₂) ₂ -CH(OH)-COOH		
Carrier	Silica	Silica, Limestone fine	Water
Appearance	Powder	Powder	Translucent liquid
Colour	White to light beige	White to light beige	Pale yellow to pale pink
Selenium Content	Min 2%	Min 0.1%	Min 2%
HMSeBA	Min 5%	Min 0.25%	Min 5%
Recommendations for Use	10-15 g/MT of feed*	200-300 g/MT of feed*	10 mL /MT of feed*
Packaging	20 kg box (400 kg/pallet)	25 kg bag (1000 kg/pallet)	Cardboard box containing 4x5 liters Jerry Cans or 1000 L IBC

*Varies according to the regulations and country

