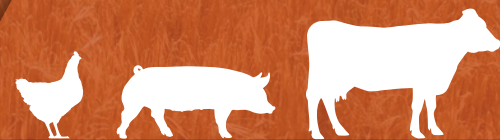


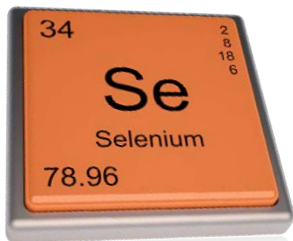


SEL-PLEX®

“A SUPERIOR SOURCE
OF ORGANIC SELENIUM.”



What is Selenium?



Selenium is an essential trace mineral for animals and people. It acts as a powerful antioxidant and plays a critical role in metabolism, growth, reproductive health, and the body's natural defenses. It also optimizes the immune system of animals during periods of increased demand. Securing the immune system leads naturally to improved performance, as animals waste less energy fighting disease.

Most of the world's agricultural areas are in regions where feed and forages have suboptimal selenium levels. Selenium deficiency is related to various diseases in animals and humans, along with decreased productive and reproductive performance in livestock. Hence, meeting animals' selenium requirements is one of the key factors in production efficiency.

SEL-PLEX® – Alltech's proprietary form of selenium yeast.

Sel-Plex is Alltech's proprietary organic form of selenium yeast. It is an excellent dietary source of selenium and is manufactured to mimic Mother Nature. That is, the selenium in Sel-Plex is in the same form that is found naturally in plants.

Research shows that optimizing selenium nutrition in the diets of food animals increases the efficiency of egg, meat and milk production. More importantly, it improves the quality and nutritive value of these products. Sel-Plex delivers a superior source of selenium with the benefits of antioxidants.

Selenium form drives efficiency

Evidence from the last 20 years indicates that the form of dietary selenium is key to its efficiency. This led to an industry shift toward safer organic forms and a movement away from the traditional form of selenium supplementation (sodium selenite).

Selenite's high toxicity, negative interactions with other minerals, possible contamination with heavy metals, and lack of traceability and safety have caused the industry to question its use.

It's time to reevaluate the form of selenium that goes into food-animal diets, human diets and our environment. The selenium from Sel-Plex is safer and is better able to meet the higher requirements of modern livestock raised for rapid growth, reproductive performance and health.



BENEFITS OF SEL-PLEX®



Why SEL-PLEX®?

✓ PROVEN

Sel-Plex is the only FDA reviewed form of organic selenium, and was the first strain specific form to be EU approved in all species.

📍 TRACEABLE

• Sel-Plex is manufactured, packaged and sold by Alltech using highly controlled manufacturing processes and quality control methods.

• By applying molecular identification checks, we can track its presence in feed. You will always know where your organic selenium source comes from.

⊕ SAFE

Supported by more than 27 years of research, Sel-Plex is the most researched and proven form of organic selenium.

BENEFITS FOR | POULTRY

BREEDER AND LAYER

Selenium supplementation is linked to:

- Supported breeder fertility
- Optimized selenium status of the:
 - Egg
 - Embryo
 - Newly hatched chick
- Better hatchability
- Better chick viability
- Optimized egg quality

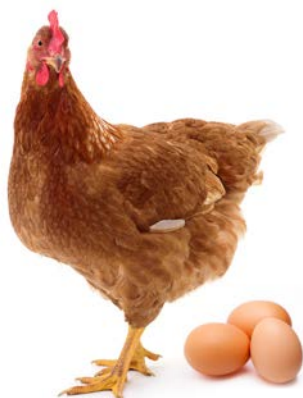


Table 1: Effect of dietary selenium source (0.3 ppm) on the performance of broiler breeder females

Diet	Hatchability (%)	Hatch of fertile eggs (%)	Chick production (no.)
Control	77.9	88.6 ^b	131.3 ^b
Selenite	82.5	91.5 ^a	139.1 ^{ab}
Organic Se (Sel-Plex)	83.5	92.5^a	145.3^a

Renema, 2004

^{a, b} Values with different superscripts differ (P<0.05)

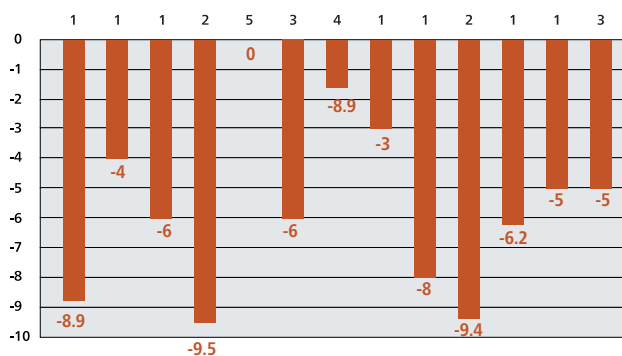
BROILER

Selenium supplementation is linked to:

- Supported feed to gain ratio (-5.3 points)
- Optimized bird health
- Supported robust feathering
- Optimized meat quality



Figure 1: Effect of selenium supplementation (inorganic vs. organic; Sel-Plex) on broiler productivity



¹ Sel-Plex selenium-enriched yeast

Edens and Gowdy (2003) Arruda et al. (2002), Anciu et al. (2004), Choct et al. (2004), Bonaspetti (personal communication, 2005)

Effect of organic selenium on average feed to gain = **-5.3**



BIOAVAILABILITY

- The selenium in Sel-Plex is better absorbed, stored and utilized by the animal than inorganic selenium, helping to boost the body's defense system

- Improved selenium tissue retention means that less selenium is excreted than when livestock are supplemented with sodium selenite or selenate.

- Sel-Plex is environmentally friendly due to lower excretion levels.

COMPLETE

Sel-Plex is designed to completely replace all inorganic and organic selenium sources in the diet.

BENEFITS FOR SWINE

SOW AND PIGLETS

Selenium supplementation is linked to:

- Supported reproductive performance
- Supported selenium transfer to:
 - Colostrum and milk
 - Placenta, resulting in higher selenium status and tissue reserves in piglets
- Viability in piglets
- More piglets weaned per sow per year
- Optimized piglet growth rates

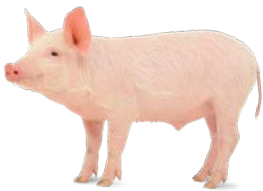
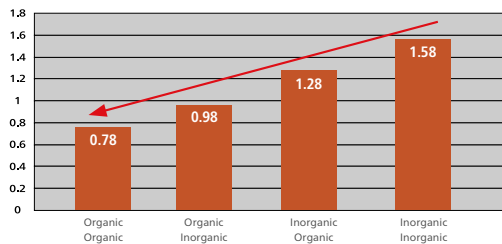


Figure 2: Influence of selenium source (inorganic vs. organic; Sel-Plex) in sow and nursery diets on the rate of mortality and morbidity (N = 1000 piglets).



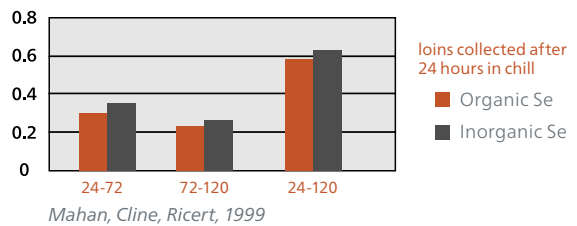
GROWER FINISHER PIG

Selenium supplementation is linked to:

- Supported selenium retention in muscle and tissue
- Supported health status
- Optimized meat quality (e.g. Loins color and drip loss)



Figure 3: Effect of selenium source (inorganic vs. organic; Sel-Plex) on pork meat quality (drip loss)



Effect of organic selenium on weaned piglets per sow per year = **+0.8**

BENEFITS FOR RUMINANTS

FERTILITY

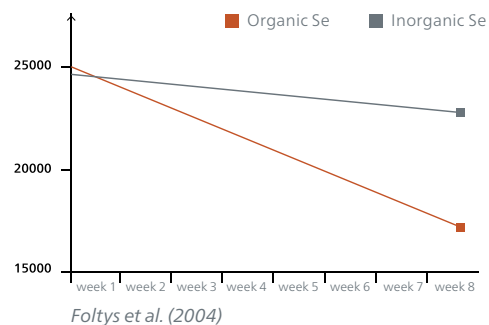
Selenium supplementation is linked to:

- Reduced incidences of retained placenta
- Better conception rates (i.e., first service)
- Reduced number of open days
- Optimized meat quality
- Supported selenium transfer into muscle tissue
- Optimized antioxidant status



SCC was reduced in the organic selenium (Sel-Plex) group by 30% while the inorganic control group was reduced by 7.6%

Figure 4: Effect of selenium source on the SCC (somatic cell count) in milk of dairy cows



Effect of organic selenium on immune support = **80%** compared to the control



THE WORLD'S LEADING EXPERTS AND PRODUCERS OF ORGANIC SELENIUM.

Research into total replacement started more than 10 years ago when Alltech demonstrated that all inorganic trace minerals could be removed from the animal's diet and be replaced with only organic trace minerals in the form of Sel-Plex and Bioplex. We call this innovation Total Replacement Technology (TRT™).

To ensure maximum mineral bioavailability, organic minerals have been developed in the form of Bioplex using chelation technology. Bioplex trace minerals are presented to the animal in a way that is comparable with their natural organic state in plants.

Sel-Plex is the proprietary selenium-enriched yeast from Alltech and is designed to mimic Mother Nature. It is better absorbed and utilized by the animal than inorganic selenium.



Alltech® Q+™

Alltech's quality program is unique to the Sel-Plex and Bioplex range of trace minerals and forms an integral part of the Alltech Quality System (AQS).

This positive release program guarantees that all incoming batches of inorganic trace mineral raw material and final Sel-Plex batches are tested for dioxins, PCBs and heavy metals prior to sale.

SEL-PLEX®

For more information, please contact your local Alltech representative..

