

SEL-PLEX[®]

The 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:



Immune health



Reproduction



Mitigating oxidative stress



Growth development

Selenium deficiency is related to various diseases in animals and humans, along with decreased growth and reproductive performance in aquatic species. As such, meeting animals' selenium requirements is one of the key factors in achieving optimal production efficiency and producer profitability and in providing consumers with a nutritious source of protein.

Alltech's proprietary form of selenium yeast

Sel-Plex is Alltech's proprietary organic form of selenium yeast. It offers an excellent source of dietary selenium provided in a very similar form to the selenium found naturally in organic plant matter. Research has shown that optimizing selenium nutrition in the diets of aquatic species increases the efficiency of fish and shrimp production. More importantly, it improves the quality and nutritive value of these products.

Selenium form drives efficiency

Evidence from the last three decades of research indicates that the form in which dietary selenium is delivered is key to its efficiency. This has led to an industry shift toward less toxic, more effective organic forms of selenium and a movement away from sodium selenite, which has long served as the traditional form of selenium supplementation.

Selenite's high toxicity, negative interactions with other minerals, possible contamination with heavy metals, poor bioavailability and overall safety concerns have caused the industry to reexamine its use.

While newer, chemically synthesized forms of selenium are now being marketed to the feed industry, the available research and regulatory data indicates differences in terms of performance improvement and stability within feed and premix while having toxicity values closer to that of selenite.

The selenium from Sel-Plex[®] is better able to meet the higher requirements of modern aquatic species, which are raised to meet stringent growth, reproductive performance and health standards.

Why SEL-PLEX®?



PROVEN

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



TRACEABLE

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



RESEARCH

Supported by more than 30 years of research, Sel-Plex is the most studied and proven form of organic selenium available.



BIOAVAILABLE

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



LOWER TOXICITY

Sel-Plex organic yeast has been connected to relatively few, if any, toxicity concerns for humans or aquatic species.



COMPLETE

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

BENEFITS OF SEL-PLEX®



AQUACULTURE

Shrimp

Selenium supplementation is linked to:



Improved growth

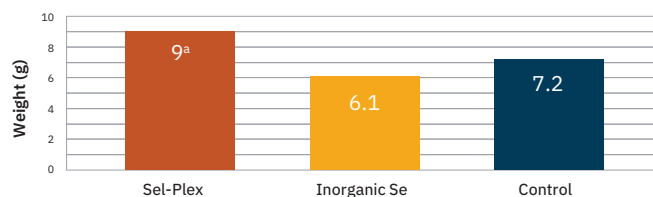


Optimized immune performance



Higher selenium muscle content

Figure 1: Effect of selenium supplementation (0.3 ppm) on the Pacific white shrimp (*Penaeus vannamei*) after 5 weeks



^aValues with different scripts differ ($P < 0.05$)

Sriitunyalucksana et al. (2011)

Table 1: Effect of selenium supplementation on survival of Pacific white shrimp (*Penaeus vannamei*) after 6 days post-TSV challenge

Diet	Number of survivors	% survivors
Control	1.2 ^a	13.30 ^a
Selenite	3.2 ^b	35.59 ^b
Organic Se (Sel-Plex [®])	6.0 ^c	66.77 ^c

Sel-Plex supplementation supported shrimp survival **87%** more compared to selenite

Fish

Selenium supplementation is linked to:



Higher length and weight gain



Increased selenium muscle content



Optimized meat quality

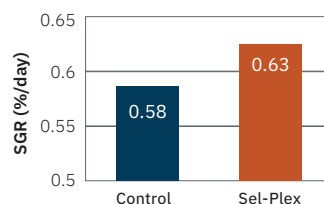


Higher fry survival %



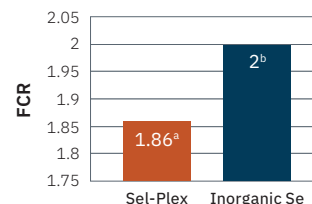
Improved FCR

Fig. 2: Effect of dietary Se on the specific growth rate (SGR) of Atlantic salmon



Sweetman and Morkore, 2007

Fig. 3: Effect of Se supplementation on the FCR of tilapia



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

Sel-Plex supplementation resulted in **+8%** weight gain

Contact your local Alltech representative or email KnowYourMinerals@Alltech.com to learn more about Alltech's Mineral Management solutions.