Excential Selenium 4000 - Foals benefit from selenium in mare's diet

In forage and cereals, selenium is predominantly present in the form of L-selenomethionine, the natural form of selenium in plant protein. Generally, levels in forage and grains are low, as the majority of soils are selenium deficient. Complementary feed provides additional selenium to cover the daily requirements and overcome selenium deficiency in horses. The supplemented selenium can be either inorganic (often sodium selenite) or organic (selenised yeasts or L-selenomethionine). The difference between the organic sources is the concentration of the metabolic effective L-selenomethionine in the product.

DIFFERENT SOURCE, DIFFERENT EFFECT ON FOAL

The efficacy of two sources of selenium, sodium selenite and L-selenomethionine, was evaluated in mares, during gestation and lactation. Their potential to affect the selenium concentration in milk and the selenium status of the foals was investigated. During the last three months of gestation and the first month of lactation, a group of sixteen mares was divided in two equal groups. One group received selenium in the form of sodium selenite whilst the other group received the same level of selenium in the form of L-selenomethionine (Excential Selenium 4000).

Mean selenium concentration in colostrum was numerically higher in mares receiving the organic form of selenium and reached a significant difference in the milk at day 7 and 30 after foaling (figure 1). Higher selenium levels in milk improved the selenium and antioxidant status of one-month old suckling foals (figure 2 and 3). Additionally, bone specific alkaline phosphatase (bone-ALP) was significantly higher in the foals from mares fed with L-selenomethionine. Higher selenium status seems to have a positive effect on the bone metabolism in growing offspring.

SELENIUM METABOLISM

There is a difference between L-selenomethionine and all other forms of selenium in the metabolism. All dietary selenium compounds can be used for selenoenzyme synthesis. Only L-selenomethionine, utilized in the body as an amino acid, can be built into body proteins at the consequence of methionine. Via this specific pathway, L-selenomethionine enables the animal to build up safe selenium reserves and to transfer selenium to the offspring through colostrum and milk.

Figure 1: selenium in milk (µg/kg)

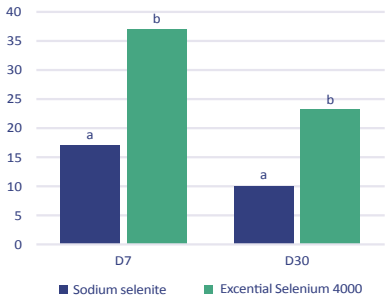


Figure 2: plasma selenium in foals (µg/L)

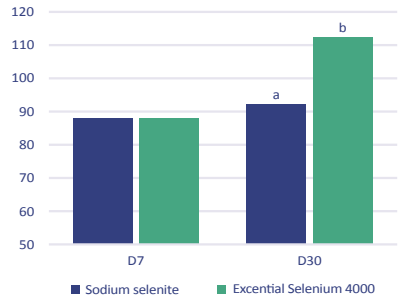
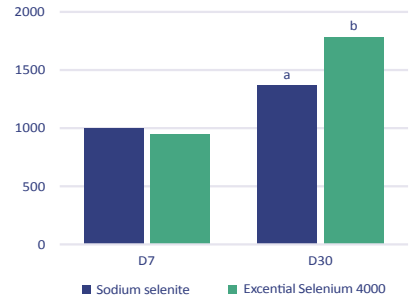


Figure 3: glutathione peroxidase in foals (UI/g Hb)



a, b: Bars with different superscript are significant different (P<0,05)

Multifunctional product; Used in selenoprotein synthesis (antioxidant system) and creates a storage pool of selenium in animal proteins

Consistent levels of selenium and L-selenomethionine

All selenium in most effective organic form, L-selenomethionine

Highly efficient in bringing selenium to the animal and their offspring (via colostrum/milk)

For more information please visit our website and contact one of our specialists (www.orffa.com).