

## Selenium Technology

Introducing a selenium yeast product that improves your horse's antioxidant status.

By Paul Kropp

Selenium, an important mineral required by the body, has recently been put into the spotlight. The FDA has now approved the use of selenium yeast, an organic form of selenium, for use in equine feeds. For their customer's benefit, Seminole Feed will be utilizing this new selenium technology in each of their equine feeds.

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Historically, the selenium used in your horse's feed was in the form of an inorganic compound, such as sodium selenate or selenite, which when compared to the new organic type, was utilized at about half the rate of selenium yeast. Consequently, many horses experience sub-clinical selenium deficiencies. Even though this low level of selenium deficiency is hard to detect, it can depress the animal's antioxidant status, negatively affecting health and performance.

### Boosting Antioxidant Function

It has been well established that selenium and vitamin E are two key antioxidant nutrients in horses. The two compounds work well together but with different functions. Selenium and vitamin E both target free radicals in the horse's system. Vitamin E works inside the cell membrane, and selenium within the cell itself. It should be noted that an excess in one can partially counteract the deficiency in the other.

However, optimum amounts of selenium and vitamin E are important in minimizing the effects of oxidation-induced tissue damage. A constant supply of these nutrients is necessary to maintain a high level of antioxidant protection, as they are used up through the body's detoxifying process. Clinical selenium deficiencies frequently are not detected in horses whose diets contain adequate vitamin E.

Because vitamin E is abundant in green grass and high-quality alfalfa hay, many horses on pasture in selenium-deficient areas do not show outward signs of deficiency. Horse owners must pay close attention to the horse's selenium supplementation program to avoid such issues. This is one of the reasons Seminole Feed has taken the initiative to provide you the best source of selenium available in their feeds.

### Selenium and Performance Horses

Performance horses have a high demand for energy as they perform their event or workload. As their muscles burn this fuel, the muscle cells require a large amount of antioxidants such as selenium. As workload intensifies, demand for antioxidants elevates. If a deficiency occurs, there is the

potential for muscle damage created by the free radicals, which leads to muscle pain and stiffness. This could also lead to a delay in muscle recovery following strenuous exercise. Consequently, maintaining an adequate supply of selenium is essential in performance horses.

#### Reproductive Performance

Optimizing selenium status is also very important to your mares and their breeding performance.

Research proves that an inadequate selenium status can impair colostrum quality for the foals, as well as prevent adequate transfer of selenium through the mother's milk. Data also suggests that selenium deficiencies could play a role in reproductive abnormalities in mares grazing fescue (Heimann, 1993). It is also worth noting, when looking at retained placentas in dairy cows, that a strong association has been made between low blood selenium levels and the incidence of retained placentas (Harrison et al., 1984). The problems were corrected with selenium and vitamin E supplementation.

Many areas of the U.S. with concentrated horse populations have selenium-deficient soils, therefore resulting in selenium-deficient hays and forages. Feedstuffs grown in acidic soils do not efficiently take up selenium. As a result, it is believed that the majority of U.S. horses do not receive adequate amounts of selenium from forages and hence should receive supplemental selenium.

The selenium yeast product utilized in all Seminole feeds is called SelenoSource AF?, and it contains the highest level of selenomethionine of any selenium yeast product on the market. This ensures that your horse will receive the most bio-available source of selenium available today. When you provide this type of diet for your horses, they receive the vital antioxidant protection needed to maintain proper health and performance, whether they are equine athletes or weekend pleasure horses.