

Vitamin E supplementation is essential in winter

Vitamin E is an essential dietary nutrient. It is unique among vitamins in that it is not required for a specific metabolic function. As alpha-tocopherol, vitamin E's main function appears to be the body's major lipid-soluble antioxidant that maintains cell membrane integrity and enhances humoral- and cell-mediated immunity. Thus, vitamin E is notably essential for the proper function of the reproductive, muscular, nervous, circulatory, and immune systems.

During the cold winter months, pasture grass goes dormant, supplying few vitamins to the horses that depend on it for nutrients. Hay, while providing a good supply of energy and fiber, does a poor job of delivering vitamins, particularly essential vitamin E. The potency of vitamin E declines very quickly once forages are harvested and dried. The concentrate portion of the diet typically does not provide adequate amounts of natural vitamin E because commercial feeds are fortified with either poorly utilized synthetic vitamin E or very low levels of natural vitamin E.



Subclinical vitamin E deficiencies most often go unrecognized in horses. Symptoms such as muscle soreness, unwillingness to bend or collect, poor performance, and slow recovery after bouts of exercise may be the result of low vitamin E levels. An impaired immune system or reproduction problems often go undiagnosed and may be attributed to other causes besides inadequate vitamin E supplementation.



Plasma or serum alpha-tocopherol levels can be used to determine vitamin E status. Low blood levels of alpha-tocopherol are the first indication of vitamin E deficiencies in horses. Serum alpha-tocopherol levels above 4 µg/mL appear to be adequate for horses, and levels below 2 µg/mL appear to be deficient (Schryver and Hintz, 1983). Prolonged low serum levels will lead to clinical deficiency symptoms.

Vitamin E requirements vary from situation to situation. Multiple research studies have shown that vitamin E is often deficient in the diets of horses that do not have access to continual grazing on fresh green grass, or those grazing on winter pasture. Performance horses with demanding workloads, late term pregnant or lactating mares, growing horses and seniors can be exposed to increased levels of oxidative stress and therefore require higher levels of vitamin E in their diets. There is some evidence that chronic vitamin E deficiencies can increase the risk of equine motor neuron disease.

To protect your clients' horses from deficiencies, supplementation with natural vitamin E is recommended leading up to and during the cold winter months.



How and when to recommend winter supplementation with Elevate® Concentrate, natural vitamin E powder

Elevate Concentrate provides 5,000 IU of natural vitamin E per scoop (1 oz). It can be top dressed on the feed or mixed with a carrier and dosed orally. Elevate Concentrate is recommended when a slow, steady increase in vitamin E levels is desirable or as a follow-up to Elevate® W.S.

When recommending for winter supplementation, start Elevate Concentrate 3 to 4 weeks prior to the onset of cold weather and continue until pasture grass returns in late spring.



Elevate Concentrate administration recommendations for horses consuming stored forages or those grazing on dormant pasture grass:

Maintenance to moderate exercise:

½ scoop per day (2,500 IU vitamin E/day)

Stalled horses or horses maintained on poor pasture:

½ scoop per day (2,500 IU vitamin E/day)

Intense competition or training:

½ to 1 scoop per day (2,500 to 5,000 IU vitamin E/day)

Stallions:

½ to 1 scoop per day (2,500 to 5,000 IU vitamin E/day)

Broodmares, late pregnancy and lactating:

½ to 1 scoop per day (2,500 to 5,000 IU vitamin E/day)

Weanlings and yearlings:

¼ to ½ scoop per day (1,250 to 2,500 IU vitamin E/day)

Recommendations of Elevate Concentrate for support when neuromuscular challenges are present:

To support healthy muscle function:

1 to 2 scoops per day (5,000 to 10,000 IU vitamin E/day)

To support healthy nerve function:

1 to 2 scoops per day (5,000 to 10,000 IU vitamin E/day)