

## Ensure reproductive efficiency

Mares and stallions face increased demands during the breeding season. Research has shown that supplemental natural vitamin E supports increased fertility levels and healthier foals.



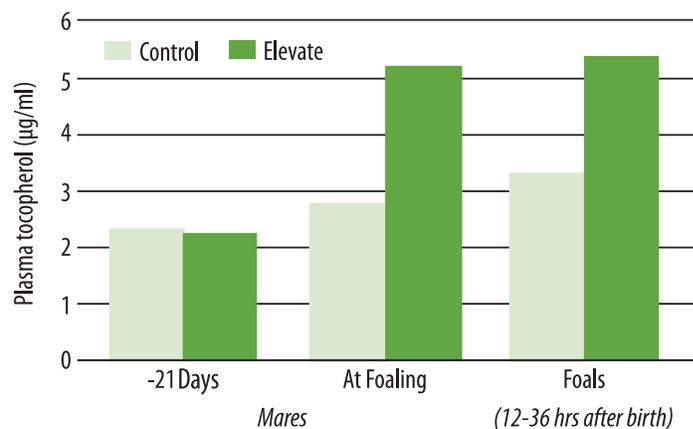
### The importance of natural vitamin E for the broodmare and foal

Evidence suggests that natural vitamin E supplementation may boost fertility in mares by positively impacting their immune system, especially in those with reduced uterine defense mechanisms.

Researchers have also shown that when supplemented with natural vitamin E, mares show increased passive transfer of antibodies to foals, which ensures the strength of the neonatal immune system.

In a study conducted at the University of Connecticut, scientists showed an advantage of feeding natural vitamin E to late pregnant and early lactating mares. Serum and colostrum antibodies were greater in mares that received higher levels of natural vitamin E. After nursing, the foals from mares fed more natural vitamin E had higher serum levels of antibodies, which was reflective of their dams' colostrum.

Vitamin E supplementation improves status in late gestating mares and foals.



Each value represents the mean of 14 breeding mares and foals at three different locations in Sweden. Mares were supplemented with 1,500 IU vitamin E as d-alpha-tocopherol (Elevate W.S.).

Mares supplemented with water-soluble natural vitamin E before foaling exhibited higher vitamin E levels, as did their foals, at 12 to 36 hours after birth. A similar study in Sweden showed that gestating mares supplemented with 1,500 IU of water-soluble natural vitamin E per day for 21 days before foaling had higher plasma alpha-tocopherol at foaling. Foals from these mares had higher vitamin E status at 12 to 36 hours after birth. The higher plasma tocopherol levels in foals nursing supplemented mares were attributed to higher colostrum transfer of vitamin E.

#### Administration recommendations for mares

- Maintenance, early gestation: 1,000 to 2,000 IU/day
- Late gestation and early lactation: 3,000 IU/day
- Barren mares being bred: 3,000 IU/day
- Mares with previous history of failure of passive transfer and/or fertility problems: 3,000 to 5,000 IU/day

#### Administration recommendations for foals

- All ages: 3,000 IU/day

## The impact of natural vitamin E on the breeding stallion

Research has clearly shown that natural vitamin E has been linked with increased libido and semen quality. One of the most important functions of vitamin E in stallions is cell membrane protection. The lipids in cell membranes are vulnerable to attack from harmful compounds known as free radicals or reactive oxygen species (ROS) that are produced in the mitochondria of cells. The body's defense mechanisms against ROS are



antioxidants. Vitamin E, a major antioxidant, reacts with ROS to protect cell membranes. Research has shown that fatty acids in sperm cell membranes are crucial to fertilizing capacity, so the vitamin E that protects the fatty acids is critically important. Sperm motility is commonly used as an indicator of oxidative stress. Practices such as chilling, freezing, and shipping semen contribute to increase

oxidative stress. During the breeding season, supplementing with natural vitamin E provides the stallion with the higher circulating levels of antioxidants necessary to combat this increase in oxidative stress, thus allowing sperm to remain strong and viable.

### Administration recommendations for stallions

- Maintenance: 1,000 to 2,000 IU/day
- During the breeding season: 3,000 to 5,000 IU/day

Research has shown the benefits of supplemental natural vitamin E for the mare, foal, and stallion. Elevate® W.S. and Elevate® Concentrate powder provide the most bioavailable form of natural vitamin E to increase

antioxidant protection and ensure maximal reproductive performance.

When fast action is required, choose Elevate W.S. It increases vitamin E levels within 72 hours. Elevate W.S. can be given orally or mixed directly in the feed. Elevate W.S. should be administered shortly after removal from the bottle. Do not expose to direct sunlight and avoid freezing.

For continued use after desired vitamin E levels are attained with Elevate W.S., or for long-term use to maintain adequate vitamin E levels, choose Elevate Concentrate. Elevate Concentrate powder is very stable and can be added to the feed anytime prior to feeding. (When switching from Elevate W.S. to Elevate Concentrate Powder, allow for at least a 3-week transition period.)

**Research-proven to have superior bioavailability, Elevate supplies the essential vitamin E often missing from the diet. Its all-natural formula supports healthier foals and increased fertility in both mares and stallions.**

### Elevate® W.S.

Fast-acting, water-soluble, natural vitamin E

### Elevate® Concentrate

A super concentrated source of essential natural vitamin E

