

Can I cut back on vitamin E?

By STOCKADE Brands

With the recent spike in vitamin E prices affecting the cost of mineral/vitamin supplement products, many are now taking a hard look at their current supplement program. Which begs the question, why is vitamin E added to supplements and how much vitamin E is really necessary?

First, let's discuss the functions of vitamin E in the body. Vitamin E is a fat-soluble vitamin that is directly related to fat digestion and plays a large important role in antioxidant activity in the body. Vitamin E works synergistically with selenium and is essential for immune, reproductive, muscular, circular and nervous function. Vitamin E and selenium play important roles in defense against bacterial and viral invaders as well as protection against heavy metal toxicity.

Vitamin E is not stored in great quantities in the body but it is present in all tissues with most stored in the liver, fat tissue and muscles. Vitamin E doesn't cross the placenta in appreciable amounts, making neonates highly susceptible to deficiency. Newborns rely heavily on colostrum as a source of vitamin E. Even though placental transport is minimal, newborns born of vitamin E adequate dams contain higher fetal serum levels of vitamin E than those born to vitamin E deficient dams. Research has shown that ewes fed supplemental vitamin E above minimum recommended levels during gestation had decreased lamb mortality and improved lamb performance.

Fresh green forages are good sources of vitamin E. However, there is great variability from farm to farm (drought, frost, mold and insect infestation can reduce), so forage testing is recommended to confirm levels. The act of harvesting hay naturally destroys vitamin E and vitamin E decreases with storage time. Wheat germ oil is the most concentrated natural source of vitamin E but it can be also found in vegetable oils (soybean, peanut and cottonseed are particularly rich) and whole cereal grains (oil not removed). However, the stability of naturally occurring vitamin E is poor. Heat, oxygen and moisture can promote oxidation which destroys vitamin E. A reliable source of dietary vitamin E is in the form of commercial mineral/vitamin supplements containing chemically stabilized vitamin E.

Vitamin E requirements are difficult to itemize because they depend upon a number of factors. Vitamin E needs may be increased with the presence of unsaturated fats, oxidizing agents, vitamin A or gossypol in the ration. Also, vitamin E requirements increase if dietary selenium levels are deficient. Vitamin E requirements also increase with stress, infection, exercise and tissue trauma. Numerous studies have found that vitamin E supplementation has improved immune response, especially for stressed animals.

Supplementation of vitamin E in addition to selenium has been shown to reduce the incidences of retained placentas and metritis as well. There is also evidence that vitamin E supplementation positively affects semen and spermatozoa characteristics. And vitamin E supplementation is purported to enhance performance in horses.

So how much vitamin E is needed? While I'd love to be able to give you a definite number on this, it just isn't possible. As stated earlier, it is incredibly difficult to isolate vitamin E requirements. Also these requirements are based on the amount of vitamin E needed to prevent deficiency symptoms. Most experts recommend dietary vitamin E levels in excess of these requirements for improved immunity and performance. Additionally, while growing forages provide a good source of vitamin E there aren't reliable book values to use to calculate estimated vitamin E intake.

In summary, if you are evaluating whether or not to decrease the amount of vitamin E supplemented due to cost, take into consideration your production parameters. Are livestock consuming older hay? Are they pregnant? Are your livestock under stress? Will you be breeding soon? If any of the above are true, you should probably stick with your current levels of vitamin E supplementation or even consider increasing levels if you are experiencing problems. If your livestock aren't experiencing any

environmental, nutritional, transportation or disease stresses and are on lush, growing spring pastures, you may be able to successfully convert to a supplement containing lower vitamin E levels without loss of production or performance. If you have questions about a specific product feel free to call 1-800-325-1486 to speak to one of the Ridley Block Operations Animal Nutritionists about your situation.