



VITAMIN A: An Important Winter Nutrient

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Vitamin A is an important nutrient for beef cattle. Producers need to pay attention to the vitamin A status of their cattle when feeding stored hay. Hay storage can impact vitamin A levels according to Andrea Bertholet, FPA. "You should assume that your hay has no vitamin A," says Andrea. "It may have had it at haying in the summer, but storage results in close to total loss."

Carotenes deteriorate during storage and amounts vary tremendously in a bale. Ultraviolet light from the sun destroys vitamin A, while heat and humidity increase the rate at which it breaks down.

Categorized as a fat soluble vitamin it has many vital functions, especially for health, reproduction, and growth. It plays a role in vision (in low light); normal kidney function; development of bones, teeth and nerve tissue; and maintains delicate tissues lining the respiratory, digestive and reproductive tracts, keeping them pliable and in good working order. Vitamin A deficiency thickens these tissues causing them to become more brittle and increases susceptibility to infection because the lining that would normally keep pathogens out is impacted. If the gut is hard and brittle it cannot absorb nutrients, resulting in poor gain. Vitamin A deficiency also impacts reproduction. If the bull doesn't get enough vitamin A, spermatogenesis is impaired. With low vitamin A, a cow will resorb or abort her fetus. Calves won't grow well without vitamin A. Other symptoms include loss of appetite, rough hair coat, and reduced feed efficiency. Swelling of the legs and brisket, especially after working the animals, is also a deficiency symptom.

The best source of this vitamin is beta-carotene, a pigment in green plants that animals convert to vitamin A. While grazing green grass, cattle get plenty of vitamin A that they store in their liver, but during the winter, vitamin A may be deficient and should be supplemented. Fortunately, supplementing cattle with vitamin A is relatively easy and cost effective. Producers can provide vitamin A in a mineral supplement or with by injection. Although minerals store very well, vitamins have a relatively short shelf life. Don't store a mineral-vitamin mix for longer than one year. If a mineral-vitamin package is not fed within about a year the minerals are still good but vitamin activity can be reduced. In that case giving a vitamin A injection would allow a producer to meet requirements without wasting minerals.

Adapted from UNL Beef Watch