

Drought and Long Term Hay Feeding May Lead to Vitamin A Deficiencies in Beef Herds

When it comes to beef cattle nutrition, vitamin nutrition is usually not a big concern for the mature cow. Late winter and early spring is when deficiencies may become most prevalent, especially in cattle that have been consuming hay for a long period. The main vitamin of concern is vitamin A.

Vitamin A is usually not needed in the diets of cattle consuming green, growing forages because adequate levels of carotene are available, and carotene is converted to vitamin A in the animal. Under normal wintering conditions, vitamin A deficiency may not be observed because the vitamin is stored in the liver, and a two- to four-month supply is available under normal conditions. Drought, like the one experienced last summer, will result in early usage of vitamin A stores. When drought conditions are coupled this spring with a long hay feeding season, cattle that lack access to green grass until April may experience vitamin A deficiency.

Sub-clinical vitamin A deficiency may result in a lower calf-crop percentage or a later calving season next year. Vitamin A deficiency can result in poor conception rates, abnormal embryonic development, and fetal death. Reduced maintenance of the epithelial (skin and tissue lining of respiratory/digestive system) tissues can increase infections. Clinical deficiency symptoms include night blindness.

Vitamin A deficiencies can be overcome by providing supplemental sources of vitamin A. In general, most feedstuffs fed to beef cattle during winter are considered low in vitamin A precursors, other than green forages and corn. Many complete mineral supplements provide supplemental fat soluble vitamins (A, D and E). The level of vitamin A in these feedstuffs will vary.

To gauge the vitamin level in a mineral, here is a comparison to consider. A mineral designed for 4-ounce intake that contains 150,000 IU of vitamin A will deliver about 75% of a mature, lactating beef cow's vitamin A requirement. Cattle consuming a mineral with this level of vitamin A or greater would not be expected to exhibit vitamin A deficiency unless 1) the cattle are consuming the mineral at less than the expected rate and 2) the mineral has been stored for a long period of time, resulting in the degradation of vitamin A.

Another common option for providing supplemental vitamin A is an injectable vitamin supplement. If a complete mineral with a high level of vitamin A has not been offered to the herd, an injectable form would be the preferred option for supplementation, since the spring breeding season will begin soon.

For more information on vitamin supplementation, visit with your veterinarian or local county Extension agent.