

Grass Tetany

The season for “grass tetany” will be here soon, for it normally shows about the time cattle are being changed from winter rations to lush green grass. In Kansas, this may vary from year to year depending on available moisture and temperature. Several diseases and conditions may resemble grass tetany including wheat pasture poisoning, milk fever, and others.

There are some conditions referred to as metabolic disturbances that are seen during cold weather and are associated with low feed intake, and while facts are not available for differentiating, the conditions do occur. Starvation during times of stress also seems to be a contributing factor that results in most of the same clinical symptoms. If there is a common factual cause for all of these, it has not been established at this time.

Several theories have been advanced as to the cause of grass tetany; however, none have been conclusive. It appears to be a magnesium deficiency, but this is not verified by testing the grass the animals are eating. The possibility of shortage in dry matter when the animals are grazing lush green grass does exist. The major cause for grass tetany seems to be improper utilization of the available magnesium, and researchers have suggested that certain other compounds found in feed may be the cause.

Recent work in Missouri indicates that utilization of magnesium may be associated with phosphorous shortage

Department of Veterinary Medicine

Homer K. Caley
Former Extension State Leader

in the soil. Researchers found that when adequate phosphorous was added to the soil, magnesium was taken up by the roots and moved to the leaves. Without enough phosphorus, even if there is adequate magnesium in the soil, magnesium is not absorbed into the plant. This research project may not be conclusive at this point, but does seem reasonable. Further research and testing will be done during the time ahead.¹

Several methods of prevention have been recommended and tried. Prevent early grazing when the grass is young and lush. Top dress the grass with magnesium. Feed roughage to the cattle before turning out for the first 10 days to two weeks of pasture season. The addition of magnesium oxide in a supplement would also be effective. The amount recommended varies from .5 ounce to 2 ounces per head per day.

If supplementation is the route, take care to ensure that each animal gets the proper amount on a daily basis. Magnesium is not stored by the animal; therefore, feeding additional magne-

sium oxide before turning out is not a good preventative measure. Because mineral mixture consumption may be erratic, incorporation into a feed cube would probably be the best method. Your feed supply source will work with you to calculate the amount.

A rapid fall in blood magnesium levels may occur as soon as 48 hours after the supplementation is stopped. The risk of grass tetany should be over before the supplementation is stopped.

Grass tetany may also be confused with milk fever, and while clinical signs may be quite similar, the time of appearance usually does vary. Milk fever is within hours after calving while grass tetany usually starts after one week or longer. Milk fever has a low blood calcium level.

Many animals sick from grass tetany are never noticed until they are dead. The time interval is only a few hours between clinical signs and death. One of the first clinical signs is nervousness followed by incoordination, such as staggering or falling. During this period cattle are easily excited, which may result in the incoordination. Contraction of the muscles and seizures are also normally present. The severe contractions and seizures will eventually result in prostration. The result is coma and death.

Treatment results vary from excellent to poor, depending on the stage of the animal at the time of treatment. If treatment is started within one to two hours after clinical signs

develop, the results are usually a quick recovery; however, in a large pasture it may be difficult to pick sick cattle out quickly. Pasture cattle should be observed at least twice a day when they are first turned out to grass. Treatment of animals that are in coma may be too late.

The normal treatment is intravenous injection of 500 milliliters of a commercial preparation of calcium and magnesium in a dextrose base. Products of this type may also contain additional substances.

Control of grass tetany should be centered around prevention by using of

one of the recommendations. Cows should be observed closely for several days after being turned out, and a veterinarian should be consulted at the first sign of trouble.

(Information credited to Hoechst-Roussel, Vol. 6 No. 3, September, 1990).¹

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

Publications from Kansas State University are available on the World Wide Web at: <http://www.oznet.ksu.edu>

Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. In each case, credit Homer K. Caley, *Grass Tetany*, Kansas State University, March 1991.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF-976

March 1991

It is the policy of Kansas State University Agricultural Experiment Station and Cooperative Extension Service that all persons shall have equal opportunity and access to its educational programs, services, activities, and materials without regard to race, color, religion, national origin, sex, age or disability. Kansas State University is an equal opportunity organization. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts, and United States Department of Agriculture Cooperating, Marc A. Johnson, Director.