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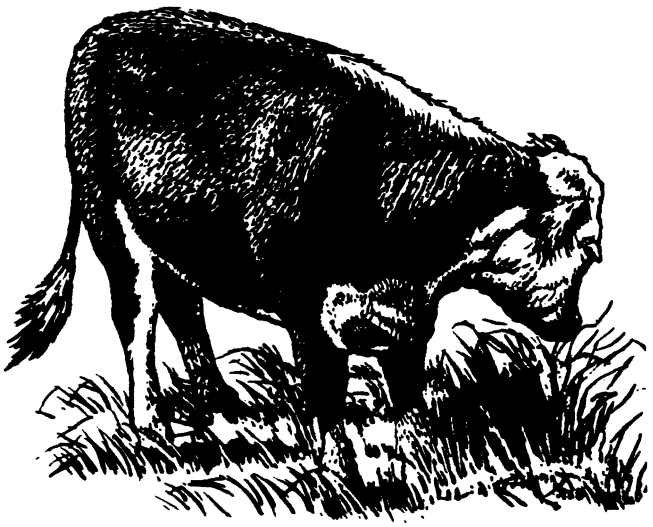
ALABAMA A&M AND AUBURN UNIVERSITIES

Management Practices to Reduce Grass Tetany

Grass tetany is a nutrition problem for grazing beef and dairy animals. It is primarily a problem during cool seasons with highly fertilized grass and cereal crops. Tetany occurs when cattle are unable to absorb enough magnesium from their feed stuffs to support a normal magnesium level in the blood serum. Magnesium is especially important for certain enzyme and metabolic reactions in the animal's body. This condition is called a nutritional disease because it involves only individual animals and the feed they eat.

Beef producers have brought on many of the problems by using winter grazing cereal crops, neglecting their animals' dry matter intake, and increasing fertilizer applications. All this results in low levels of magnesium for the cow.



Occurrence and Symptoms

Grass tetany generally strikes only females. It occurs most often during early stages of lactation. Older animals seem more susceptible than younger ones. The reason for this is that the body reserve of magnesium, found in the bones, is less in older animals. Although wet cows are most often affected, dry cows and stocker cattle are susceptible when grazing any type of winter pasture.

Tetany's physical symptoms may not be noticed until an animal is down or dead. However, at the onset, the cow may show signs of nervousness, excessive salivation, muscle tremors, and rapid breathing. In advanced cases, the animal will collapse, go into convulsions, and die.

Causes

Grass tetany is always associated with low levels of magnesium in the animal's blood serum. There are a number of reasons why blood serum magnesium is low.

First, cereal crops such as wheat, rye, and oats are low in magnesium content, especially in the spring and fall.

Second, soil low in magnesium will cause low magnesium content in plants. High levels of some other elements, such as potassium, will cause a sharp drop in the plants' uptake of magnesium.

Third, the magnesium level in forage decreases with cold temperatures or cloudy weather conditions that favor fast growth.

Fourth, low dry matter content along with high concentrations of nitrogen in forage decreases the magnesium level in blood serum of cows eating such forage. High potassium along with high nitrogen is more dangerous than either one alone.

Prevention and Treatment

Since grass tetany is due to a reduction in magnesium available for the animals' use, a number of methods have been used to increase consumption. Various magnesium compounds have been dusted or sprayed on plants to increase magnesium consumption. Properly balanced fertilizers and magnesium compounds have also been applied to the soil to increase the plant magnesium level. All of these are helpful but are less economical and are not as effective in preventing grass tetany as a direct supply of magnesium to the cattle. The real problem is not necessarily low magnesium content of the soil and plant but reduced absorption of magnesium from the digestive tract of the animal.

Thus, a mineral supplement in the feed is the fastest and most certain method of preventing grass tetany. *Cattle should consume 1 ounce of magnesium oxide daily, and their intake should be checked frequently.* Magnesium is not stored in the body long, so daily consumption is important.

Supplemental magnesium can be provided by several methods. Supplementation should begin 2 to 3 weeks before tetany is likely to occur.

Numerous commercial mineral supplements are available that contain all needed minerals with additional magnesium. At least 12 percent actual magnesium is recommended.

Probably the most economical way to feed supplemental magnesium is a 1:1 mixture of trace-mineral salt and magnesium oxide (60 percent magnesium). Cows do not like the taste of magnesium oxide and they may not eat enough of this mixture. Consumption can be improved by mixing equal parts by weight of ground shelled corn, trace-mineral salt, and magnesium oxide. Other grains or dry molasses that are high in energy may also be used to increase consumption. Do not use protein supplements, meals, or any sources of nonprotein nitrogen. High nitrogen feed ingredient would tend to aggravate the grass tetany problem.

Treatment of tetany can be successful if started early and if the affected animal is not handled too much. Recommended preparations and dose rates vary widely depending on the conditions that apply in each case and on the size of the cow. When signs of tetany occur, contact your veterinarian as soon as possible.

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For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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