

Grass Tetany in Cattle ¹

Y.C. Newman, M.J. Hersom, C. G. Chambliss and W. E. Kunkle²

Grass tetany, sometimes called grass staggers or hypomagnesemia, can be a serious problem in Florida with cattle grazing small grain or ryegrass pastures. The problem is usually confined to lactating cows. It is always associated with an imbalance in the mineral components of blood serum, especially reduced magnesium levels. In Florida, grass tetany is more severe when cattle are grazing young forage, particularly the first flush of growth during December and January. Once the forage becomes more mature, the likelihood of problems is reduced. Grass tetany is apt to appear under conditions of nutritional stress. Placing cattle on winter pasture directly after being on frosted or other low quality pasture may cause such a nutritional stress.

SYMPTOMS

The symptoms of hypomagnesemia closely resemble those of milk fever or ketosis. These include nervousness, lack of coordination, muscular spasms, staggering and death. When the disease is suspected, a veterinarian should be called immediately to diagnose and to initiate treatment. However, in beef herds, the herdsman does not

always have the opportunity to observe the signs of the disease and affected cattle may be found dead in the pasture.

Factors which have been associated with this disease include low levels of magnesium (Mg) and high protein and potassium levels in the forage. Use dolomitic limestone, which contains magnesium, to increase forage magnesium levels if the level of soil magnesium is low and a soil pH increase is needed. If no lime is needed on soils with a high pH level, magnesium oxide (MgO) can be included with fertilizer materials. Excess nitrogen in conjunction with high levels of potassium fertilization tends to reduce the magnesium level in most forage plants. Consequently, these fertilizer elements should not be applied in excess on temporary winter pastures. Follow recommendations based on soil test results.

PREVENTING GRASS TETANY

1. Feed mineral supplements that contain magnesium. Commercial mineral mixtures containing 10-15% magnesium are available for feeding during periods of increased grass tetany

1. This document is SS-AGR-64, one of a series of the Agronomy Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. First printed April 1997. Revised May 2003. Revised October 2007. Reviewed November 2010. Please visit the EDIS Website at <http://edis.ifas.ufl.edu>.

2. Y.C. Newman, assistant professor, Forage Extension Specialist, Agronomy Department; M.J. Hersom, assistant professor, Department of Animal Sciences, C. G. Chambliss (deceased), associate professor, Agronomy Department and W. E. Kunkle (deceased), professor, Animal Science Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611.

The use of trade names in this publication is solely for the purpose of providing specific information. UF/IFAS does not guarantee or warranty the products named, and references to them in this publication does not signify our approval to the exclusion of other products of suitable composition.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. U.S. Department of Agriculture, Cooperative Extension Service, University of Florida, IFAS, Florida A. & M. University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Millie Ferrer-Chancy, Interim Dean

probability. Cattle need to consume 6-12 oz/head/day of this mineral.

2. In herds that have had previous grass tetany problems, increase the supplementation to 1/2 to 1 oz of MgO per cow per day from 2 weeks before grazing winter pasture or the start of calving until winter pastures are more mature and the grass tetany risk is reduced. The MgO may be included in grain mixtures or magnesium fed in the mineral.
3. In herds where there are clinical cases of grass tetany, increase the Mg intake to 1-2 oz per head daily and continue this amount until the high risk pasture grazing period is past.
4. Feed high magnesium minerals in mineral feeders placed at convenient locations around the pasture. Move mineral feeders closer to watering and resting areas if mineral consumption is low.
5. Check the calcium (C) to phosphorus (P) ratio (2:1 is optimum), and energy intake (maintenance or above is desired) of the animal. Grass tetany may be less likely to occur when these factors are near optimum.
6. Remove animals from pasture or limit grazing during periods of rapid growth. Allow access to hay or dry pasture. Also, producers may want to limit grazing of the temporary winter pastures when moving cattle directly from poor quality frosted grass pastures. A rapid change in feed can cause digestive upsets and nutritional stress.
7. Fertilization suggestions: On soils that need liming, use dolomitic limestone. If lime is not needed, magnesium can be included in mixed fertilizers. Do not exceed the recommended level of applications for nitrogen and potassium on winter pastures for grazing.