

Grass Tetany Prevention

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Spring is just around the corner with lush green pastures that cattle long for at the end of a long winter. These grasses will be lush and your cows will tear a fence down to get on the green pastures, but these grasses will be full of moisture and potentially diluted of minerals. This can lead to a condition known as grass tetany.

Causes

Grass tetany is a highly fatal disease associated with low levels of magnesium (Mg) in the blood. Grass tetany can affect all classes of cattle but older cows with calves on their side during late winter and early spring are most at risk. Cattle store Mg in their bones and muscles, but cannot readily access and utilize these stores when needed. The animal constantly loses Mg in urine, feces and milk, so when grazing lush green Mg deficient grass, cattle need Mg supplements to meet daily requirements. A cow in peak lactation (6–8 weeks following calving) needs a constant source of Mg to replace the large amount lost from the body in milk. Some causes of grass tetany are:

- Mg levels are lower in cool season grasses and legumes.
- Mg levels are low in grasses grown on leached acid sandy soils.
- Mg levels are low when potash and nitrogen fertilizers are used and growth is lush
- High moisture content in grass causing rapid gut transit and low uptake.
- Reduced absorption of magnesium resulting from high rumen potassium and nitrogen and low rumen sodium.
- Low energy intake, fasting or sudden changes in feed.
- Transport stress
- Low intake of phosphorus and salt.

Signs

Animals suffering from grass tetany are often found dead. There may be signs of struggle on the ground beside the animal indicating they were leg paddling before death. Early signs include some excitability with muscle twitching, an exaggerated awareness and a stiff gait. Animals may appear aggressive and may progress through galloping, bellowing and then staggering. In less severe cases the only signs may be a change in the character of the animal and difficulty in handling.

Treatment

Blood magnesium levels must be restored. Veterinary administration of an intravenous calcium and magnesium solution produces best results. However, in acute cases where time is critical, producers can administer an Epsom salt solution via an enema while waiting on the veterinarian. Producers should also provide oral sources of magnesium to affected herds to prevent relapses. These include:

- Magnesium oxide in minerals
- Magnesium lick blocks
- Addition of magnesium to concentrates or pellets

These products are available from your veterinarian, feed supplier/retailer.

Prevention and control

The goal of a well-managed prevention program should aim to:

- Eliminate factors which reduce magnesium absorption and provide a magnesium supplement.

Immediate actions:

- Increase energy and roughage intake. Good quality hay or silage are suitable.
- Pellets or grain can be added if introduced carefully
- Provide salt if a natural source is not available.
- Move lactating cows (especially older animals) to high legume and high dry matter pastures.
- Reduce stress factors
- Provide magnesium supplements

Long-term management:

- Correct soil acidity with lime or dolomite (dolomite contains some magnesium).
- Plant clovers.
- Apply phosphate fertilizer.
- Limit potash and nitrogen applications until soil acidity is corrected and clovers are established.

Keep good records to identify repeat offenders. Some cattle are more susceptible than others, so identification and supplement of Mg may head off problems before they occur. If you have any further questions please contact your local Extension agent, or Lew Strickland at 865-974-3538; lstric5@utk.edu.