Grass Tetany Prevention and Treatment

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Spring with its green pastures is the time of year 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 these pastures, but these grasses also 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 magnesium in their bones and muscles, but cannot readily access and utilize these stores when needed. The animal constantly loses magnesium in urine, feces and milk, so when grazing lush green magnesium-deficient grass, cattle need magnesium supplements to meet daily requirements. A cow in peak lactation (six to eight weeks following calving) needs a constant source of magnesium to replace the large amount lost from the body in milk.

Some potential causes of grass tetany are:

- Cattle grazing cool-season grasses and legumes, which have a low concentration of magnesium.
- Grasses grown on leached acid sandy soils have lower levels of magnesium.
- Magnesium 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, 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 should administer an Epsom salt solution via an enema while waiting on the veterinarian.

Producers also should 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 and feed supplier/retailer.

Prevention and control

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

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

Immediate actions:

- Increase energy and roughage intake. Good quality hay or silage is suitable.
- Pellets or grain can be added if introduced carefully.
- Provide a balanced mineral source (block or loose).
- 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.

Maintain and review 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 contact Lew Strickland at 865-974-3538, or lstrick5@utk.edu.

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