GRAZING

Preventing Grass Tetany

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Spring pasture greenup is the time of year associated with grass tetany, a seasonal disorder affecting mineral uptake of forage plants. It is likely the most important nutritional disorder in grazing cattle and is marked by muscular spasms. Grass tetany is also known as grass staggers, hypomagnesemia, or wheat-rye pasture poisoning. It is a highly fatal condition linked to low magnesium (Mg) in cattle and sheep grazing rapidly growing pastures during spring greenup. It can occur anywhere; regardless of geographical location; cool-season grass-dominated pastures will be most affected.



What causes grass tetany? Concentrations of Mg in grasses are usually lowest in the spring or during wet, cool periods in summer. This is when conditions favor rapid grass growth, making tetany a higher threat. High-risk conditions include pastures in poor acid soils and soils with high potassium (K) under high nitrogen (N) fertilization. Plant Mg uptake is connected to existing soil K and N levels. When these are high, they negatively affect Mg uptake and its availability for animals to graze. In addition, low levels of energy, calcium, and phosphorus (P) in the forage will tend to reduce Mg absorption or retention by the animal. Animals minimally store Mg in their bones and lose a lot in milk and urine. When Mg is low in the blood stream, it affects levels in the spinal fluids leading to neurological symptoms and eventual death.

Symptoms of grass tetany. Affected cattle will show muscular spasm, twitching, lack of coordination, loss of balance, frequent urination, or will stagger around the pasture (thus the name grass staggers) until they fall on their sides. Lactating animals are more likely to be affected, especially those calving in spring and those that are older, since their capacity to mobilize Mg from their bones is reduced.

Treatment. Treatments include Mg supplements, subcutaneous Mg injection, and intravenous injections of calcium-gluconate solutions.

Preventive measures. Two areas need to be considered in preventive practices to avoid this fatal condition:

Pasture or agronomic measures:

- Soil and tissue sample before any fertilization application to detect nutrient deficiencies or excess.
- Adjust fertilization practices. Split K and N applications and use slow-release N sources.
- Use dolomite or dolomitic limestone, which has 13% Mg, as soil amendments for soils low in Mg.
- Add P fertilizer to low P soil to improve Mg concentrations.
- Add legumes to pastures due to their high Mg content.
- Avoid spraying for broadleaf weeds as it will reduce the amount of legumes in pastures.

Animal care measures:

- Test feed.
- Add Mg in the mineral mix, drinking water, stock salt, molasses licks, or other sources of energy.
- Graze high-legume-content pastures.
- Use non-lactating animals in tetany-prone pastures.
- Reduce stress factors.

Prevention is the best measure to avoid cattle losses to grass tetany. An ounce of prevention is worth a pound of cure and will save you from losing 'pounds' of profit.