

# Prevent Grass Tetany

by **WENDY MILLER**

Hypomagnesemia, more commonly referred to as grass tetany, occurs when cows do not receive enough magnesium (Mg) in their diets, usually in early spring when forages are not yet established.

Often, clinical symptoms are not observed, and the only evidence is a dead cow in the pasture. "The trouble with tetany is that the symptoms, when noticed, can vary widely and often resemble other disorders, such as milk fever," says Nolan Hartwig,

Extension veterinarian at Iowa State University (ISU). "Prevention is key."

Tetany is most likely to occur in unsupplemented beef cow herds in April or May. Once nighttime temperatures begin rising to 55° F or higher, the incidence of tetany falls because grasses are more able to draw magnesium from the soil at warmer temperatures. Pastures with high levels of potassium (K) in the soil often have more

cases of tetany; however, tetany can occur in cows grazing pastures of all soil types. Heavy-milking cows nursing calves less than 2 months (mo.) old seem to be most at risk.

Symptoms of grass tetany include:

- excitability;
- wild stare;
- appearance of blindness;
- lack of coordination;
- trembling muscles;
- grinding teeth;
- violent convulsions; and
- deep coma.

"If you suspect tetany, it's probably a good idea to obtain blood samples from several similar animals to get an idea of herd status," Hartwig says. "The kidneys begin conserving magnesium when the blood serum level drops too low; therefore, low urinary magnesium is also a good indicator."

Early treatment is very important. Cows down for more than 12-24 hours are prone to suffer significant muscle damage and will rarely recover. Cows showing early signs of tetany should be handled very carefully. Any handling technique producing excitement is liable to cause sudden death. The animals can usually be treated with a calcium (Ca) solution containing magnesium if the condition is caught early enough.

"In the case of tetany, the adage 'an ounce of prevention is worth a pound of cure,' rings true," Hartwig says. "There are some relatively simple management practices producers can incorporate that will significantly reduce the risk of tetany to their herds."

**1.** Keep plenty of magnesium oxide (MgO) available from October until May. Make sure each cow gets at least 2 ounces (oz.) of magnesium per day during peak risk times. Magnesium alone is not palatable to cattle. The best technique is to offer it with a salt and mineral mix well before calving begins so the cows will become accustomed to it. Increase the amount of magnesium in the mix as tetany season approaches.

**2.** Don't start grazing pastures too early; wait until growth is 8 to 10 inches (in.) since magnesium is more available in mature plants.

**3.** Incorporate a mix of legumes in early-season pastures. Legumes can contain twice the magnesium of other grasses grown on the same soil.

**4.** If soil magnesium is low, develop a long-term plan to increase this nutrient using dolomitic limestone.

**5.** Supplement cows with good legume hay, mineral mixtures and/or concentrates.

Watch out for mineral mixes that contain very low levels of magnesium, even though they claim to be effective as a grass tetany preventative.

For more information on grass tetany, contact the Iowa Beef Center at (515) 294-2333, your area Extension livestock field specialist or your local veterinarian.



**Editor's Note:** This article was written by Wendy Miller, former communications specialist at the Iowa Beef Center, which provided this article. For more information visit [www.iowabeefcenter.org](http://www.iowabeefcenter.org).