

Livestock Health Series

Grass Tetany

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Grass tetany is a disease that commonly occurs in Arkansas in the months of February, March and April. The disease is caused by an abnormally low level of magnesium in the cow's body. This decrease in magnesium can be indirectly caused by heavy fertilization of pastures. When forages are fertilized heavily with potassium (potash), this can decrease the dietary absorption of magnesium in a cow's gastrointestinal system. Furthermore, young and rapidly growing forage usually has an increased content of potassium. These two pathways that lead to this disease (fertilization and rapidly growing forage) commonly occur in late winter and early spring.

This disease typically occurs in older lactating cows but can also occur in cows with poor body condition scores or cows that are over conditioned. Other factors that may play a role in the disease are moist, cool spring weather and stress. The stressors that most affect cows in the spring are weather, hauling, penning and heavy lactation.

Symptoms associated with this disease range from slight changes in behavior to death. Early in the disease, affected cattle may have a decreased appetite, decreased milk production, a tendency to stay away from the herd, increased alertness or a stiff/unsteady gait. As the disease progresses, cattle may become recumbent and/or exhibit muscle tremors (spasms), an increased

heart rate and an increased breathing rate. If untreated at this stage, the cow will likely die.

Treatment

The most important part of treating this disease is to correct the magnesium imbalance. If clinical signs are mild, magnesium can be corrected by treating with approximately 150ml (150cc) of a 20 percent magnesium sulfate solution given subcutaneously in several injection sites. If the clinical signs are more severe, immediate action must be taken with the guidance of a veterinarian.

To quickly restore magnesium in severe cases, 500mL of an electrolyte solution containing calcium, magnesium, phosphorus, potassium and dextrose (CMPK) is given intravenously. This solution must be administered slowly as these electrolytes have an immediate effect on the cardiovascular system and can cause cardiac collapse if given too quickly. After treating with the intravenous solution, one can then administer one tube of CMPK gel orally or give another 500mL bottle of solution intraperitoneally to decrease the incidence of relapse.

Prevention

Prevention of grass tetany can be achieved by providing a salt-mineral supplement containing at least 10 percent magnesium. Several mineral feeders should be used if

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stocking rates are high. Mineral feeders should be conveniently located in the pasture so cattle have adequate access to them. It is also important to review fertilization practices to prevent magnesium deficiencies in cattle. Fertilization should be based on recent soil samples taken from the farm.

For more information about fertilizing pastures or testing soil, contact your local county Extension office. If your herd is at risk for grass tetany, consult with your veterinarian to develop an action plan.

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