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Spring Grass: Pass the Gas

Legumes, such as clover and lespedeza, have long been recommended to improve pasture grazing. In fescue systems, legumes dilute endophyte and its negative impact on performance. Overall, legumes improve forage quality by increasing the crude protein and digestibility. Legumes provide an opportunity for bacteria attached to their root system to capture and utilize atmospheric nitrogen. This nitrogen fixation process lowers the need for commercial fertilizer in some situations.

However, legumes and a few cool-season grasses can lead to a rumen disorder known as frothy bloat. This can occur when livestock selectively graze legumes in high proportions or when legumes dominate the stand. Pastures with more than 50% legume coverage have an increased risk. The most prominent bloat-inducing plants are white clover, alfalfa, red clover, and wheat.

The microbial population in the rumen is responsible for digesting the forages. It is thought to produce bacterial slime when a large percentage of the animal's diet is fresh legumes. This slime traps the gas released from the fermentation of the forage, forming a froth layer in the rumen. This froth prevents the animal from being able to release gas. As fermentation continues, more and more gas builds up in the rumen. Observable bloat can occur in just 15 minutes. Often, the animal bloats only mildly and stops eating. The discomfort is eventually relieved by belching. However, if the problem persists, the left side becomes distended, and the animal urinates and defecates frequently, bellows, and staggers. Death due to restricted breathing and heart failure follows unless action is taken.

Legume bloat can be managed. Commercial feed additives can reduce the severity and incidence of bloat. These feed additives must be consumed at the target levels daily to be effective. Poloxalene is the active ingredient in many bloat-prevention blocks, feed products, and drench products. This detergent-type additive breaks up the foam layer and allows the gas to escape.

General management practices can lower the risk of bloat. Avoid turning hungry cattle onto pastures with a high proportion of legumes. Allowing legumes to mature to flowering can lower the risk. Avoid grazing legumes with moisture on their leaves following rain or heavy dew when possible. Offer a leafy, highly palatable grass hay in legume pastures. Routinely check livestock for bloat, as symptoms occur rapidly, and death may occur as quickly as three to four hours after consuming a large amount of legumes.

Treatment is possible. Non-frothy bloats can be relieved by inserting a 3/4" flexible rubber hose into the rumen through the esophagus. If "hosing" does not give immediate relief, a defoaming agent, like poloxalene or mineral oil, should be administered to break the surface tension.

Assess your pastures now. If you have a lot of legumes in your stands, develop and implement management strategies to reduce livestock losses.

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