



# Vet Call

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## Dealing with bloat

*Bloat is a potentially life-threatening problem for cattle that can occur due to certain forages or feedstuffs and other factors that cause excess gas accumulation in the rumen.*

### Cause

The rumen sits on the left side of the abdomen, and when bloated the upper left side of an animal will be very distended and tight. The rumen of a bloated animal can press against the diaphragm and chest enough to make breathing difficult and — if severe enough — can eventually lead to death.

The bacteria living in the rumen that act to break down forages and grain into usable nutrients normally produce a great deal of gas in the process of digestion. Cattle get rid of gas produced in the rumen primarily by belching (also known as eructation). There are two classifications for bloat — frothy bloat and free-gas bloat — based on the reason that the cattle are unable to get rid of ruminal gas.

### Frothy bloat

Frothy bloat describes one reason that animals are unable to eructate (belch). Simply, the gas produced in the rumen is trapped in a bubbly froth that cannot be easily released.

Pasture bloat is due to froth production that occurs because a plant is consumed that has a froth-producing component, the most important of which is soluble protein. Legumes are the most common plant type to cause “pasture bloat,” but wheat pasture can also cause the problem. Alfalfa, red clover and white clover are similarly dangerous for causing bloat. Other legumes are less likely to cause problems. These would include arrowleaf clover, bird’s-foot trefoil, and — the least likely to cause bloat — sainfoin.

Besides plant type, plant maturity also affects the risk of bloat on a particular pasture, because, as a plant matures, the soluble protein level (and the risk) decreases.

Individual animals differ in their susceptibility to frothy bloat. Breeds play a role in that Brahman and Brahman-cross cattle are less susceptible to bloat, and Holsteins are at the highest risk. Angus appear to fall between these two extremes,

but some individuals within breeds are more susceptible to bloat than apparently similar cattle. Some of this individual animal variation may be due to grazing behavior, with cattle that selectively graze the leafy part of the plant, consuming a much higher-protein (and higher-risk) diet on the same pasture as cattle that do not graze as selectively, being more at risk. Also, saliva breaks up froth in the rumen very effectively, and animals may differ in the amount of saliva they produce while grazing.

Strategies to reduce the risk of bloat while grazing legume or wheat pastures include feeding Bloat Guard® (poloxalene) starting two to five days before turning out. Feeding ionophores such as monensin and lasalocid has also been reported to reduce the risk of pasture bloat, but not as greatly as poloxalene.

Some producers use rotational or strip-grazing to force cattle to eat plant stems as well as leaves. If you utilize strip-grazing, it is important to not overgraze a section, because cattle may overeat when rotated to a fresh paddock. Because saliva production is protective against bloat, pastures that are wet due to rain or dew are more dangerous than dry pasture because saliva production is reduced when cattle graze wet forage. Particularly when the plants are relatively immature, cattle should not be turned out if the pasture is wet. One can also balance the performance advantage of grazing vegetative pastures with the reduced bloat risk of waiting to turn out until the pasture is more mature (33% bloom).

Pasture bloat usually occurs very rapidly (within 1 hour), and the animal is in danger in a very short period of time. Treatment of pasture bloat involves removal of gas from the rumen to relieve pressure on the diaphragm by making a stab incision with a rumen trocar if the animal is severely affected and at risk of dying.

In less serious situations, a stomach tube can be passed to allow drenching of the affected animal with mineral oil to suppress fermentation by rumen bacteria so that gas

production is reduced. A concentrated poloxalene product (Therabloat®) can be administered by a stomach tube to break up froth so that the gas can be released from the bubbles and then removed with the stomach tube or eructated.

A frothy bloat can also occur on diets that have greater than 50% grain, but rather than being caused by plant factors, it is caused by frothing agents in the ruminal bacteria themselves. The factors that increase the risk of bloat on high-grain diets include:

- feeding higher-quality hay;
- finely grinding grain; and
- rapidly increasing the percent of grain in the diet.

Frothy bloat that occurs in grain-feeding situations also differs from the frothy bloat caused by legumes and other plants in that poloxalene is not helpful for prevention or treatment, but ionophores will reduce the risk.

### Free-gas bloat

The other category of bloat, free-gas bloat, occurs when the animal has a normal amount of gas production, but for some reason, is unable to eructate due to a reason other than froth. Very rarely, an animal may have a blockage to the esophagus due to nerve damage, choking or a tumor blocking the esophagus. Prevention or treatment of these cases is difficult, if not impossible.

Another cause of free-gas bloat is reduced rumen motility that sometimes occurs when cattle are rapidly moved to a high-grain diet and experience acidosis. In these cases of bloat, feeding ionophores, which act to decrease the risk of acidosis, is helpful.

Bloat can be a life-threatening problem for cattle, and a veterinarian should examine and treat bloated cattle as quickly as possible. And, although it is difficult to prevent all cases of bloat, the risk that a large percentage of a population eating legume forages or feedlot diets will bloat can be reduced by proper feeding management.

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