



# Vet Call

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## Dealing with bloat

*Bloat is a life-threatening problem confronting cattle when the rumen is distended due to excess gas accumulation. The bloated rumen can press against the diaphragm to the extent that the animal has difficulty breathing and can eventually die.*

### Two types

The bacteria living in the rumen that act to break down feedstuffs into usable nutrients normally produce a great deal of gas in the process of digestion. Cattle get rid of the gas produced in the rumen primarily by belching (the polite term is eructation).

There are two classifications of bloat based on the reasons that the cattle are unable to get rid of ruminal gas — frothy bloat and free-gas bloat.

Frothy bloat describes one reason that animals are unable to belch. Simply stated, the gas produced in the rumen is trapped in a bubbly froth that cannot be released for eructation. 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 bloating. Alfalfa, red clover and white clover are similarly dangerous for causing bloat. Other legumes such as arrowleaf clover and birds-foot trefoil are less likely to cause problems. And the least likely to cause bloat is sainfoin.

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

### Individual differences

Individual animals differ in their susceptibility to frothy bloat also. Breed plays a role, in that Brahman and Brahman-

cross cattle are less susceptible to bloat, and Holsteins are at the highest risk. Angus fall in between these two extremes.

Some individuals have an intrinsic susceptibility to bloat that appears to be determined genetically. It has been reported that particular sires have offspring that are either more likely or less likely than the average animal to bloat on pastures with high soluble protein levels.

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. 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 the commercially available product Bloat Guard® (poloxalene) starting two to five days before turning cattle out.

Feeding monensin has also been reported to reduce the risk of pasture bloat somewhat, but not as greatly as poloxalene.

Some producers use rotational or strip grazing to discourage selective grazing. If you use strip grazing, it is important not to overgraze a section because cattle may then overeat when rotated to a fresh paddock.

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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 by waiting to turn out cattle until the pasture is more mature (33% bloom).

### Treating a problem

Pasture bloat usually occurs very rapidly (within one hour) and the animal is in danger within a very short period of time. Treatment of pasture bloat involves removal of gas from the rumen to relieve pressure on the diaphragm — with a rumen trocar if the risk of death is imminent. A stomach tube is passed, and the affected animal is drenched with mineral oil to suppress ruminal fermentation and gas production. A concentrated poloxalene product (Therabloat®) can be used to break up froth so that the gas can be released from the bubbles and then removed with the stomach tube or eructated.

Frothy bloat can also occur with diets that have greater than 50% grain. Rather than being caused by plant factors, it is caused by frothing agents in the ruminal bacteria. The factors that increase the risk of bloat on high-grain diets include feeding higher quality hay or finely ground grain and rapidly increasing the percentage 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. The prevention or cure of these cases is difficult, if not impossible.

Another cause of free-gas bloat is the decrease in rumen motility and subsequent eructation that occurs if 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.

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