Feeding frosted alfalfa

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I have been getting many calls and emails from agents and producers about how to graze their frosted alfalfa. The biggest concern with grazing frosted alfalfa is the potential for bloat. Bloat is a serious problem in livestock, especially cattle, and preventative measures must be used when animals are placed in bloat-inducing situations, such as grazing alfalfa.

While a very nutritious forage, with high energy and protein values, grazing of fresh alfalfa comes with its risks. Typically, if a pasture is less than 50% alfalfa, there is a reduced occurrence of bloat. Care must always be taken when grazing alfalfa, even “non-bloating alfalfa”. “Non-bloating” or “bloat-safe” alfalfa have lower amounts of soluble proteins, the cause of bloat in ruminants. However, animals should still be monitored, because even though it is considered “safe”, bloat can still occur.

Why does alfalfa cause bloat in the first place? Soluble proteins in forages and other small particles within the cells of the plant are rapidly released once they reach the rumen. These proteins and particles are attacked by slime producing rumen microbes, which cause a buildup of stable foam. The foam decreases the animal’s ability to expel rumen gases that are created from fermentation of plant material. These gases begin to accumulate, causing pressure on the diaphragm, leading to bloat. In severe cases, the rumen can become distended, and death may occur.

So when does alfalfa become “safe” to graze? This seems to be the money question, as you will find several different answers. We know that we can feed pure alfalfa hay to ruminants, without causing any issues. This is because that forage has gone through a drying process, and the soluble proteins are significantly decreased. But at what point does it become safe, and what are some strategies that we can implement to decrease the risk of bloat?

Some things to consider are the environmental effects. Freezing of alfalfa, and grazing frosted/ frozen alfalfa, can significantly increase the chance of bloat. After a frost, the intercellular liquids freeze, and can puncture the cell walls, causing the cell to “burst” and contents to leak out. Soluble proteins will be released, and the incidence of bloat will be increased. If cattle are out grazing alfalfa during a frost, remove them immediately. Some studies say that only three days are necessary after a frost to allow soluble proteins to decrease, however others cite that waiting five to seven days is safer. As a precaution, I generally recommend waiting about a week after a hard killing frost before grazing the alfalfa, at this point the plant has significantly dried down and the risk of bloat will be reduced.

Other recommendations for grazing frosted alfalfa include:

* If it was not a killing frost, then wait until the alfalfa is in full bloom rather than bud to early bloom to graze. Soluble proteins decrease with increasing maturity.
* Make sure that cattle are not turned onto alfalfa hungry. Feeding with a non-bloating forage beforehand will decrease the likelihood of bloat as they will not consume the alfalfa as rapidly
* Monitor cattle for bloat several times throughout the day, especially when they begin to graze
* Consider including the bloat preventative poloxalene (Bloat Guard) into your ration

Livestock that are suffering from bloat will begin to swell rapidly on the left side. If it is a severe case the animal can die within the hour, which is why it is important to constantly be monitoring your animals. Kicking at their sides or stomping their feet are other signs that the animal is experiencing discomfort. If you notice any of your animals exhibiting these signs, make sure to call your veterinarian immediately.