BLOAT IN DAIRY CATTLE

Extension Circular 436

H. P. Ewalt
August 1944
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H. P. Ewalt
Department of Dairy Husbandry
Oregon State College

The following statements regarding bloat in dairy cattle are the result of observations over a period of fifteen years and a review of recent literature plus the results of experimental work at the Oregon State College Experiment Station.

The present knowledge concerning bloat indicates that preventive measures are the most important factors of control. There are numerous remedies used but many of these have little or no value. There are a few remedies which do have some value when properly applied.

Preventive Measures

1. When grazing legumes keep the cattle on the pasture as continuously as possible to stimulate normal grazing and prevent overeating and overloading the rumen in a short period of time.

2. A mixture of legumes and grass with at least 50% grass will greatly reduce the possibility of bloat.

3. Feeding hay or silage before pasturing legumes will help to prevent bloat. However, this practice will also reduce the amount of feed taken from the pasture and should be used only as a last resort when there is plenty of pasture.

4. Grazing on palatable grass pasture before grazing on legumes will reduce the rapid grazing of the legumes and help to prevent bloat.

5. Provide free access to plenty of fresh water at all times.

6. When bloat is occurring use grass pastures at night when cows cannot be kept under observation.

Turning cows on pasture for short periods of time is an effective way to prevent their eating too much too rapidly. However, it involves too much labor and a more desirable practice is to keep the cows on the pasture as constantly as possible and keep the forage grazed close enough to force the cows to graze longer to get a fill. Use part of the pasture for silage or hay when it gets too far ahead of the cows.
Bloat Remedies

1. Pass a stomach tube or small hose by way of mouth and throat.

2. A bit 3 inches in diameter, made of wood, and placed in the animal's mouth like a bridle may stimulate belching.

3. A bloated animal should be made to stand with the front feet as high as possible. This will tend to prevent obstruction of the opening into the rumen and allow excess gas to escape.

4. Drenching with 1 to 2 quarts of raw linseed or mineral oil helps to relieve bloat.

5. As a last resort use trocar with canula to puncture the rumen on the left side at the high point half way between the last rib and the hip bone, leaving the canula in the hole to form an opening through which the gas may escape.

Other remedies are used. Most of these under controlled experimental conditions have proved valueless.

1. What is bloat? It is an excess of gas in the rumen or paunch of the animal. The excess gas is there either because it has not been allowed to escape normally by belching or it has formed more rapidly than it could be removed by normal processes.

2. What causes bloat? Failure of the normal processes to remove the gases as rapidly as they are formed. These gases are the product of rumen digestion. Feeds under certain conditions may form gases more rapidly than at other times. Too much feed eaten too rapidly gives a greater source of gas formation and also takes up more of the space in the paunch that might otherwise facilitate belching. The lack of a coarse roughage to stimulate ruminination may be a factor.

3. What causes gas in the paunch? Formation of gas in the paunch is a natural process probably resulting from chemical and bacterial action.


5. What causes death when cattle bloat? Probably a combination of pressure and its physical effects, and the absorption of some of the poisonous gas into the blood stream. This absorption is probably increased under pressure.

6. Do some feeds produce more gas than others? Not a great difference under similar conditions. Combinations of feeds or feeds under certain conditions are contributing factors. For example, the bloat in steers at certain times when fed barley and alfalfa and in dairy cattle on a lush growth of legumes.
7. **Why do cows bloat on legumes?** Probably they eat too much too rapidly. Legumes, particularly when growth is lush, enable the cow to fill her paunch in much less time than when foraging on grass. Lush forage or plants that have dew or rain on them can be consumed more rapidly and are more apt to cause bloat.

8. **What effect does stage of growth, moisture and weather have?** These conditions may all or each be a contributing factor to the extent that each allows or encourages more rapid eating. Early growth is tender and has higher moisture content, which will enable the cow to eat more rapidly. Moisture from dew or rain will aid swallowing and allow faster eating. A greater mass of feed will produce an equally greater amount of gas. Under such conditions the gas may become trapped away from the opening in the paunch thus preventing escape and bloat results. Ladino clover forms a foamy mass in which the gas does not separate readily from the solids. This condition is probably increased when more moisture is present. Heavy drinking immediately after grazing promotes bloat. Free, convenient access to water tends to prevent heavy drinking at one time.

9. **What happens when a cow bloats?** The gas which does not escape from the rumen builds up a pressure which causes physical discomfort by pressure against the diaphragm, lungs and heart. This increased pressure may increase the rate of absorption of the gases into the blood stream. Death probably results from the continued pressure and the absorption of the poisonous gases in fatal quantities. As long as rumination or the normal movement of the paunch continues, death usually does not result. When the pressure and the absorption of gas reaches the point where it stops normal rumen contractions or movement, death may result rapidly.

Two distinctly different conditions are found in the rumen or paunch of cows bloated on dry feeds and those that bloat on Ladino clover. With dry feeds the gas is largely separate from the other contents of the rumen and is fairly easily removed with a stomach tube or trocar. When bloat occurs with cattle on Ladino clover the rumen contents are a foamy mass and it is very difficult to remove either with the trocar or a stomach tube.