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Nebraska Cooperative Extension NF97-317



Managing Dairy Cows to Avoid Abomasal Displacement

by Rick Grant, Extension Dairy Specialist

This NebFact discusses feeding strategies to reduce the incidence of displaced abomasum in your dairy herd.

Most cases of abomasal displacement (DA) occur within the first month after calving, and research and field observations show prepartum nutrition and management of the transition cow have a substantial impact on the incidence of DAs. Most DA occur as a result of several factors which combine to cause the displacement. Many of these factors reduce gastrointestinal motility and smooth muscle function. The typical occurrence rate in today's high producing herds is about 3 percent. If your herd average is greater, consider the following feeding guidelines to reduce the incidence of DA.

Factors that Increase the Risk of Displaced Abomasum

The following nutritional factors can be associated with increased incidence of DA:

1. **Anything that causes an animal to go off-feed.**
2. Improper forage quality (either too high or too low relative feed value). If the forage is too high in quality with low neutral detergent fiber (NDF), there will be insufficient NDF in the ration. If the forage is too low in quality, there will be too much NDF, which also can lower intake.
3. Insufficient effective fiber during transition period (not enough roughage value). The dry cow ration should contain about 75 percent of fiber from coarsely chopped or long-stem forage. After freshening, maintain adequate particle length of forage. Often, adding 3 to 5 pounds of dry hay/cow/day will help to prevent DA. At least 10 to 15 percent of forage particles should be greater than 2 inches long.
4. Excessive concentrate feeding during dry period (especially late dry period) and in fresh cow ration. If feed grain, feed no more than .50 to .75 percent of body weight. In other words, a 1,350-pound cow should be eating no more than 7 to 10 pounds of grain before freshening. After freshening, increase concentrate gradually (no more than 1 pound per day). Total forage dry matter should be at least 45 percent during early lactation.

5. Typically, the highest producing cows are more predisposed to DA than lower producers.
6. A greater percentage of DA occur in older, heavier cows as compared with first-calf heifers. A high plane of nutrition during the first two years of growth can increase incidence of DA in heifers at freshening. Therefore, avoid overconditioned heifers at freshening (greater than 3.5 body condition score).
7. Overconditioned dry cows at freshening (greater than 4.0) are predisposed to metabolic disorders including DA.
8. Parturition may precipitate a DA. Feeding high forage (high roughage) diets with sufficient bulk during the late dry period can help to avoid DA immediately postpartum.
9. A rapid shift from a high-forage dry cow ration (especially close-up ration) to high-concentrate fresh cow ration can precipitate a DA and other metabolic problems.
10. Difficult calving, milk fever, metritis, mastitis or other diseases are all associated with increased risk of DA.
11. Feed well-formulated close-up ration during dry period. Excessive dietary calcium (Ca) and potassium concentrations can cause milk fever, DA, retained placenta and uterine problems. Consider the use of anionic salts if legumes have to be fed, or if ration Ca content is above .40-.50 percent of dry matter. Potassium level should be under .65 percent which is difficult when feeding alfalfa.
12. Avoid overcrowding at feedbunk; muddy conditions, poorly placed waterers — anything that could limit intake.
13. Infectious disease accompanied by a fever can cause gut stasis (normal digestive flow slows or stops altogether) which can "push cow over the edge" into a DA occurrence.
14. Are the silages and other feed ingredients palatable? Again, reduction in feed intake is associated with increased risk of DA.
15. Make all ration changes slowly to avoid cumulative stress on the cow. Remember that the transition cow already has undergone the severe stress of parturition and social adaptations involved with moving from dry cow to lactating cow groups.
16. Heat stress can predispose a cow to DA and other metabolic problems, especially when feed intake is reduced.
17. Some herds notice more DA both during spring and during wet times of the year. Currently, there is no research answer to why this may occur. It may be related to the stress placed on the cow and reduced mobility due to poor conditions.

Summary

All of the above factors can increase the probability of a cow in your herd experiencing a DA. To prevent DA problems, or to solve an existing problem, use this nutritional checklist to troubleshoot your present feeding program.

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