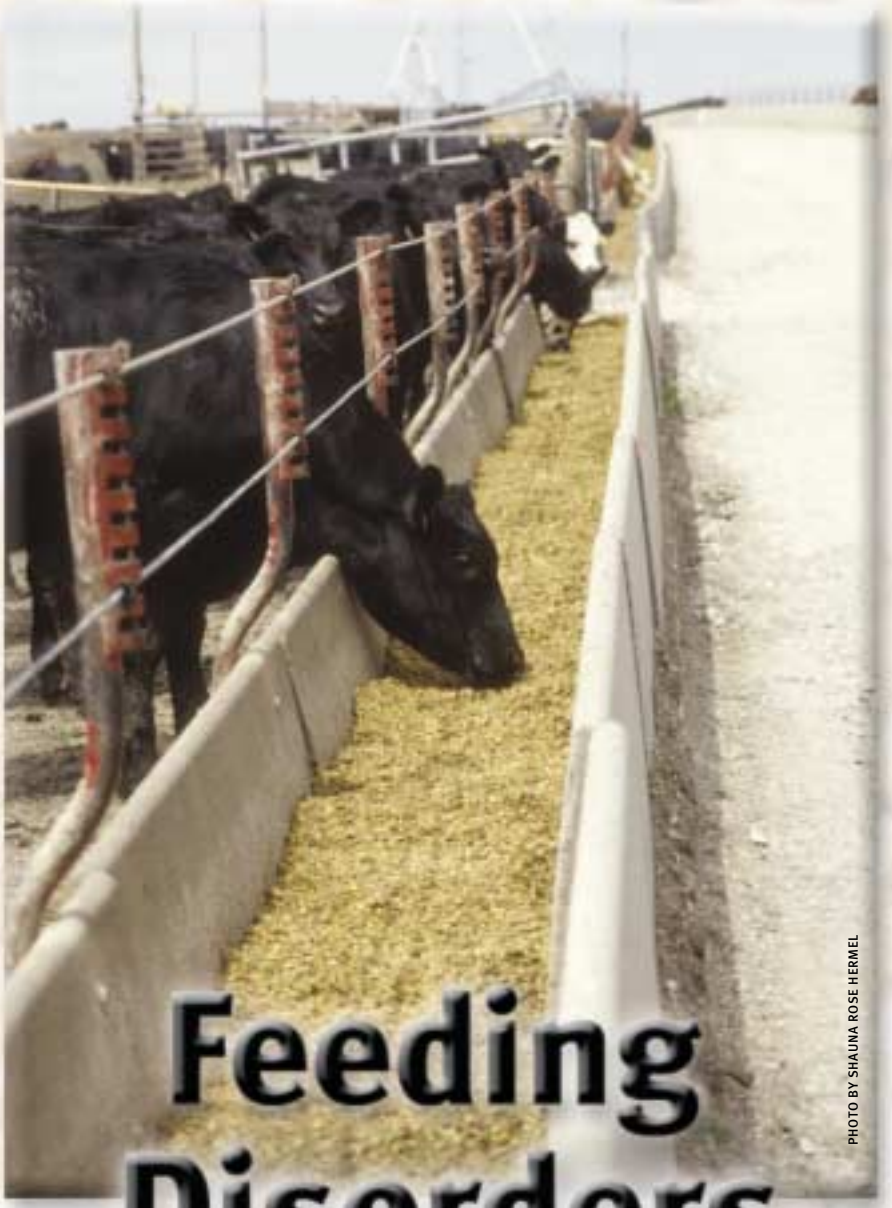

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Feeding Disorders

Want better feedlot health and performance? Then watch out for these culprits.

by ***Eric Grant***

Ran Smith of Oxtown Feeders, Tribune, Kan., believes feed and ration management is every bit as important as genetics and health when it comes to ensuring healthy, profitable fed cattle.

"There are many, many problems that can cause sickness or death in cattle when it comes to feed," he says. "But most of these problems are preventable if producers are willing to take time to ensure they manage bunks and the mixing of rations properly."

Smith, who chairs the National Cattlemen's Beef Association (NCBA) Beef Quality Assurance Advisory Board, ought to know. His family has fed cattle in western Kansas for three generations, and Oxtown now finishes and markets 75,000 head of cattle each year.

►**Chairman of the National Cattlemen's Beef Association (NCBA) Beef Quality Assurance Advisory Board, Ran Smith of Oxtown Feeders, Tribune, Kan., says there are seven afflictions that are directly caused by ineffective feed management: acidosis, bloat, founder, sudden death syndrome, urinary calculi, foot rot and physical injury.**

Keeping all those cattle healthy, happy and on feed are key objectives for his operation. Smith says there are seven afflictions that are directly caused by ineffective feed management.

Acidosis

Also known as "grain overload," acidosis is the most common nutritional disorder in the feedlot. As its name implies, it's caused when cattle consume a large amount of highly fermentable feeds, such as corn, in a short amount of time. When this happens, the production of more lactic acid than is buffered by the rumen draws water from the circulatory system into the rumen. The animal becomes dehydrated, and the pH level in its blood changes dramatically, Smith says.

Cattle that survive acidosis may have chronic problems with fungal rumenitis, liver abscesses, bloat or founder for the remainder of their lives.

Cattle with acute acidosis will not eat. They act depressed and unwilling to move. They are weak and dehydrated. They may appear blind, grind their teeth, grunt and occasionally kick at their belly. Their stomachs may be distended, and they may discharge a foul-smelling diarrhea.

In severe cases, animals will lie down, unable to get up again. In this condition, they normally tuck their head to the side. Their body temperatures will be subnormal, and their pulse becomes weak. Death usually occurs within a few hours after an animal goes down.

Cattle with less severe signs of the affliction often will continue to eat, but they may not consume as much as they would normally. The only signs of subacute acidosis may be reduced gains and the presence of diarrhea in the form of flat gray stools.

Because rumen-lining damage still may occur in the absence of severe signs, these animals may develop chronic rumen problems and liver abscesses.

Animals not accustomed to eating corn or other fermentable feeds are more susceptible to acidosis than animals that have been adjusted carefully to consuming those feeds. However, even animals conditioned to full feed can come down with the sickness when they experience feed changes or temporary restrictions in feed availability.

Changing weather can cause fluctuations in the intake of otherwise acceptable rations. Stormy or muddy conditions, for instance, can cause cattle to consume greater amounts of feed before and after a storm. Hot, humid weather can cause cattle to eat greater proportions of their feed at night,

rather than during the day. In addition, improper feed mixing, bunk management and filthy water tanks can cause acidosis.

"This typically happens if you're moving cattle up on feed too quickly," says John Hepton, feedlot nutritionist for Idaho-based Performix Nutrition Systems. Hepton says acidosis is typically a problem for entire pens of cattle, not just individual animals. "A lot of times, you'll notice that the entire pen of cattle may actually surge on feed intake, then drop on intake after that," he says.

If cattle are noticed soon after consuming large amounts of grain and before they drink water, problems may be avoided by keeping them from water for up to 24 hours. Other common treatments include oral administration of mineral oil or sodium bicarbonate or both, along with activated charcoal, anti-endotoxin therapy, and — if necessary — surgical emptying of the rumen.

"A lot of the time, you can drop cattle to a lower-concentrate ration for a couple of days to treat this problem," Hepton says.

Bloat

Bloat occurs when rumen gas production exceeds the rate of gas elimination. Gas then accumulates, causing distention of the rumen. The skin on the left side of the animal behind the last rib often will appear distended.

Feedlot bloat is caused by consumption of dense feedstuffs containing corn or other grains. Those feedstuffs can depress the cardia region of the rumen, which moves the ruminal opening to the esophagus below the fluid level and prohibits belching. The result is a buildup of gases in the rumen.

"The biggest cause for bloat is erratic feed consumption," Hepton says. "If you let cattle get too hungry between feedings, or the feed you give them is the wrong feed, then you can create this problem. Keeping a consistent feed management program in place is key to prevention."

Inserting a rubber hose into the rumen via the esophagus usually can relieve feedlot bloat. If "hosing" does not give immediate relief, a defoaming agent, such as poloxalene, should be administered through the hose to break the surface tension of the rumen contents. A pint of mineral oil is also a good defoamer.

Drenching should be avoided because of the danger of inhalation, which can cause immediate death or lead to pneumonia. A trocar (a surgical instrument used to puncture the rumen to allow gas to escape) should be used as a last resort. Cattle that are chronic bloaters should be shipped for slaughter as soon as possible.

Founder

Founder is usually caused by an abrupt change from a high-roughage to a high-grain diet. Typical signs of founder are lameness or long hooves. Effective bunk management and consistent feed mixing are key to preventing this affliction.

Sudden death syndrome

An animal that dies suddenly can have been affected by a number of afflictions: bloat, clostridial enterotoxemia, acidosis, ruptured liver abscesses or even pneumonia.

Necropsy of dead animals is critical to determining the cause of death and planning prevention strategies, Smith says. If sudden death is a prevalent problem, veterinarians and nutritionists suggest more-frequent observations of cattle to identify sick animals more quickly for treatment.

"Sometimes it's hard to tell what caused this," Hepton says. "But sudden death syndrome is something you learn to expect from a small percentage of fed cattle. If you're pushing cattle hard on feed, you're going to get a little bit of sudden death."

"It all comes down to good management."

— Ran Smith

Urinary calculi

The term *urinary calculi* describes mineral deposits in the urinary tract. These deposits often block the flow of urine in male cattle. Prolonged blockage can result in rupture of the urinary bladder or urethra, releasing urine into the surrounding tissues or abdomen. This produces the condition referred to as "waterbelly."

Afflicted animals at first appear restless. They frequently strain unsuccessfully to urinate. They repeatedly stamp their feet and kick at their abdomens. If urinary blockage is not complete, urine may dribble slowly from the sheath.

After complete blockage of urine flow, the bladder or urethra will rupture. That releases urine into the body cavity and surrounding tissues. When that happens, the animal will show a complete loss of appetite, stand quietly or lie down. A ruptured urethra results in a large swelling under the skin in front of the scrotum.

Lower water consumption during the winter is believed to be an important reason for the higher urinary calculi incidence associated with that season. And hard water is often blamed for occurrence of the problem. Keep in mind, though, that calcium and magnesium — which often constitute "hardness" of water — have been found to promote protection against some forms of urinary calculi.

Cattle fed high amounts of phosphorus and diets that produce urine with alkaline pH are at risk, especially if animals are stressed or have limited access to water.

Range animals in Western states are mainly affected by siliceous urinary calculi, as grasses in that region have a high silica content. Researchers estimate that more than 50% of cattle in some areas have been shown to have some form of unobstructive siliceous formations in the kidneys or urinary tracts or both.

Straw, especially straw derived from oats, can add to the problem. The problem is more common in winter months, as lower water consumption and greater stresses come into play.

Feedlots should include more legume forages in the diet, avoid the use of straw in high-risk herds and provide plenty of clean drinking water.

In addition, if cattle have a known history of urinary blockage, producers can incorporate ammonium chloride into feed rations at 25-40 grams (g)/head/day to increase the acidity of the urine. Calcium chloride at 1% of the diet also has been shown to be effective for this purpose.

Foot rot, physical injuries

While foot rot and physical injuries may not be classic feeding disorders, they can be prevented by more effective feed management.

For instance, feeding chemotherapeutic agents, such as zinc methionine, oxytetracycline or chlortetracycline, can prevent foot rot, which is a nutritional disorder. However, these products are not replacements for keeping lots clean and dry.

In addition, recently concluded U.S. Department of Agriculture (USDA) Agricultural Research Service (ARS) studies show that feeding pens of cattle at sunset — instead of early in the morning — can result in a 50% reduction in the number of cattle-on-cattle aggressive incidents.

The reason? Cattle instinctively spread out in the evening while they're grazing. If they're denied the ability to feed at that time, they become restless, agitated and take it out on each other. USDA estimates injuries can cost feedlots $70/head on average.

"It all comes down to good management," Smith remarks. "If you take time to look through your cattle more carefully, if you take time to ensure you've properly mixed your rations, if you've taken time to make sure your water tanks are clean, then most of these problems can be caught in their early stages — or prevented altogether." AJ