UCD VET VIEWS
CALIFORNIA CATTLEMAN, OCTOBER 2001

FOG FEVER

The cattle disease we are going to discuss in this month's column is sometimes called "*fog fever*". Some of you will think I am now going to predict a cold foggy winter and the cattle health problems that can occur due to bad weather. No, I have no idea what kind of winter we will have—although I am hoping for an average amount of rain that comes when we need it!

What is "fog fever"?

First, it has nothing to do with foggy weather and the cattle do not usually run a fever. It is an acute (rapidly developing) respiratory disease of cattle. It is sometimes called Acute Bovine Pulmonary Edema and Emphysema (ABPEE; fog fever). It occurs when hungry, adult cattle have been on dry feed, usually in the foothills or desert range, and are suddenly moved to green pasture that is rapidly growing and lush. In England where this condition was originally described, this rapidly growing pasture is called "foggage", hence the term "fog fever". The rapidly growing pasture can be grass, grass-clover mix, alfalfa, or a number of other forages such as turnip tops. The main factors are hungry cattle that have been on dry feed for some time and are allowed free access to rapidly growing, lush green feed.

What do the cattle look like when they are affected?

Usually the cattle become ill within 2 weeks of the pasture change. They have a rapid onset of respiratory difficulty. They are reluctant to move, breathe rapidly (35 to 80 breaths per minute), grunt, breathe with their mouth open, froth at the mouth, and stand with their head and neck extended and elevated. They are trying to keep the airway to their lungs straight and "downhill". Most have a normal rectal temperature, but some have an elevated temperature (> 103) due to the increased work of breathing.

What causes this condition?

Fog fever is caused by the abrupt change in diet and the subsequent biochemical changes in the rumen of the cattle. The affected cattle have been on dry, low protein feed for an extended period of time and the rumen fermentation pattern has adapted to this situation. With the change to lush green pasture the dietary protein concentration increases dramatically. One of the amino acids in this plant protein, tryptophan, is the culprit. The tryptophan in the feed is converted by rumen bacteria to a substance called 3-methylindole (3-MI) at a very high rate. This 3-MI is absorbed through the rumen wall and circulated around the body. The 3-MI is toxic to the primary cells that line the interior surface of the lungs. Thus, as the high levels of 3-MI move from the rumen to the lungs more and more lung tissue is destroyed.

How will I know if my cattle have "fog fever"?

If a large number of adult cattle are having respiratory problems within 2 weeks of moving from dry feed to lush pasture, you should suspect this condition. If an animal dies with suspicious symptoms be sure your veterinarian performs a post mortem exam to be certain of the cause of death.

How can I treat affected cattle?

Most severely affected cattle will not respond to any treatment and will die within a day or two. Typical antibiotic treatments have no effect. Also, moving the affected animals may cause them to die immediately. It is better to not treat them at all, than to stress them by movement or treatment. Your veterinarian may prescribe Banamine® or other treatments that may help the cattle feel better.

How can I prevent fog fever?

The main idea in prevention is to make the change from dry feed to lush feed over an extended period of time (7-14 days). Below are some strategies to help this process. It is only necessary to utilize the method that will work best for your operation.

1. Move the cattle into a dry lot and feed them good quality dry hay for a few days and slowly introduce them to the lush pastures. Start by allowing them to graze 2 or 3 hours per day and work this up over a 10-14 day period.
2. Delay grazing of lush pastures until after a hard frost.
3. Cut, windrow, and dry the lush pasture before turning the cattle out.

4. Use the pasture before it becomes lush.
5. Change the rumen fermentation pattern with drugs. Feed Rumensin® or Bovatec® before turning the cattle onto the lush pastures. These compounds change the rumen fermentation of tryptophan and decrease the chances for "fog fever". The Rumensin® or Bovatec® should be fed at 200 mg/head/day to be effective. The Rumensin® feeding should be started at least one day before the cattle are put onto the lush pastures. The Bovatec® should be started 6 days prior to turnout. Both should be fed for at least 10 days after introducing the cattle to the new lush pasture. Do not allow horses access to either of these products as toxicity can occur if horses consume any amount of these drugs. Consult your veterinarian if you anticipate using either of these drugs to prevent "fog fever".

What is different about this year in relation to the risk of "fog fever"?

We have already seen a few cases of "fog fever" this year in California. This is mainly due to the drought and early grazing of lush pastures that have just been hayed and irrigated. If you have cattle that have been on dry feed and are hungry, consult with your veterinarian ***before*** you turn them onto lush, rapidly growing pasture. Prevention of this condition is important, as it is common for 50 percent of a herd to become ill and 30 percent of these animals may die.

John Maas, DVM, MS
Diplomate, ACVN & ACVIM
Extension Veterinarian
School of Veterinary Medicine
University of California, Davis

Home | Beef Cattle Programs | FAQ/Beef | INFO/Beef | Top