

CALVING EASE

July 1998 (Rev. Dec '03)

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Coccidiosis and Stress

One more challenge, coccidiosis. Let's review for a moment. Coccidiosis is caused by a parasite rather than bacteria or virus. The parasite, coccidia, is found nearly everywhere there are cattle. It's hard to get rid of coccidia. Calves are easily infected by licking, drinking or eating the coccidia eggs. The parasite has a twenty-one day life cycle. The infection can significantly reduce a heifer's ability to absorb nutrients. There are at least four different drugs available to control coccidiosis. The selection of a control strategy needs to include advice from your vet. Heat and cold stress can increase a heifer's vulnerability to coccidiosis. This month is a good time to start or review your coccidiosis control program. That's the bottom line for this letter.

More Technical Stuff for Determined Readers

The agent that causes the trouble is a one-cell animal, a protozoan parasite. Technically, this parasite is of the *Eimeria* genus and, generally, the two varieties most frequently involved with heifers are *E. bovis* and *E. zuernii*. The route of infection is fecal-oral. An uninfected heifer ingests the parasite's eggs (oocysts) from the feces of an infected animal. (These oocysts in the heifer's environment are resistant to weather and chemicals and hard to kill.) Once inside the heifer the eggs hatch (the hatchlings are called sporulated oocysts) and penetrate cells in the lining of the gut (intestinal tract, cecum and colon). When a heifer suffers the destruction of too many of these cells she develops diarrhea.

It's not quite true that where you find cattle you find coccidia. But, it's almost true! The coccidia eggs are quite resistant to common disinfectants as well as extremes in temperature. They survive very well in damp places (dry-cow housing, calving pens, calf hutches, heifer pens). These organisms can last up to a year in soil, manure packs or even on hair coats of heifers.

Most authorities agree that almost all calves are infected to some degree with coccidia. The amount of infection will vary widely from heifer to heifer. Some may have eaten only a few eggs while others may be heavily infected. In addition, as heifers mature they usually develop some immunity to coccidiosis. This will vary widely, also. And, this immunity is specific to the species - immunity to *E. bovis* won't help the heifer when exposed to *E. zuernii*.

Probably only the most severely infected heifers will show clinical signs of coccidiosis. Commonly, these are bloody and/or watery diarrhea, depression, dehydration and weight loss. The other heifers because of destroyed cells in the gut lining suffer varying degrees of loss of

digestive efficiency depending on the intensity of the infection. Some show no signs at all, gain weight rapidly and appear perfectly healthy. Others just don't seem to grow as quickly as they should. Some just seem to stand still for two or three weeks.

Is There a Test for Coccidiosis?

Yes. Ask your vet to have fecal samples examined at their lab. They will look for coccidia eggs. Since this parasite has a twenty-one day life cycle (starts with ingesting eggs in the front end and ends with excreting eggs from the back end), collecting fecal samples from heifers over three weeks of age is more useful than very young calves. If a calf dies, the vet can confirm the presence of coccidia by looking for lesions in the gut.

After or during a period of especially rapid or extreme changes in the weather we may observe four to ten week-old calves with loose, maybe bloody manure. When weather-related stress is added to one or more of the usual stressors for heifers (weaning, ration changes, moving from individual to group housing) the heifers' ability to fight off the coccidia is weakened. Most authorities agree that coccidiosis is a stress-induced disease. Rather than automatically blame bacteria, consider checking for coccidia.

How do I interpret the test results? Involve your vet. Together you can review your calf/heifer program. If the problem is severely infected heifers the necessary treatment is much different than for heifers with light to moderate infections.

Is Prevention Possible and Practical?

First, anything we do to encourage the rapid development of a heifer's immune capability will help. For example, plenty of good quality food, a clean environment and as little stress as is practical.

Second, work at keeping things clean. The objective of sanitation is not to totally eliminate all coccidia; rather, we want to cut down the numbers so the heifers have a fighting chance to develop their natural resistance. Continuous low level exposure is the key to developing this natural immunity.

Third, with the advice of your vet, select a medication to either kill or retard the growth of coccidia in the gut. At least four different drugs are available to effectively control coccidia in heifers. Each drug's action is different. One may be best for your calf/heifer program. When used at their labeled dosage, none of these products has been shown to stop all cycling. So, the heifers can still build their natural immunity while the intensity of infection is suppressed.

Fourth, how practical is "control?" Well, that depends on what we stand to lose. During their life cycle the coccidia invade cells that line the gut. These cells are destroyed. This unseen damage adds up. We get lower rates of gain in heifers because digestive efficiency goes down. As an adult, this means loss of milk production potential. How much of this are we willing to endure? What makes this decision especially difficult is that the cost of the control drugs are known (\$\$ per day) while the lost milk production potential is hard to measure.

Challenges for the Heifer Manager

The first challenge is the three-to-four week old heifer that is not yet eating starter grain. Often the coccidiosis control drug is blended into starter. If the heifer is not yet eating enough of this to consume the drug level needed to control coccidia, they may start to multiply rapidly causing her growth to plateau. The second challenge point is the weaned calf going from individual to group housing. The key is to avoid reduced feed intake that cuts the amount of the control drug eaten.

If you know of someone that doesn't currently receive **Calving Ease** but would like to, tell them to **WRITE** to Calving Ease, 11047 River Road, Pavilion, NY 14525 or to **CALL** either 585-591-2660 (Attica Vet Assoc. office) or 585-343-8128 (Offhaus Farms Office) or **FAX** (585-591-2898) or **e-mail** sleadley@frontiernet.net or pams91@2ki.net . A limited number of back issues may be accessed on the Internet at www.calfnotes.com and clicking on the link, Calving Ease.