

# Calving Ease

January 2007

By Sam Leadley of Attica Veterinary Associates



## Surges in Scours Cases

I believe every calf raiser has had this experience. Everything is going along fine. Bam! The proportion of calves requiring some kind of treatment for scours surges up and up. No apparent reason for this. We have not changed anything but here we are with umpity ump calves with scours.

### Basic biology

Why do calves end up with too much fluid in their feces (that is, diarrhea)? One of two possibilities is that too little fluid is absorbed. The other common cause is that too much fluid is put back into the feces as it passes through the large intestine.

Okay so far? Now how could too little fluid be absorbed? One of the most common reasons is that an infection has released substances that damage the intestinal lining. Both viruses and bacteria are common culprits. Parasites like cryptosporidia and coccidia are guilty parties, too. Calves with this problem often have swelling in their abdominal region. If we feel of their gut we can hear and sense a buildup of fluids.

How about having too much fluid secreted into the feces? One of the most common reasons is that toxic substances from bacterial growth become concentrated in the feces. The body acts to dilute them and, thus, fluid moves from the plasma pool into the intestine. Growth by-products from viruses and parasites have similar consequences. A less common reason is the presence of excessively concentrated nutrients. For example, if a calf is fed a high dry matter concentration milk replacer without access to free choice water, she may end up with this situation.

Let us remember that fluid management in the gastrointestinal tract is a finely balanced process. It is influenced by many physiological factors. There are reasonable margins for error for the calf to normally digest her ration. When all of these are in tune the feces are "normal." At the same time, small changes in any of several factors may intersect to interrupt the desirable exchange of fluids. These might include, for example, ingestion of bacteria, viruses and pathogens; growth of pathogens that have colonized the GI tract; decline in maternal antibodies that destroy pathogens; evolution of bacteria that successfully challenge the immune system; abrupt changes in the feeding routine. Once in while restoring just one factor to a workable level will fix a scours problem. More frequently, it takes changes in more than one factor to bring the fluid management process back into balance.

### The most likely culprit

On farms with which I work the probably the most frequently identified cause of a surge in scours is an increase in bacterial exposure. Many calves have a low level of exposure to many parasites, viruses and bacteria. If the colostrum management program is adequate, most calves fight off these health threats

with little or no scouring. But, when a big increase in bacteria happens, as many as 90 to 100 percent of the calves may have scours between five to fifteen days.

I look for changes on a farm that might lead to an increase in bacterial exposure. One of them is a change in personnel providing calf care. It might be only a person that fills in when the regular calf care person is off. Even if the new person says, "Yes, I understand," they do not translate that knowledge into the correct behaviors. They feed too early or too late. The milk replacer is too cold or too hot. They add too much powder or too little. And, so on. It is worth the time to observe a new hire to see that they actually carry out the protocols. At [www.atticacows.com](http://www.atticacows.com) there is a checklist for monitoring protocol compliance in the Calf Facts section.

Sometimes I ask about changes in the family situation of the calf care persons. A new child, sickness, divorce, an INS raid on Hispanics, even death of a loved one. All of these stresses come to work with the calf care personnel. Normally careful compliance with sanitation procedures is not followed due to emotional stress. I usually pick this up when I do bacterial cultures of "as-fed" colostrum and milk replacer/milk. Coliform counts may or may not be high but the Staph and Strep species counts often are too numerous to count (TNTC).

It does not take an abrupt increase in bacterial exposure to set off a scours surge. For example, a gradual build-up of biofilms on colostrum and milk replacer handling equipment can occur with only small but frequent deviations from an acceptable cleaning protocol. Eventually, the bacteria population in the biofilms builds to a level that overwhelms the immune resources of the calves. Regular monitoring of both colostrum and milk replacer bacteria counts usually picks this problem up before a scours surge. However, it is easy to let sampling slide. "Oh, I'll do that next week." If next week never comes then that is not monitoring, it is benign neglect.

### **Bottomline**

Try to achieve high levels of compliance with sanitation protocols. Be consistent when feeding calves. Set up and stick to a regular culturing program for both colostrum and milk/milk replacer. Do not expect to be able to explain every scours surge – some of them are too complicated to figure out. Once in a while all we can do is ride it out and find comfort in knowing that if we have done our best the scours surge situation will get better.

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** 585-591-2660 (Attica Vet Assoc. office) or **FAX** (585-591-2898) or **e-mail** [calvingease@rochester.rr.com](mailto:calvingease@rochester.rr.com). A limited number of back issues may be accessed on the Internet at either [www.atticacows.com](http://www.atticacows.com) or [www.calfnotes.com](http://www.calfnotes.com) and clicking on the link, Calving Ease.

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This meeting is a must for anyone in the dairy industry. If you make your living in agriculture you need to attend this meeting. The Meeting will begin at 11:00 AM and lunch will follow. RSVP required to be sure that everyone has a seat. This meeting is intended for owners and managers (key employees on the Dairy). We look forward to seeing you on January 11, 2007.

**When: Thursday, January 11<sup>th</sup>, 2007 ~ Presentation starts at 11am**

**Where: Bohn's Restaurant ~ Rte. 33, Batavia, NY 14020**

**RSVP: This is important so we can make sure there is a seat for you; please call the clinic @ (585) 591-2660 or e-mail: [atticavettech@yahoo.com](mailto:atticavettech@yahoo.com) by Monday, Jan. 8<sup>th</sup> @ 5pm**