



# River Valley Veterinary Clinic

## January 2016 Newsletter

### Fluid Therapy in Scouring Calves

An outbreak of diarrhea in calves can be frustrating and time-consuming, between taking care of the sick calves and finding the source of the infection. While finding the source and removing the cause will prevent new infections, it is equally important to pay close attention and provide diligent care to those that are already sick.

Calf diarrhea can be caused by many agents, including Enterotoxigenic *E. coli.*, *Clostridium perfringens* Type C, *Salmonella* species, Rotavirus, Coronavirus, *Cryptosporidium parvum*, *Coccidia* and *Giardia*. Most outbreaks involve multiple agents that are acquired from the environment. If the calf is less than 5 days old when she develops diarrhea, she was infected in the maternity pen, by the cow, from poor quality or contaminated colostrum, dirty transport vehicles or even from the people in contact with her at birth. When the calf develops diarrhea and is over 7 days old, she was infected from something in her calf pen, such as the bedding or older calves, or from her feed, such as contaminated milk or improperly cleaned feeding equipment.

Certain controllable factors can influence calves negatively and make them more susceptible to developing scours or another illness. These factors include inadequate or inconsistent vaccination of dry cows, failure of passive transfer of antibodies due to poor colostrum management, inadequate nutrition, overcrowded pens, inadequate down-time for pens or hutches and management practices that clump stressful events close together, such as feed or housing changes, dehorning and over-vaccination/medication.

To prevent new cases of diarrhea, a combination of making calves more resistant and reducing exposure is necessary. Calves are more resistant with proper colostrum management, good nutrition and proper vaccination. Reducing exposure can be more difficult and the source should be diluted, calves distanced from it or bypassed altogether. This includes changing housing areas, deeper bedding,

increasing time between occupants when the pen/hutch lies empty, increasing space between calves, reducing their time in the maternity pen and thorough cleaning and disinfecting between calves.

When a calf already has diarrhea, the most important aspect is to keep her hydrated, warm and replace the fluids and electrolytes she is losing. The route at which fluids should be administered are dictated by the calf's symptoms and hydration status. To assess her level of hydration, pinch a fold of skin on her neck and release. Her level of hydration will be indicated by how long it takes for the "skin tent" to disappear. With adequate hydration, the skin tent should disappear immediately. A mildly dehydrated calf has a lasting skin tent, but for <3 seconds and her nose may also be dry. With moderate dehydration, the skin tent lasts for >3 seconds and her eyes are beginning to sink. A severely dehydrated calf has a skin tent for >5 seconds and her eyes are very sunken. Keeping a calf warm is important in the winter regardless of her health, but especially so when she has diarrhea as her body temperature can quickly drop into a dangerous and life threatening range. Make sure she is wearing a calf jacket and her bedding is deep and changed frequently so it remains dry and warm.

A good fluid therapy and treatment protocol for calf diarrhea places them into three categories based on their symptoms and is refined based on their hydration. The first category is a 'healthy' but scouring calf. She is bright and alert, with a normal appetite and posture and is most likely only mildly dehydrated. It is possible to rehydrate her with oral fluids alone. Continue offering normal milk feedings; never reduce the amount of milk offered to a sick calf. In addition, provide 1-2 additional feedings of calf electrolytes until her manure normalizes, which may take a couple days. The electrolytes should be offered more than an hour prior to, or more than 30 minutes after her regular milk feedings, so her appetite for milk and the calories within isn't diminished. If neither milk or electrolytes are fully consumed, allow for more time between feedings or offer a smaller

amount, more frequently. At this stage, antibiotics are optional, as the calf may fully recover on additional fluids alone. If the calf is more than mildly dehydrated, she may need fluids under the skin or given IV.

The second and third categories involve a 'sick' and scouring calf. She is dull and depressed, not drinking well, may arch her back while standing or have a difficult time rising. In the second category, she is still able to nurse. As always, continue offering normal milk feedings, even if she doesn't always drink the full amount, and consider offering an additional half to full milk feeding to maintain her caloric intake. Offer electrolytes twice daily for two days, reducing to once daily if her attitude improves. If she is mild to moderately dehydrated give 200-300mL of hypertonic saline under the skin before offering electrolytes, or give 500mL of plasmalyte or LRS under the skin at any time. If her attitude and skin tent remain the same or worsen within 12 hours of giving fluids under the skin, contact your veterinarian as the calf should be given IV fluids.

The third and most severe category involves a calf with the same symptoms as the second, but she is unable to nurse and/or is down. Attempt normal feedings with a pail or bottle, helping her stand for each feeding, but she can be bottle fed lying down. If the calf refuses to drink at all, she may need to be tube fed. Only tube feed her once per day, and only if

she is standing. Every time a calf is tube fed, it increases the chance that she will aspirate the fluid into her lungs and is especially dangerous if she is down. A calf in this condition will be moderately to severely dehydrated and the only way to correct it quickly is through IV fluids, so your veterinarian should be contacted.

Calves that fall under the second and third categories should be placed on antibiotics. We recommend a combination of Penicillin and Excenel. As both will be used extra-label for the calf, discuss treatment with your veterinarian for correct dosing and withhold times. An anti-inflammatory is also recommended, such as meloxicam, which has a longer duration than banamine and is less likely to cause stomach ulcers. It is also good at improving appetite in sick calves, but make sure the calf is alert enough to swallow before giving the meloxicam.

If at any time, a calf develops atypical symptoms, such as bloating or an unusual posture, or goes downhill quickly, please contact your veterinarian so they can act quickly to save her life. Your veterinarian is also a great resource for determining the source of infection and will work with you to resolve the problem. If you are unfortunate enough to develop an outbreak of scours, remember to keep the sick calves hydrated and warm, and remove the source of infection to prevent new cases.

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### **Sauk County Dairy Promotion Board**

For dairy farmers of Sauk County who love their profession and want to help educate the general public about the benefits of milk and dairy based products, the Sauk County Dairy Promotion Board will have open positions available this coming March. There will be two positions for dairy farmers (preferably active dairy farmers but could be former dairy farmers or spouses of dairy farmers) and one industry professional (ie. veterinarians, nutritionists, bankers, etc). Members of the board are elected for three year terms and can hold no more than two consecutive terms. The board meets once every one to two months. Other time commitments may involve staffing a booth at the Sauk County Fair selling milk and cheese, the Cow Chip Throw in Sauk City, or at the Sauk County Dairy Breakfast. There is also a stand at Sky Hi Apple Orchard promoting the use of dairy products to go along with the seasonal apple recipes.

If you are interested in learning more about the group, contact Dr. Lochner or stop in at the next meeting on February 9th at 7:45 pm at the Baraboo Pizza Hut. If you are not in Sauk County and are interested in dairy promotion in your own county, contact the Wisconsin Milk Marketing Board to get involved.

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### **A new voice on the phone!**

RVVC would like to introduce Cheryl Martin, a long-time dairy client who has helped us tremendously by taking over the phones a few days each week. Make sure to introduce yourself the next time you stop by the Plain office.

### **Free Leg-Bands**

RVVC was given an entire box of leg-bands that we would be happy to give away, free to a good home. There are two colors, pink and light blue. If you could put one or all of them to good use, call or stop by the Plain office.