

Stop scours from stealing time, profit potential

Doug Scholz for *Progressive Cattleman*

Each calving season brings a special set of challenges for cow-calf producers. However, the primary goal remains the same every year – get as many calves as possible on the ground and off to a healthy start. One obstacle that virtually all producers will face at some point during calving season is scours.

Calf scours, or neonatal diarrhea, continues to be a leading cause of mortality and sickness among calves. And despite all the information available to prevent scours with better management protocols and vaccination, it's a problem that still robs significant amounts of time and money every year.

In fact, scours can cause more financial loss to cow-calf operations than any other disease-related problem. From antibiotics and electrolyte solutions to veterinarian visits and treatment costs, managing even a small scours outbreak can cost thousands of dollars in out-of-pocket expenses. Worse yet are the future losses associated with each calf that doesn't survive scours.

Research shows that calves suffering from scours never catch up. In one study, beef calves that became sick in the first four weeks of life weighed 35 pounds less at weaning than their healthy herdmates. On a \$1-per-pound market, this means \$35 less per sick calf come sale day at weaning. Another study documented that heifers treated for scours were nearly three times more likely to calve later than 30 months of age.

Fighting scours doesn't have to be a losing battle. Both the incidence and impact of scours can be greatly reduced with a relatively simple prevention plan. But before developing a plan with the help of your veterinarian, it's important to have a good understanding of what causes scours and how it affects calves.

Scouring calves have diarrhea that ranges from moderate to severe, and results in dehydration, depression and sometimes death. Calves that do survive are often weak and perform poorly throughout their lives, which is the reason prevention is so important. Scours is caused by viruses and bacteria which destroy the lining of the small intestine, resulting in large amounts of fluid loss.

Calves are especially vulnerable to bacterial and viral infections that lead to scours because their immune systems have not yet developed and they are exposed to dozens of disease-causing pathogens in the first few hours of life.

What causes scours?

Several infectious agents are known to cause calf scours. The most common pathogens are:

- Rotavirus – rotavirus is one of the main viral pathogens involved in



The key period for scours prevention is weeks before calving, to enable more powerful antibodies in colostrum. Photo courtesy Novartis Animal Health.

calf scours. This virus causes scours in calves during their first day of life. Infected calves are severely depressed with excessive drooling and watery diarrhea; fecal color varies from yellow to green. The death rate may be as high as 50 percent, depending on the secondary bacteria present.

- Coronavirus – scours from coronavirus happens in calves that are more than 5 days old. These calves are not as depressed as those with rotavirus, and can initially have the same type of fecal material. However, within several hours of scouring, the feces may contain clear mucus. The mortality rate from coronavirus scours ranges from 1 to 25 percent.

- *E. coli* – many different strains of this organism have actually been identified, and not all of them cause scours. *E. coli* is always present in the intestinal tract and is usually the agent causing secondary infection. The course varies from two to four days, and severity depends on the age of the calf when scours starts and on the particular type of *E. coli*. Clinical signs of *E. coli* scours include diarrhea and progressive dehydration.

- *Clostridium perfringens* – these organisms can be highly fatal to young calves. There are actually six types of *Clostridium perfringens* organisms, but *Clostridium perfringens* Type C poses the biggest threat. This disease has a sudden onset; infected calves become listless, display uneasiness, and strain or kick at their abdomen. Calves may also have bloody diarrhea.

Vaccinating for scours protection

Vaccinating pregnant cows and heifers is essential for optimizing scours prevention, as it builds powerful antibodies in the colostrum that foster protection against pathogens that cause scours. A broad-spectrum scours vaccine in particular is like an insurance policy – it gives you peace of mind knowing your newborn calves will have the protection they need against an otherwise devastating disease.

However, a vaccination program alone will not replace proper cow nutrition, careful calving management and a clean environment. Once those

management practices are in place, attaining high levels of antibodies in the colostrum through vaccination has proven effective in protecting newborn calves during the critical first weeks of life.

The ideal time to administer a scours vaccine is eight to 16 weeks before cows are ready to calve. As a general rule, the earlier you vaccinate the cow, the better protection the calf will receive. Talk to your veterinarian about scours vaccination timing. Not all scours vaccines can be given up to 16 weeks prior to calving in Year 1, and you'll want to make sure the one you're using does provide that wide window of vaccination timing.

Best practices for scours prevention

Preventing calf scours requires careful management of the dam, the environment and the calf. We know the first step in a scours management program is immunization of the dam, delivering passive immunity via high levels of maternal antibodies passed to the calf through colostrum. But beyond vaccination, following other important management practices will help prevent scours in your herd:

- Dam nutrition – proper nutrition for the dam is critical to ensure sufficient quantity and quality of colostrum. The precalving ration should include adequate selenium, vitamin E, copper and protein. Also, rotate hay feeding areas for the entire herd to prevent a buildup of disease-causing organisms.

- Environmental hygiene – calve in a clean, dry environment that's well-ventilated and protected from severe weather. Avoid overcrowding and calving in muddy areas. Remove bedding and clean calving areas frequently.

- Vaccinate at the right time – cows build antibodies in their blood before passing them down through colostrum, and antibodies move from blood to colostrum four to six weeks before calving. Vaccinate as early as possible to optimize antibodies in the dam's colostrum.

- Colostrum is critical – protecting calves against scours starts before birth by taking steps to improve the

Extra Tips

When to vaccinate

Consult your veterinarian first to determine the best scours vaccination program for your operation and always follow vaccine label directions. It's important to administer a scours vaccine with broad-spectrum protection from viral and bacterial antigens such as rotavirus, coronavirus and *E. coli*. Use these timing guidelines to vaccinate pregnant cows.

First year

- Administer first dose to cows and first-calf heifers eight to 16 weeks before calving. Choose a broad-spectrum vaccine that provides a wide window for administration timing and allows you to vaccinate up to 16 weeks prior to calving.

- Revaccinate with a second dose four weeks before calving.

Second year and beyond

- One dose at eight to 10 weeks before calving.



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quality of colostrum. Colostrum is the lifeblood of a healthy calf. Calves need the right quantity and quality of colostrum at birth to build their immune systems.

Your best resource for scours prevention is your veterinarian; contact him or her to discuss vaccination strategies. Don't let the deadly trend of scours rob your time and profit potential this spring. With proper management practices and an effective vaccination program, you can promote healthy calving and yield healthier profits. For more information, visit www.livestock.novartis.com

References omitted due to space but are available upon request.