Calving system shows promise at limiting new calf illness

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Calf scours (diarrhea) cost cow-calf producers in Iowa a great deal in not only calf death loss, but also in lost performance, health treatments and labor. There is nothing more demoralizing than finding calves with scours, especially after the long hours spent managing the calving process.

Calf Scours Causes

Scours in young calves is a function of several things: disease agents, young animals with low or impaired immune systems, and the environment. Of course, bacteria agents like E.coli and Salmonella are main culprits, but also viruses like rotavirus, bovine coronavirus and protozoa like cryptosporidium can cause this problem.

Calves get passive immunity against many common agents of calf scours by absorbing antibodies from their mother’s colostrum milk. So quantity and quality of colostrum milk is important, that’s where your past nutrition program and maintenance of body condition come into play.

Another important aspect of calf scours is age of the calf. Work in Nebraska shows that a large percentage of calves become infected and suffer from scours between six and 15 days of age. Disease incubation might be part of the reason, but this age range might be when calves become more susceptible to disease as the colostrum antibodies entering the gut drops off from mother’s milk.

Environmental conditions can also play a large role in calf scours; level of pathogen exposure and calf disease resistance. Calves that are chilled, cold or wet have lowered resistance levels. But exposure level of pathogens in the early days of the calf’s life appears to be a major cause of calf scours. Over crowding and direct contact with infected calves increases the number and chances of infection. Additionally, repeated contact with older calves that may be shedding bacteria or viruses can add to the woes of the young five- to 15-day-old calf.

Sandhills Calving System

The “Sandhills Calving System” was developed and tested during the early part of this decade. What is the concept? It is a system that: 1) segregates calves by age to prevent direct and indirect transmission of pathogens from older to younger calves, and 2) routinely moves pregnant cows to new calving pastures to minimize pathogen dose-load and contact time.

In a Nebraska demonstration project this system was applied and had a huge impact on two herds with serious infection rates and death losses. herd 1 had a death loss ranging from 6.5 – 14 percent in the prior three years, but after implementing the “Sandhills Calving System” they had no calf death losses and only minor treatments. This herd reported a 24-fold reduction in expenses due to calf scours! Herd 2, utilizing rotational pasture management, was experiencing 6.5 – 11.9 percent death losses. After implementing death loss was reduced to 2.3 percent and no calves died from calf scours!

So what did they do? These herds did as the system prescribes; they calved on one pasture for 10 to 14 days and then move the remaining pregnant cows to another pasture for calving, then after another seven to 14 days the remaining pregnant cows were moved to another calving pasture and so on. The goal was to prevent infective contacts by using clean calving pastures, preventing direct contact between younger and older calves, and preventing late born calves from being exposed to an accumulation of pathogens in the environment.

Implementing the System

You might be saying I don’t have that many calving pastures and can’t possibly do this. That may be so, but the concept is still valid in your calving system. Think about how you can effectively separate younger from older calves until they can get to a more mature stage in their life to ward off calf scours. How long? In most situations, four-to-six-week-old calves will have the ability to fight off most calf scours.

Also think about your calving facility and calf shelters. How clean am I keeping it? Do I have a strategy to isolate problem calves and keep them from infecting healthy calves? Do I rotate my calf shelters around to keep them on cleaner ground? Could I cross fence my calving area into two or three areas, thus providing clean ground to later calving cows? Remember, a few days of thinking and adjusting facilities before calving season may save you immeasurably in time, sick calves and expenses. Good luck with calving!
Nutritional program vital during calving

Calving is a critical period for beef cattle producers and proper nutrition is crucial to a successful outcome for the cow and calf. Body Condition Scoring (BCS) can be used to assess the nutritional program of the beef herd.

Nutrition effects on calving

Historically, there was some thought that protein and energy supplementation was responsible for dystocia problems. Actually many studies have shown that cattle fed low energy diets prior to calving have a higher percentage of dystocia than medium or high energy diets unless cows are overly conditioned with fat deposits in the birth canal. Calves from cows fed adequate energy and protein did have increased birth weights but decreased dystocia rates. Therefore it is important to remember that you cannot starve calving difficulty out of cows.

Dam Nutrition on calves

One of the most important factors is the effect of dam nutrition on calves. Proper energy and protein levels are vital for calf vigor after calving. Calves from energy or protein restricted dams during gestation have decreased calf vigor and ability to generate body heat. Weak calves will be less likely to intake adequate amounts of colostrum and are more prone to increased morbidity and mortality.

Nutritional effects on reproduction

Cows and heifers that calve in a thin body condition will have longer return to estrus period and decreased conception rates compared to females that calve in good body condition. New research at the University of Nebraska has even shown that heifer calves born to cows receiving adequate protein nutrition have increased reproductive performance compared to heifer calves whose dams did not receive adequate protein nutrition.

Cows should calve at a BCS of 5 (heifers at BCS 6) at calving. Up to 80% of fetal growth occurs in the last 50 days of gestation. Females during this period of gestation need approximately 11 Mcal of energy and 1.7 lbs of crude protein per day.

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Russ Euken

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What piece of advice have you given producers for years, and can see giving them for years to come?

Stay flexible but set some priorities, and try to measure impacts and progress for your own operation. If they can change with the times and situation and focus on what is important to be profitable and sustainable they have a good chance at success. Not all operations need to do things exactly the same way. If they measure or record how the operation is performing over the years they can benchmark their operation and know how well they compete in an industry.

What should producers be paying attention to the most during calving season?

Getting a live calf of course. Monitor the cows to see if assistance is needed at calving, once the water bag is out most cows should deliver the calf in 1-1.5 hours for heifers it may take slightly longer. Make sure the calf has nursed after calving so they get a dose of colostrums, watch for health problems and take action if needed, try to keep the calves in clean conditions to prevent scours.