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PREVENTING CALF DIARRHEA

One of the major economic losses experienced by cow/calf producers is that of diarrhea in young calves. This problem usually occurs when the calves are less than one month of age. Some calves die of scours, some recover with treatment; however, all cost valuable time and money. The list of viruses, bacteria, and other agents that can potentially cause scours is quite long. However, the common agents that cause scours in calves is more manageable and consists of *E. coli* (two types), Rota virus, Corona virus, and cryptosporidia. These agents tend to be in the cattle, in the environment, or both in the cattle and the environment. Maintaining health (or preventing disease) is a balancing act. Health maintenance revolves around tipping the balance in the favor of the calf. The basis of prevention of calf scours is (A) increasing the resistance to disease of the calf, (B) decreasing the dose (number of microbes) of the pathogens that the calf comes into contact with. Stated another way, increasing resistance is the same as increasing the activity of the immune system and decreasing the dose is sanitation.

The immune system of calves is not fully developed at birth and that is part of the reason they are more susceptible to agents that cause calf scours. Therefore, one of the main goals of prevention is to get the calves' immune system working at optimum levels. There are several keys listed below:

Feed the cow adequate energy and protein for the last 3 months of pregnancy. The cows and heifers should be fed enough to gain about one pound per day during this time. This weight gain is equal to the growth of the fetus, placenta, and associated tissues (uterus, fetal fluids, etc.). This would be equal to cows on irrigated pasture (fall calving), fifteen to 20 pounds of alfalfa hay for winter feeding, or any combination of pasture and supplements that would accomplish the same end. It is not adequate to try to maintain cows on dry foothill feed with no supplement for the last 3 months, however. The energy and protein is needed by the calf to develop an optimum immune system. There is another very important reason for feeding adequate levels of energy and protein. That reason is for colostrum production. Adequate energy and protein is needed to make colostrum, which contains all the important antibodies that protect the calf for the first 3 to 4 weeks of life. Without adequate quantity and quality of colostrum the calf is sure to get sick and/or die during these first few weeks of life. The cows and pregnant heifers need to be fed enough protein and energy to make enough high quality colostrum for the calf; without it the calf will surely get sick.

Vaccinate the cows and pregnant heifers with any necessary calf scours vaccines well prior to calving. Vaccines that contain Rota virus, corona virus, and the K99 *E. coli* antigens can be helpful in preventing calf scours. These are best given to the cow prior to calving so she can make antibodies and secrete them into the colostrum. When the calf ingests this "enriched" colostrum, he will be protected against these major agents. Currently, there are no effective vaccines against cryptosporidia, in my opinion. Seek your veterinarian's advice on which vaccines and what timing will work best in your herd.

Check your trace mineral supplement program to be sure the herd is not copper deficient, selenium deficient, or deficient in some other mineral. Copper deficiency and/or selenium deficiency both have a negative impact on the animal's immune system. This leaves them more susceptible to calf scours and other infectious diseases. Review your supplementation program with your veterinarian and check the herd's status with blood samples or other samples as necessary.

The other area of management that is important in preventing calf scours, is that of decreasing the dose of pathogens that the calves are exposed to. The important concepts here are **isolation** and **sanitation**. There are several areas to be aware of to accomplish these goals.

Calve your heifers earlier than the main cow herd in clean fields. The calves from heifers are more susceptible to disease. Calving them early and in clean areas prevents the build up of pathogens that can occur in the main cow herd.

Try to calve during a time of the year when it is not wet or muddy. The bugs do well in these conditions and the calves do not.

Try to avoid hay feeding when the calves are young. This concentrates the cattle and their feces on the hay feeding areas and increases the dose of the bacteria and viruses, etc. Use of good pastures or fields set aside with adequate forage during the first 2 weeks of the calves' life is a good idea. Feeding soybean (or cottonseed) meal with 30% salt as a supplement during this time can be helpful also.

Do not bring in outside cattle during the calving period or when the calves are young. Bringing in dairy calves for cows that lost a calf can lead to a disastrous calf scours outbreak. These calves can bring in diseases that your cattle may have never been exposed to and have no immunity against.

When treating sick calves in the herd use strict sanitation. Treat the sick calves **after** handling all the well calves, not before. Disinfect all balling guns after treating sick calves, use disposal gloves, wash your clothes after treating scouring calves, etc. You can carry many of these pathogens on your gloves, clothes, and equipment from one sick calf to a healthy calf. Thus, you can become the cause of an outbreak and not the cure.

Isolate sick calves and their cows to a separate field or area for treatment. This will decrease the build-up of pathogens for the main cow herd.

The above comments are general in nature and each operation will have to customize their own program. However, anything that can be done to increase the immunity of the cattle and to increase the sanitation will pay large dividends in terms of preventing calf scours and all the headaches, heartaches, and economic aches that are associated with this disease problem. Consult with your veterinarian about specific prevention methods and appropriate therapy that will work well in your herd.

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