

4-1-1997

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Bill Epperson
South Dakota State University

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Recommended Citation

Epperson, Bill, "Weak Calf Syndrome An Indirect Result of Cold-Weather Stress" (1997). *Extension Extra*. Paper 382.
http://openprairie.sdstate.edu/extension_extra/382

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Weak Calf Syndrome An Indirect Result of Cold-Weather Stress

*by Bill Epperson, DVM, Extension veterinarian,
SDSU Veterinary Medicine Department and
Animal Disease Research and Diagnostic Laboratory*

Severe winter conditions are commonplace in many geographical areas where beef is produced. However, cold temperatures, wind, and abnormally high snowfall can combine to produce environmental conditions that make adequate care of the beef herd impossible. In such conditions and despite the best effort, producers will often have difficulty carrying out typical management practices and providing adequate nutrition to cows. The end result is that nutrition during gestation may not have been optimal, environmental conditions at calving may be poor, and cows are very stressed. These conditions can lead to several health problems not normally encountered by the beef producer. One such condition is weak calf syndrome.

Weak calf syndrome is a condition where newborn calves appear weak, are unable or slow to stand and nurse, and often die within three days after birth. These calves are sometimes referred to as “dummies” or “fading calves.” Aside from their lack of vigor, these calves may appear normal or may be affected with scours or pneumonia.

Weak calf syndrome may occur in calves following an apparently normal birth. In any year, it would not be uncommon to have a small number of calves considered weak at birth, but herds experiencing weak calf syndrome have more weak calves than normal, although usually not all calves are affected.

The condition has been researched for many years, and no single disease organism has been widely accepted as the “cause.” In a few herds, diseases such as BVD [bovine viral diarrhea] have been identified and were thought to play a role in weak calf syndrome. Recently, studies have concluded that cows on low protein diets (less than 2 pounds/head/day) in late gestation may be more at risk to

produce weak calves. This may be due, part, to the fact that calves of cows fed protein-deficient rations in the last 30-60 days of gestation have a reduced ability to produce body heat after birth. These calves are therefore more susceptible to chilling. The effect of inadequate energy intake by the cow during gestation may also be a factor in the production of weak calves, and research has suggested that calves born to cows losing weight in late gestation may require more time from birth until standing.

When approaching the calving season following a severe winter, beef producers must recognize that the cow herd has endured extraordinary stress. Producers should be aware that the calving season may have more complications than normal and plan accordingly. One complication may be an increase in the incidence of weak calf syndrome. To help control weak calf syndrome, consider the following points.

Minimize as many stresses on the cows before calving as possible. Control of lice can markedly help cows through the winter. Equally important, especially in young cows, is control of internal parasites (worms). Work with your veterinarian to be sure an adequate parasite control program is in place for your herd. Of course, providing good nutrition to all the animals in the herd is also important. Pay close attention to heifers, young cows, and old cows.

Be vigilant at calving time. Calving difficulty is the major factor associated with early calf losses. Intensify calving time observation to minimize calf losses due to calving difficulty. Commonly, beef producers may allow a minimum of 2 hours to elapse between observance of fetal membranes and calving intervention. Research indicates

that cows that calve unassisted do so within an average of 34 minutes, and heifers within 58 minutes of observation of fetal membranes.

From this data, it would appear prudent to examine and carefully observe situations where the calf was not born and more than 1 to 1 1/2 hours elapsed after observation of the fetal membranes. Early examination and observation can help to decrease the number of calves born weak as a result of a difficult, prolonged birth.

Calf “hot boxes” may be used to routinely dry and warm the newborn calf. Even in normal conditions, calves often have a drop in body temperature between birth and 8 hours of age. This is due to the fact that they have to expend heat energy just to dry off. Simply drying the new born calf immediately after birth removes an important stress from the calf, and allows it to save its energy reserves for standing and nursing. This may be particularly important for calves born to cows that had received protein-deficient diets, as these calves may have a decreased ability to produce body heat.

Calves need to ingest colostrum early in life, preferably within 2 hours of birth. Colostrum not only contains antibodies needed by the calf to prevent illness, but it also is an important source of energy. Young calves need energy early to allow them to maintain their body temperature and muscular strength. Calves that are unable to nurse on their own by the time they are 4 hours old should either be assisted to nurse or tube fed.

This means that the cow may need to be milked out or high-quality colostrum from another source made available. If colostrum from another source is not available, milk the cow out as completely as possible. Often 3-4 quarts of colostrum can be collected at the first milking. After the initial 2-quart colostrum feeding, a producer may use the excess colostrum collected for the next feeding in 4-8 hours. Then, for the remainder of the first day, either continue to milk the cow out and feed the calf by hand or use milk replacer while still working to get the calf to nurse on its own.

The use of commercial colostrum supplements as a replacement for colostrum at the first feeding is not acceptable. The calf needs the high energy and high antibody level of colostrum at that time. The colostrum supplements may be used if no colostrum is available or the amount of colostrum recovered from a cow is small. Colostrum supplements do not match the quality of natural colostrum, and if used as a colostrum replacement, they must be used at an increased dose. Even then, the commercial colostrum supplements probably lack in overall efficacy when compared to natural colostrum.

Provide good nursing care in a dry, draft free, well bedded area. Calves that are unable to stand become soiled and wet. This leads to chilling and more stress. Good bedding will help keep them dry and insulate them from the cold ground. Adequate ventilation will keep humidity low and hair coats dry.

Get an accurate diagnosis if calf problems appear. Work with your herd veterinarian in this area. For example, selenium and/or vitamin E deficiency has been seen in some parts of South Dakota, can cause weakness in calves, and is easily treated. Severe bacterial infections also can cause calf weakness. Do not assume that the cause of weak calves in your herd is solely due to inadequate cow nutrition.

In Summary . . . Preventing weak calf syndrome through proper nutrition of the cow herd is easier than dealing with the problem at calving time. Unfortunately, severe weather can impact producers ability to deliver nutrition to the herd. *In herds that have had periods of inadequate nutrition in the last 60 days of gestation, herds where cow condition has deteriorated, or herds where cow losses have taken place, producers need to be aware of problems that may arise at calving.*

It may be wise for the producer to consider arranging for extra labor at calving time. Extra labor would enhance cow observation and enable the producer to provide better nursing care to calves, if that becomes necessary. There are no secret techniques or medications that, in themselves, are likely to be helpful in saving weak calves.

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ExEx 11006- PDF by CES February 1990; updated April 2002.