



Vet Call

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A prescription for healthy calves

A substantial proportion of death loss in cattle occurs near the time of birth. In a 15-year study in Montana, about one-half of all deaths that occurred prior to weaning were due to difficult births.

This fact points out the importance of reducing calving problems when we develop any health program (strategies to reduce dystocia will be discussed in this column next month).

The majority of the remaining 50 percent of deaths occurred within 10 days of birth and diseases such as scours and pneumonia were the primary causes. Therefore, management systems that increase colostrum quality and intake, decrease disease exposure, and decrease environmental stress will greatly reduce the death rate in young calves.

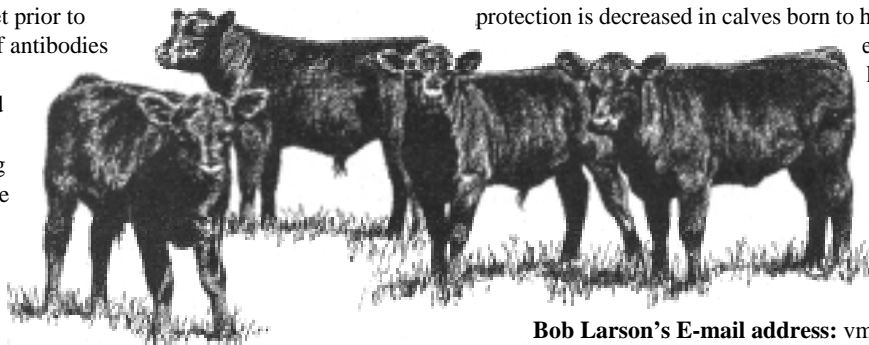
The importance of early intake of colostrum on calf health is well documented. Because cattle do not pass any antibodies from the mother to the fetus prior to birth, the calf relies on the antibodies present in colostrum to provide protection from disease. The calf is able to absorb these antibodies for only a short time. After 12 hours of age, the ability to absorb antibodies begins to decline at an increasing rate until 24 hours of age when absorption ceases.

In order for a calf to consume adequate amounts of colostrum, the calf must be able to rise, walk, find the teat and suckle. In addition, the cow must be standing, have a good maternal bond with the calf, and have teats that are small enough for the calf to grasp. Problems in any of these areas can lead to poor or late colostrum intake and low levels of antibody protection for the calf.

It should be evident that a difficult birth that does not result in calf death, but results in either the cow or calf being unable to stand shortly after the birth, can serve as an additional negative result of dystocia. In addition, even if the dam is milked and fresh colostrum administered by bottle to calves that survive a difficult birth, levels of absorbed antibodies are less than for calves that had a normal delivery.

The quality and amount of colostrum produced as well as the extent of antibody absorption depends on several maternal factors, including age of dam and pre-calving nutrition. The concentration of antibodies passed to a calf is progressively greater from calves with progressively older dams, with calves from heifers having the lowest antibody protection from disease. If protein is deficient in the dam's diet prior to calving, the absorption of antibodies by the calf is decreased.

In general, heifers and cows which are in good body condition at calving are more likely to produce adequate amounts of high-quality colostrum than are heifers or cows that are thin at calving.



Management systems to ensure that calves receive adequate antibody passage should concentrate on ensuring that the dam is able to deliver and the calf is able to consume adequate amounts of colostrum shortly after birth. This is because commercially available colostrum-supplement products and frozen colostrum delivered by bottle or esophageal feeder are not as effective at causing antibody absorption as natural suckling.

Adding to the importance of colostrum intake is the discovery that the health benefits of adequate antibody absorption at a young age continues well past weaning. In a study done at the Meat Animal Research Center in Nebraska, calves classified as having poor plasma protein concentrations as a measure of antibody passage at 24 hours of age had a greater risk of sickness and death in the feedlot when compared to calves with adequate plasma protein at 24 hours of age.

Despite the importance of adequate antibody passage, colostrum intake is not the only factor that determines the amount of illness and death loss in young calves. Not all calves with low antibody protection become sick and, in fact, it's not unusual to find healthy, rapidly growing calves with very low levels of maternal antibody present.

The other important factor that determines whether a calf becomes sick or remains healthy is the amount of exposure to the bacteria and viruses that cause disease. Sanitation, protection from weather stress, and separation from sick calves will greatly decrease the risk of calfhood disease and death.

In order to ensure that calves are born in a sanitary environment, the calving herd should be moved from wintering pastures to the calving pasture just prior to the start of the calving season. The calving area should be free of mud and be protected from the wind. At one day of age, the cow and her calf should be moved from the calving pasture to a nursery pasture and kept with calves about the same age (within two weeks). Any scouring calves should be moved immediately to an area away from the healthy calves and treated as needed.

If heifers are calved earlier than the mature cow herd, the negative impact of poorer colostrum quality and quantity of first-calf females is greatly reduced. This is because the exposure to disease-causing organisms is much lower early in the calving season. So, even though protection is decreased in calves born to heifers, those calves born early in the calving season have less risk due to lower exposure to pathogens.



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