



Vet Call

► by **Bob Larson**, Kansas State University

Weaning beef calves

The times in a beef animal's life that it is most at risk for disease or death are at birth and the first few weeks of life, and again for the first few weeks after weaning. This is particularly true if newly weaned cattle are commingled with other cattle and shipped to a new location. There are several strategies that ranchers and veterinarians can utilize to reduce risk of disease associated with the changes that accompany weaning.

Reduce stress

At weaning, milk is removed from a calf's diet. For many beef calves, this is a relatively minor change in diet composition because by the time calves are weaned at 6 months of age or older, they are already consuming a majority of their nutrients from grazing, and their dam's milk production is declining rapidly.

A change in diet is not the only change associated with weaning. The social interaction between the dam and calf is also changed.

The reason weaning is associated with increased risk for disease in calves is that stress strongly suppresses the immune system, making the calf susceptible to the germs and parasites that are commonly found in nature. Sudden diet change, separation from dams, castration, vaccinations and moving to a new location are all potential sources of stress for weaned calves.

There are many different ways to reduce the stress associated with weaning-age calf management. Every rancher should look at his/her own facilities and marketing plan to come up with the best strategy for their operation. Basically, optimum weaning strategies are planned to avoid having multiple additional stressors happen at the same time as weaning, and to reduce the stress of weaning itself.

Near the time of weaning, calves are often moved to new environments and commingled with new cattle from the same ranch or from multiple ranches. Because of these changes, calves are likely to contact germs that are new to them. A vaccination strategy to prepare the immune system of

calves ahead of exposure to common disease-causing germs is helpful to decrease the risk of disease.

No vaccine is able to provide complete protection from disease, but vaccines that are given at times of significant stress are much less likely to provide adequate disease protection compared to those given to calves not coping with other stressors.

Preconditioning programs have been developed to move stressful management processes such as castration, dehorning and vaccination earlier in a calf's life to reduce any adverse health impacts of those procedures, and to move these stressors to times away from weaning.

In addition, if grain or grain byproducts are part of the postweaning diet, preconditioning programs usually recommend or require that for two to three weeks before weaning, calves be exposed to the type of diet they will be expected to consume after weaning. The postweaning diet must ensure that calves receive adequate energy, protein and trace nutrients to support a strong immune system and to maintain or increase the growth rate.

The timing of weaning is affected by many factors, including the ranch's calf-marketing strategy and the availability of adequate forage to maintain cow health and productivity. If drought conditions reduce available forage so that cow body condition and calf growth are meaningfully affected, calves can be weaned at an early age to remove calf-grazing and lactation pressures on forage intake by the herd. Beef calves can be successfully weaned any time after they develop a functioning rumen at a few weeks of age.

Weaning strategies

There are several broad categories of weaning strategies, including fenceline weaning in the current pasture where cows are kept in view but not in contact with the calves, pasture-weaning in the current pasture with the cows moved completely out of contact, and weaning to a drylot with cow herd contact.

Within the last 10 years, a few research studies have compared fenceline weaning, where calves can see their dams but are

separated by a fence, to other strategies that involved weaning on pasture with the dams completely removed or weaning into a drylot with no contact with cows. These studies generally show improvements in calf behavior, such as bawling and pacing, for the first few days after weaning for fenceline-weaned calves. Some, but not all, studies show differences in disease risk and weight gain based on the weaning strategy used.

Management practices to decrease the stress associated with weaning should be investigated, and ranch-specific strategies that optimize health, welfare and economic considerations should be implemented.

If calves are weaned into a new environment, such as a drylot, it is important that they have access to plenty of fresh water and that they know how to find and drink from the water source. Calves that have only been provided water from streams or ponds may not recognize tanks and controlled-flow waterers. Feedbunks, hay rings and water sources must all be accessible to calves. Many of these feeding devices are designed for yearlings or adults and may be difficult for calves to use. Many newly weaned calves will not aggressively approach crowded feedbunks; therefore, it is recommended that feed be spread out over 18-22 inches of bunk space per calf.

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No matter what strategy is used, weather should be an important consideration when choosing the day of weaning. Although not perfect, a multi-day weather forecast can help you avoid adding weather stress to the other stresses of weaning.

The greatest risk of disease for weaning-age calves is during the first three weeks after they are separated from their dams. During this time, the calves should be observed frequently (usually twice a day) for signs of respiratory disease, diarrhea, lameness or

failure to gain weight. Work closely with your veterinarian to develop a treatment plan for the types of problems you may encounter.

Although weaning is associated with increased disease risk, a herd-specific plan to implement management practices such as castration, dehorning and vaccination while calves are still with their dams — and then using weather reports and low-stress weaning strategies to minimize the stress of weaning — you can protect calf health and growth during this critical time. Your veterinarian,

extension agent, university personnel and neighbors may have ideas that you can implement to improve weaning on your farm or ranch.



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