Ridin' Herd

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Early weaning beef calves sometimes makes cents

In areas where forage quality is low and quantity is not adequate in late summer and early fall, early weaning could be a management practice, especially for young cows raising their first calf. Early weaning can enhance the efficiency of drylot cow-calf operations by allowing greater use of poor-quality roughages by the cow herd.

How early is early weaning?

The rumen of a newborn lacks the symbiotic microbial population that enables adult cattle to process forage fiber via fermentative digestion. Rumen development proceeds rapidly once solid food consumption begins. Research suggests spring-born calves consume significant amounts of native range forage at 45 days of age.

Weaning beef calves as early as 45 days of age is early enough to encourage the cows to cycle and rebreed. Weaning calves this early is used as a management strategy of last resort when cows are thin prior to the start of the breeding season. Weaning at 3-5 months of age is too late to cause early cycling; therefore, it doesn't contribute to the improvement of reproduction. However, weaning calves at 3-5 months of age may be a viable alternative if forages are scarce in the latter part of the grazing season.

There are a number of items to consider prior to weaning calves early. Calves can adapt quickly to the change in environment and diet if a management plan has been carefully developed. Regardless of weaning age, calves that start eating dry feed immediately after separation from their dam have fewer incidences of morbidity and mortality than calves that do not eat for 24-48 hours after separation.

Bunk and waterer heights need to accommodate the smaller calf. Offering a creep feed three to four weeks prior to weaning will help calves adjust to eating processed feeds and will make the weaning transition period less stressful. Creep-feeding in this manner will bunk-break the calves and will teach them to eat.

Effect on the beef female

Early weaning the calf significantly reduces the nutrient demands placed on the cow and more closely matches her requirements to nutrients supplied under drought or poor range conditions. Spring-calving cows need to be in adequate body condition [body condition score (BCS) 5] prior to calving. Removing the calf early helps to improve body condition, which has the potential to carry over through the winter, causing increased body condition at calving that is also evident during the next breeding season.

Early weaning of calves from 2-year-old, first-calf females reduces the stress of nursing and raising a calf. As a result, these females will be in better body condition at calving. That should result in cows that cycle and breed back earlier in the breeding season. For heifers bred for higher milk production, early weaning takes on greater importance. The greater the milk output, the greater the nutrient demands, the more difficult it is to keep young females in adequate body condition on a limited forage base, which subsequently affects reproduction.

Weaning calves before the start of the breeding season or early in the breeding season is not a common management strategy. Again, it is usually considered a last-resort effort to correct a management problem that is usually related to inadequate nutrition prior to and after parturition. Reducing nutrient requirements of the dam associated with lactation and eliminating the suckling stimulus has the potential to allow noncyclic, thin cows to resume estrous cycles and become pregnant.

Calf performances

Early-weaned calves can be grown for a period of time before entering the feedlot or put back on grass pasture. They could also be grown for a short period of time (two to three weeks) then stepped up on a finishing diet. Calves that are on this fast-track feeding program are very efficient at converting feed to gain [5.2 pounds (lb.) of feed dry matter per pound of gain], and a high proportion grade USDA average Choice or better.

It is critical to get calves to eat soon after being separated from their dam. If calves are creep-fed before weaning, they will adapt quickly to being separated from their dams. Depending on the weight of the calf, the starter ration should be fed until the calves are consuming 4 lb.-5 lb. per animal per day (i.e., 1%-1.5% of body weight). This usually takes 10-14 days.

Daily gain of calves during the period that they are nursing is usually 2.1 lb.-2.3 lb. Calves that are weaned early should be managed to gain in this range as well. At first, calves will have a low dry-matter intake (DMI) for three to 14 days following weaning. During this time, DMI will be in the range of 1% to 1.5% of body weight. Starter diets are energy-dense (i.e., 65%-75% TDN), relatively rich in crude protein (i.e., 14%-16%), and highly palatable.

Diets for early-weaned calves need to include high-quality ingredients. Diets need to be dust-free, and particle size of the ingredients needs to be similar so that calves cannot sort the diet components. Rations will need to include some level of forage to allow for proper rumen health. Silages and other fermented feeds should be introduced gradually into the diets of calves that are inexperienced with such feeds. Silages, while nutritious, should only be used in limited amounts in diets for recently weaned calves. The high moisture level and the palatability characteristics of silage make it unlikely that calves will consume silage-based diets in amounts adequate to grow at targeted levels.

Final thoughts

Most studies of early weaning have concluded that ownership of early-weaned calves needs to be retained for some

period of time after weaning in order to generate enough revenue to increase the profit potential of the cow-calf enterprise as compared to weaning calves at a more conventional age. Early-weaned calves weigh less at weaning compared to calves weaned at conventional ages and positive price slides are usually insufficient to offset the lesser body weight. Another reason not to sell the early-weaned calf directly after weaning is that these calves are more efficient at converting feed to gain than older calves.

Advantages of early weaning:

1. Dams of early-weaned calves are in better condition at calving and that carries over to breeding season.
2. Calves can be fed to grow to their genetic potential when forage conditions are not optimal for the dam.
3. It may be the key to more efficient feed use during times of drought or other periods of feed shortage.
4. Early-weaned calves are very efficient in converting feed to gain.
5. A high percentage of early-weaned calves fed a growing ration for a short period of time then stepped up on a high-concentrate diet can achieve a USDA quality grade of average Choice or better.
6. Early weaning permits more cows to be carried on a limited forage supply.
7. If calves are weaned before or very early in the breeding season, pregnancy rates will be greater for thin cows.

Disadvantages of early weaning:

1. Excellent calf nutrition and management is required.
2. More labor is necessary.
3. The facilities and feed must be available for small calves.
4. Calves spend a lot of time in a drylot prior to slaughter.
5. If you have developed a cow herd that has above average milk output, the potential increase in weaning weights through milk production is not realized.
6. Information on dam performance from production records will be of limited use.

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Editor's Note: *"Ridin' Herd" is a monthly column written by Rick Rasby, professor of animal science at the University of Nebraska. The column focuses on beef nutrition and its effects on performance and profitability.*