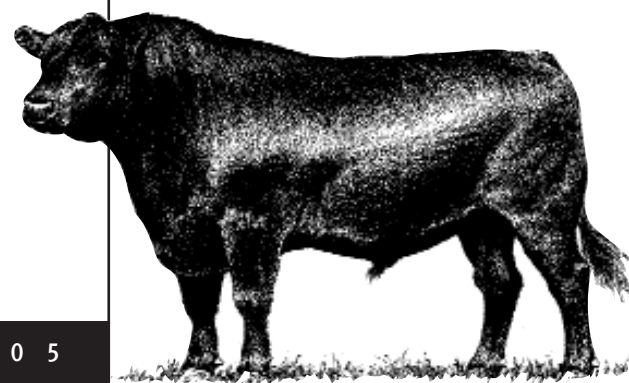


# ANGUS

## BEEF BULLETIN

"The Commercial Cattleman's Angus Connection"

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PHOTOS BY SHAUNA ROSE HERMEL

# Optimize Reproduction

*Weaning and supplementation strategies can be powerful tools.*

Story & photo by  
**TROY SMITH**

If you're among the many producers who calve in early spring, you might want to be thinking about how to optimize your breeding herd's reproductive performance. What you do in the near-term could have far-reaching consequences. The way you manage your February- and March-calving cows during late summer, fall and early winter will affect next spring's calf crop and the following year's reproduction as well.

The key is management of cow body condition. Ample evidence has shown that cows with a body condition

score (BCS) of 5 or better (on a 9-point scale) at calving time are more likely to deliver a healthy calf, meet potential for milk production and breed back in timely fashion. However, the shape your cows are in this fall at weaning time can be a good indicator of what their body condition will be next spring.

Maintaining body condition can become challenging as summer wanes and the nutrient value of range and pasture forage declines. University of Nebraska Extension beef specialist Don Adams says it can be particularly challenging for heavy-milking mothers and for young cows — 2- and 3-year-olds.

Adams says Nebraska studies have shown how lactating, early spring-calving cows grazing late-summer and fall range consistently lost one-tenth of a BCS every two weeks, with the decline starting as early as mid-August. If producers manage their herds with extended grazing systems, using dormant pasture, crop residues or other low-quality forage through the fall and winter, body condition can easily continue to decline.

"With that in mind, producers might want to look at their cows now and think about where they might be in a month or two," Adams warns. "When a cow is thin at the beginning of the

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**Optimize Reproduction** (from page 1)

Heavy-milking cows and very young cows will be more adversely affected by declining nutrient content of forages.

winter season, she is likely to be thin when she calves in the spring.”

Adams says time of weaning and cow supplementation can be powerful tools to aid management of cow body condition and reproductive efficiency in extended grazing systems. However, a plan that works for one producer may not fit his or her neighbor. Each producer must determine how applying either or both of those tools might affect the full production system, not just one aspect of the operation. The best strategy also should complement marketing and forage management.

**Understanding nutrition**

Managing cow body condition starts with understanding the nutrient requirements of the cow, the nutrient content of grazed forages and how those things interact, Adams says. A cow's nutrient requirements increase rapidly during the last three months of gestation. Nutrient demand continues to climb after calving as milk production increases. Protein and energy requirements are greatest during peak lactation, or about six weeks after calving. Her nutrient requirements are lowest when the cow is dry, after weaning, and still in early to mid-term pregnancy.

The nutrient availability of grazed forages is generally associated with plant maturity. While in a green and growing vegetative state, plants usually contain about 10% crude protein (CP) and may be 70% digestible. After forages reach maturity, both protein content and digestibility decline. Dormant grasses often contain 5%-7% protein, with digestibility near 50%.

Dormant range or pasture forages seldom support milk production or late gestation and still

maintain cow body condition without protein supplementation, Adams says, because lower digestibility slows the passage of forage through the cow's digestive system. As the volume of undigested forage, or “fill,” increases, the amount of additional feed that a cow can eat is limited. Often, she simply cannot consume enough low-quality forage to meet her requirements. If nutrient reserves (measured by body condition) run low before her calf is weaned in late fall, the cow's ability to become pregnant during the next breeding season may be compromised.

**Solving the problem**

One potential remedy is to reduce the cow's nutrient requirements. That can be accomplished by weaning her calf and halting milk production, Adams suggests. Weaning while forage nutrients remain relatively high provides the opportunity to maintain or even increase cow body condition. Adams says the effect of early weaning was demonstrated by research comparing groups of dry and lactating cows grazed on upland range and subirrigated meadow. Cows involved in the Nebraska study calved in March as 2-year-olds, with calves weaned either in early September or early November.

Dry cows grazing range (7.6% CP, 55% digestible) during September and October maintained body condition with no loss or gain, while cows still suckling calves lost about half of a BCS. While grazing subirrigated meadow (12.3% CP, 61% digestible) during the same time period, dry cows increased their BCS by 0.6, while lactating cows exhibited no change.

“Time of weaning can be very effective in managing cow body condition, especially for high-producing cows,” Adams adds. “A cow that produces 15 pounds (lb.) of milk (at peak lactation, about 6 lb. by late summer) might get along fine in August and September, while a cow that produces 20 or more pounds (at peak lactation, about 10 lb. by late summer) is losing ground.”

Managing body condition can be critical to the reproductive performance of very young cows, too. Weaning before first-calf heifers are dragged down can help get them in shape to rebreed sooner, after delivering next spring's calf. Adams urges producers to pay close attention to second-calvers as well. Still growing, while nursing one calf and carrying another, their nutrient requirements are greater than that of older cows. They are more apt to lose body condition earlier in the fall, which could jeopardize their abilities to breed back again.

**Supplementation options**

Timely protein supplementation is another tool for improving nutritional status of cows grazing range or pasture in fall and winter. The supplemental protein feeds the microorganisms that break down forage in the cow's rumen. It is not a substitute for lack of forage, but it can make up for nutrient deficiencies and improve digestibility and intake of low-quality forages.

“It is difficult to increase body condition scores of cows grazing low-quality winter forages, even when appropriate supplements are fed,” Adams offers. “The most effective management scheme would be to have the cow in moderate body condition when she goes into the winter, especially if low-quality forages are the primary feed source for wintering the cow herd.”

So, now may be the time for producers to start thinking about how they will prepare cows, by allowing them to develop energy stores, to have adequate body condition at calving. With that objective in mind, Adams offers the following potential strategies for managing cows during the late summer and fall:

- 1) If cows are thin or appear to be losing condition, wean at an early date and follow by protein supplementation. Remember, heavy-milking cows and very young cows will be more adversely affected by declining nutrient content of forages.
- 2) If cows are in moderate body condition and a later weaning date is desirable, begin protein supplementation in late summer or early fall, when forage nutrient value declines.
- 3) If cows are in moderate or higher body condition and an early weaning date fits the production system, wean by early fall and delay feeding protein supplement until later.
- 4) For early spring-calving cow herds, weaning in October or later without providing supplemental protein to cows is not recommended.

“There is no single best answer,” Adams says. “It depends on the cows, the amount and quality of forage that's available, and the producer's marketing objectives. Weaning and supplementation can be powerful tools for managing cow body condition and reproductive efficiency, as well as for managing forages — especially during drought. But, the effects on net returns will vary, depending on how calves are marketed.”

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