University of Wyoming | Extension Beef Team

BEEF BRIEF

First Calf Heifers: The Post-Calving Nutrition Mistake you Can't Afford to Make

First-calf heifers are critical to a herd's future, offering genetic advancement and long-term productivity. However, the period following calving is one of their most nutritionally challenging times. This brief outlines why targeted nutrition matters and how to manage first-calf heifers to improve rebreeding success and herd retention.

Why Heifers Need Special Attention

Heifers represent the future of the cow herd. These young females embody years of planning and investment, and their success is essential for long-term productivity. But during and after their first pregnancy, they face an uphill climb. After calving, they must recover from what is likely the most stressful event of their lives, nurse a growing calf, continue their own physical development, and prepare to rebreed —all while competing with mature cows for feed and space.

Because the body prioritizes basic maintenance before lactation, growth, and finally reproduction, any gap in nutrient intake can delay a heifer's return to heat. This delay can reduce the likelihood of getting rebred in time, pushing her into a late calving cycle—or out of the herd altogether.

Understanding Nutritional Differences

While heifers and mature cows have similar nutritional requirements on a per-pound basis during lactation, mature cows have a critical advantage: intake capacity (Table 1). Their larger rumens and greater digestive efficiency allow them to consume more feed and extract nutrients more effectively. First-calf heifers, especially in the three weeks leading up to calving, eat less. Research from the University of Nebraska indicates that intake can drop by 17% during this time, returning to normal levels only a week after calving.

This reduced intake means heifers need more nutrient-dense diets to meet energy and protein needs within a smaller volume of feed. Feeding them alongside mature cows often results in a compromise—heifers may be underfed, while cows may be overfed. When possible, managing heifers separately allows producers to tailor their diets without disrupting mature cow rations.

Monitoring Condition: Body Score Matters

Maintaining proper body condition is one of the most important strategies for successful heifer management. Ideally, heifers should calve at a body condition score (BCS) of 5 to 6 and maintain that score through the breeding season. Heifers below this range are more likely to experience longer postpartum intervals—the time between calving and returning to heat.

A heifer must be rebred within 60 to 85 days after calving to remain on a 12-month calving interval. If her condition is compromised, the odds of meeting that deadline drop. Unfortunately, it's common for producers to see heifers lose condition between calving and breeding. This loss can push heifers into late calving or cull status by the second year.

There's also a persistent misconception that thinner heifers will produce smaller calves and have fewer calving problems. While energy restriction might slightly lower calf birthweight, genetics play a much larger role. In fact, underconditioned heifers are more likely to experience calving complications and delayed recovery, further jeopardizing their rebreeding timeline.

Related Tools

- **3-Step Body Condition Scoring (BCS) Guide for Range Cattle:** https://wyoextension.org/publications/html/B1294/
- **Hay Testing for Cattle: Understanding the Results:** https://wyoextension.org/agpubs/pubs/MP-159.pdf

Bridging the Nutritional Gap: Supplements are Essential

In many Wyoming herds, calving aligns with late winter or early spring, when forage quality is often poor. Even hay with decent crude protein—such as 11%—may not meet the energy needs of a lactating heifer if the total digestible nutrients (TDN) fall below the 62% mark. Many common grass hays fall short in this area.

To bridge the gap, strategic supplementation is essential. Feeds like distillers' grains, corn gluten feed, protein cubes, and alfalfa hay can provide the necessary energy and protein. Depending on the base forage, producers may need to supply 2 to 3 pounds of additional feed per heifer daily. In pasture settings, processed cubes or "cake" tend to minimize waste and improve intake efficiency.

Alfalfa is commonly used across the region as a supplement due to its availability and palatability. While it can help meet protein needs, it often doesn't supply enough energy on its own. Additionally, most of the crude protein in alfalfa is rumen degradable (RDP), which may not be as effective for growth and recovery as rumen undegradable protein (RUP) found in by-product feeds. For best results, producers should test each lot of alfalfa hay and adjust supplementation accordingly. More information on hay testing is available from University of Wyoming Extension.

DON'T OVERLOOK MINERALS

Minerals are sometimes considered an afterthought, but they play a central role in reproductive performance and milk production. A well-balanced mineral program, especially one designed for lactating and growing cattle, can make the difference between a heifer that breeds back and one that doesn't. Even when forage or hay appears adequate, mineral supplementation may be the missing piece.

Table 1. Comparison of Feed Requirements of a Mature Cow and First-calf Heifer

	Cow*	Heifer*
Weight	1,200	1,000
TDN, lbs.	12.8	12.9
CP, lbs.	2.1	2.1
Intake, lbs.	23	20.8
TDN, %	55.7	62
CP, %	9.1	10.1

**Average Milk Production, TDN: Total Digestible Nutrients, CP: Crude Protein*

ACTION STEP: THE PAYOFF OF GETTING IT RIGHT

Producers who invest in proper nutrition for first-calf heifers set the stage for long-term success. Evaluate your forage and hay quality, test your alfalfa for nutrient values, and ensure your heifers are receiving the right amount of energy and protein. Separate them from mature cows when possible to better control their diet, and maintain a strong mineral program. By keeping heifers in good body condition and meeting their nutritional demands, you give them the best chance to rebreed on schedule and become long-term, productive members of the herd.

This brief was created by UWyo Extension Beef Team, 2025-1

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