

Feeding Yearling Replacements

Commentary by **HARLAN RITCHIE**

By calving time at 2 years of age, total heifer development costs may run as much as \$1,050 (see "Replacement Female

Strategies" on page 95), which makes the first-calf heifer a significant investment that has yet to generate any income. The challenge is to get her rebred on schedule so she can stay in the herd at least long enough to return that investment, which

will take a minimum of four calves. For this to happen, it is important for her to be on a rising plane of nutrition during the last 60-90 days of pregnancy so she reaches a minimum body condition score (BCS) of 5 on a scale of 1-9 at calving time. A BCS

of 6 is ideal at the time of calving.

After calving, she should continue to be in a positive energy balance so she gains about 0.5 pound (lb.) per day through the breeding season. To accomplish this, she needs to consume about 13 lb. of total digestible nutrients (TDN) daily.

Research has shown that if adequate energy is provided, supplementing with an ionophore (e.g., Rumensin® or Bovatec®) after calving can reduce the postpartum interval (PPI) to first estrus by as much as 18 days. Research has also shown that exposure to sterile bulls or androgenized cows during the last 30 days prior to breeding season can shorten the PPI. In a Montana study with first-calf heifers, bull exposure resulted in a 16-day difference in PPI.

The challenge is not necessarily finished once the heifer is past the 2-year-old stage. The stress of first lactation and continued growth means she can still present a nutritional management risk the following year, albeit a lower risk.

As producers, we can begin to feel more comfortable when the heifer reaches full maturity as a 5-year-old and weans her fourth calf. Depending on her productivity, she has probably paid us for our investment and is getting ready to turn a profit. The longer she lives, the more profit she will likely generate.

A Montana State University study conducted several years ago by Don Kress and colleagues provided clear evidence that longevity is one of the most important economic traits in a beef cow herd.



[PHOTOS BY SHAUNA ROSE HERMEL]

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Young bulls

After the breeding season, young bulls are frequently overlooked in our haste to get ready for the next calving



A yearling bull must gain approximately 300-400 lb. so he weighs 75% of his potential mature weight by the time he is 2 years old.

season. Coming 2- and 3-year-old bulls still have a significant amount of growing to do before they are fully mature. Improper nutrition during the winter can be the cause of poor performance the following breeding season.

It is not uncommon for yearling bulls to lose 100-300 lb. during their first breeding season. In addition to gaining this weight back during a nine-month fall/winter rest period, the bull must gain approximately 300-400 lb. so he weighs 75% of his potential mature weight by the time he is 2 years old. This means he should gain about 2 lb. per day during this period.

Depending on his initial body weight and BCS, this can be attained by feeding 8-12 lb. of grain per day, plus unlimited forage, either hay or pasture, and a salt-mineral mix containing about 8% phosphorus (P). The salt-mineral mix should be adequately balanced to meet trace-element requirements.

As a rough guideline, a thin coming 2-year-old bull can consume 26-30 lb. of dry matter (DM) per day, which is equivalent to 30-34 lb. of air-dry feed. The total diet should contain at least 10% crude protein (CP). If the forage is low-quality, some additional protein, as well as vitamin A, may be required.

Two-year-old bulls need to gain about 1 lb. per day from one breeding season to the next. This can be achieved by a full-feed of forage, plus grain as needed according to BCS. Moderate-framed, easy-fleshing 2-year-old bulls can often get by with unlimited access to medium-quality forage. Neither yearlings nor 2-year-old bulls should go into their next breeding season with a BCS of less than 6. Mature bulls should have a minimum BCS of 5.

Regardless of age, there are some additional points to keep in mind:

- 1) Don't overfeed, as it can lead to fat bulls and impaired reproduction.
- 2) Provide an adequate area in which bulls can exercise so they stay in good physical shape. Don't imprison a bull

in tight quarters.

- 3) All bulls should be given a breeding soundness exam (sometimes referred to as a BSE) prior to breeding season. Case studies I have conducted show losses of several thousand dollars due to a single subfertile or sterile bull.

- 4) Make sure the bulls are adequately immunized each year; consult your veterinarian if necessary.



Editor's Note: For more information on how to condition score your herd, visit www.cowbcs.info. Author Harlan Ritchie is a distinguished professor of animal science at Michigan State University.