

Ridin' Herd

► by Rick Rasby, Extension beef specialist, University of Nebraska

Ready your herd for breeding season

The spring calving season hasn't even started yet, and you already need to start thinking about the next breeding season. That's correct. During late gestation, how cows are managed from a nutritional standpoint to achieve optimal body condition prior to calving will have a substantial effect on how well cows will cycle and breed during the next breeding season.

Condition scoring beef cows

Because cow-calf producers do not weigh cows on a regular basis, they need a management technique to evaluate their cow herd as it relates to productivity and profit potential. Cow body condition score (BCS) is closely related to reproductive efficiency and is a more reliable indicator of nutritional status of a cow than is body weight.

Beef cows can store energy in the form of fat when energy intake exceeds nutrient requirements, and they can draw on these energy reserves when their requirements exceed the nutrients supplied by the diet. This stored energy reserve can be managed to level out the peaks and valleys of a seasonal feed supply. Body fat also insulates the cow against the effects of severe cold weather, thus reducing heat loss.

As a rule of thumb, one BCS equates to

about 75-80 pounds (lb.) of live weight in cows. If a cow weighs 1,100 lb. at BCS 4, this same cow would be expected to weigh 1,175 lb. at BCS 5 and 1,250 lb. at BCS 6. It is important to remember that these weight changes do not include weight of the fetus, fetal membranes or fetal fluids, which in total amount to about 125-155 lb. for cows in late gestation. With this concept in mind, remember, a cow that is maintaining weight during late gestation is actually losing body weight, and possibly body condition, because the fetus is growing at a rate of at least 1 lb. per day.

Key areas for evaluation are the backbone, ribs, hips, pin bones, tailhead and brisket. Palpating cows for fatness along the backbone, ribs and tailhead will help refine skills to visually score body condition. If body condition scoring is new to you, focus on separating cows into thin, moderate and fat groups without worrying about the numerical score. With experience, you will connect the "look and feel" of your cows to a BCS that you can consistently determine.

When visually scoring body condition, it is important to take into account muscle and hair coat on cows, especially a long winter hair coat. You may be surprised at the effect hair coats can have on visual scores. Long, thick winter hair coats are obviously highly desirable in the Northern Plains; thus, when practical, palpating cows for fatness along with visual scores may produce more consistent body condition scoring. It is good training to re-evaluate body condition scores when cows are wet. Assign a cow a condition score in whole numbers (3, 4, 5, etc.).

Condition and productivity

Body condition of beef cows at calving for spring-calving cows influences productivity of the herd. As body condition of a cow increases at calving for March-calving cows,

the interval from calving to the first estrus, known as the postpartum anestrus interval, is reduced. Thin (BCS 4 or less) cows are slower to rebreed after calving compared to cows in moderate body condition.

For a cow to maintain a 365-day calving interval, she must rebreed by 83 days after calving (282-day gestation + 83-day postpartum interval = 365 days). Average length of the postpartum interval for cows that calve in a BCS 3 and 4 is 80 days compared to 55 days for cows that calve in a BCS 5 and 6.

Body condition at calving for March-calving cows also influences pregnancy rates during the subsequent breeding season. As BCS increases up to 5 at calving, pregnancy rate increases. Finally, cows that calve in thin body condition may give birth to calves that are less vigorous and are slower to stand to nurse for the first time.

Handling thin cows

The ideal BCS for mature, spring-calving cows (4 years and older) prior to spring calving is 5 and should be one condition score higher for first-calf 2-year-old heifers. The higher condition score is warranted for the younger cattle because after calving they are still growing while suckling a calf plus preparing for rebreeding. It's much easier to get condition back on cows economically before calving because the nutrient requirements are lower compared

Fig. 1: BCS 5 Rear View



Backbones visible • Pin bones visible
No fat in tailhead • Spine not visible

Table 1: Energy needed to move a cow to the next highest BCS for various cow weights and BCS

BCS	Mcal energy for various cow wts.		
	1,100 lb.	1,200 lb.	1,300 lb.
2	140	151	164
3	157	172	186
4	180	196	212
5	207	226	245
6	242	264	286
7	285	311	337
8	343	373	405
9	419	456	494

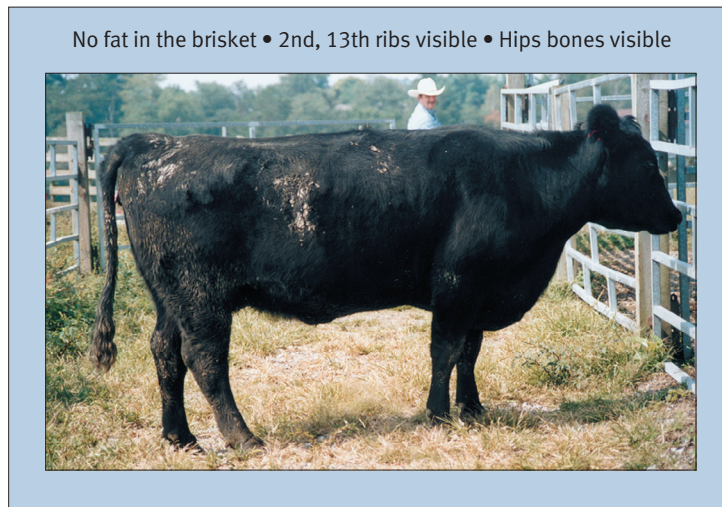
Source: Nutrient Requirements for Beef Cattle, 1996.

to after calving. It is also more economical to get condition back on cows through grazing or grazing along with supplementation, when needed, as compared to hauling high-energy feeds to cows to get them in the target body condition.

In order to increase body condition, the ration must meet the nutrient requirements for metabolizable protein, minerals and vitamins, but exceed the requirement for energy for a given stage of production. Thus, to increase body condition, more energy must be fed and in a dense enough form that the cow has the capacity to consume it on a daily basis.

Table 1 illustrates the amount of energy in megacalories (Mcal = 1 million calories) required to change body condition of cows. For example, if the goal were to increase the body condition of an 1,100-lb. cow from a BCS 4 to a BCS 5, the cow would need a total of 207 Mcal of energy beyond her daily maintenance needs (see Table 1). This 207 Mcal of additional energy could be supplied

Fig. 2: BCS 5 Side View



by an energy-dense feedstuff such as dried distillers' grain, which has 1.22 Mcal of net energy for maintenance (NE_m) per pound. If 3 lb. of dried distillers' grain were added to the existing ration, it would take 57 days (207 Mcal / (3 lb. dried distillers' grains × 1.22 Mcal NE_m per lb. of dried distillers' grains) = 56.6 days) to elevate the cow's body condition from a BCS 4 to a BCS 5. The cow would have to gain about 1.3 lb. per day, not including fetal weight gain, to

achieve this change in body condition (75 lb. divided by 57 days = 1.32 lb. per day).

Final thought

Get spring-calving cows ready for the breeding season before calving season begins. Target cows to calve at a BCS of 5 and first-calf heifers at a BCS of 6. If your herd is a late-spring or early-summer calving herd, then BCS of mature cows may be less important because of the amount of time they will be grazing vegetative range and pasture before the breeding season begins. Even in this situation, first-calf heifers need to be in a BCS of 6 at calving.

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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.