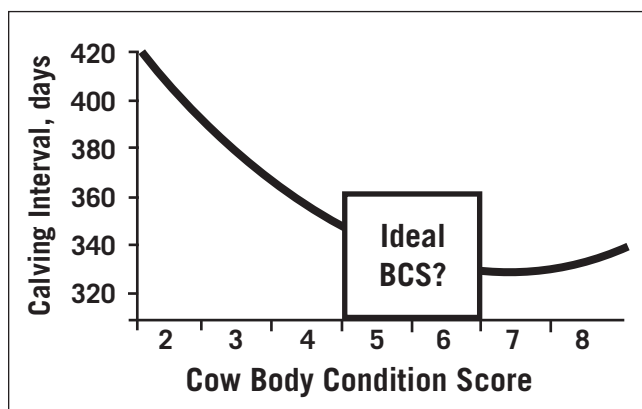


# Body Condition Scoring in Beef Cattle, is it important?

Matthew Burns, PhD. - Extension Animal Scientist - Beef Specialist

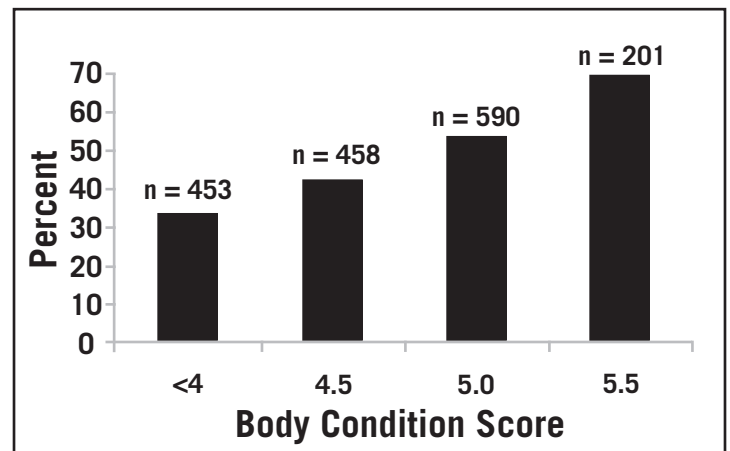
People may argue what the key to success is for a cow-calf operation, but most believe a cow giving birth to a healthy calf every year is a defining characteristic of success. The reality is that profitability in the beef business, and pounds equal dollars. Herd health, mineral, nutrition, and grazing programs should be designed to promote greater reproductive efficiency and provide more pounds of saleable beef. Decisions and investments made on cow-calf operations today can have implications for more than a 10-year period. It is very difficult to measure short-term success of day-to-day management decisions. It is easy to lose “the forest for the trees” or “the herd for the cows.” One very quick and easy production measure that can be assessed and analyzed to evaluate the impact of some short-term decisions is body condition score (BCS). A poor BCS or changes in BCS can indicate several things: (1) nutritive quality of grazed forages and supplemental feedstuffs; (2) potential health concerns with regard to infection, parasite load, lameness, or subacute/chronic problems that do not present obvious symptoms; and (3) other environmentally-induced stressors such as heat or fescue toxicosis. Keeping good records and monitoring BCS over time will identify problems with individual animals or overall herd-management concerns.

**Figure 1. Calving interval (days) in response to body condition score (BCS; Patterson, 1993). Cows in good body condition (BCS 5 to 6) are able to cycle back and conceive sooner than cows that are under- or severely over-conditioned. Having a calf every year (or a calving interval ≤ 365 days), increases cow longevity and profitability for the producer.**



Body condition scoring in beef cattle is one of these tools that tends to be underutilized. One may even ask, what is body condition scoring? A cow’s BCS is a numerical value from 1 (severely emaciated) to 9 (very obese) that reflects overall condition or fatness of the animal (BIF guidelines, 9th edition). According to the NAHMS survey, only about 35% of beef cattle operations in the United States utilize BCS to aid in management decisions. This is surprising when one considers what BCS can tell reveal to producers. In addition to the issues previously stated, BCS can have a profound impact on reproductive efficiency. Numerous studies have shown the impact of BCS on calving interval (Figure 1), estrus-cycling status (Figure 2), and pregnancy rates (Table 1).

**Figure 2. Percentage of cows cycling at various body condition scores (Stevenson et al., 2003). If a cow does not have enough energy reserves in her body, her physiological processes will not function normally. With reproduction almost last on her list of priorities, even a cow’s estrous cycles are likely to be negatively impacted by a low body condition score.**



**Table 1. Birth weight and reproductive performance of 2 year old beef cows as affected by body condition (adapted from Richards et al., 1986).**

BCS	No. Cows	Calf Birth Weights	% Pregnant by Days of Breeding Season		
			20 Days	40 Days	60 Days
4	73	64	27	43	56
5	107	67	35	65	80
6	60	71	47	90	96

<sup>1</sup>Body condition score (BCS) were accessed at calving.

## Body Condition Scoring in Beef Cattle, is it important?

Table 2. Body condition scoring system for beef cattle. Numerical and descriptive terminology developed by Clemson University and published in the Journal of Animal Science.

### Body Condition Scoring System (BCS) for Beef Cattle (Richard et al., 1986. J. Anim. Sci. 62:300)

Condition	BCS	Description
Thin	1	<b>Emaciated</b> - Cow is extremely emaciated with no palpable fat detectable over spinous processes, transverse processes, hip bones, or ribs. Tail-head and ribs project quite prominently.
	2	<b>Poor</b> - Cow still appears somewhat emaciated but tail-head and ribs are less prominent. Individual spinous processes are still rather sharp to the touch, but some tissue cover over dorsal portion of ribs
	3	<b>Thin</b> - Ribs are still individual identifiable but not quite as sharp to the touch. There is obvious palpable fat along spine and over tail-head with some tissue cover dorsal portion of ribs.
Borderline	4	<b>Borderline</b> - Individual ribs are no longer visually obvious. The spinous processes can be identified individually on palpation but feel rounded rather than sharp. Some fat cover over ribs, transverse processes, and hip bones.
Optimum/moderate	5	<b>Moderate</b> - Cow has general good overall appearance. On palpation, fat cover over ribs feels spongy and areas on either side of tail-head now have palpable fat cover.
	6	<b>High moderate</b> - Firm pressure now needs to be applied to feel spinous processes. A high degree of fat is palpable over ribs and around tail-head.
Fat	7	<b>Good</b> - Cow appears fleshy and obviously carries considerable fat. Very spongy fat cover over ribs and around tail-head. In fact, "rounds" or "pones" beginning to be obvious. Some fat around vulva and in crotch.
	8	<b>Fat</b> - Cow very fleshy and over-conditioned. Spinous processes almost impossible to palpate. Cow has large fat deposits over

Numerical and descriptive terminology developed by Clemson University and published in the Journal of Animal Science.

## References:

- Paterson, J.A. 1983. Effects of Body Condition on Reproductive Performance. In: 1992-1993 Regional Beef Meetings. *Management for Efficient Reproduction*. p. 32, University of Missouri Press.
- Richards, M.W., J. C. Spitzer, M. B. Warner. 1986. *Effect of Varying Levels of Postpartum Nutrition and Body Condition at Calving on Subsequent Reproductive Performance in Beef Cattle*. J. Anim. Sci. 62: 300-306.
- Stevenson, J. S., S.K. Johnson, and G. A. Milliken. 2003. Postpartum Anestrus in Suckled Beef Cattle: Treatments to Induce Estrus, Ovulation, and Conception. *The Professional Animal Scientist*. 19:124-134

*This fact sheet may be reprinted in its entirety for distribution. If sections are re-used in other states, credit must be given to Clemson Extension and the authors.*