

# Body Condition – The Key to Reproductive Performance

By DR. TOM R. TROXEL  
Extension Beef Cattle Specialist  
University of Arkansas

**T**he profitability of the cow-calf business is influenced by the percentage of cows in the herd which consistently calve every 12 months. Cows which fail to calve or take

longer than 12 months to produce and wean a calf steal profits. Most reproductive failures in the beef female can be attributed to improper nutrition and thin body condition. Without adequate body fat, cows will not breed at an acceptable rate.

Variation in the body condition of beef cows has a number of practical implications. The condition of cows at calving is associated with length of the postpartum interval, subsequent lactation performance, general health and vigor of the newborn calf, and the incidence of calving difficulties.

Body condition affects the amount and type of winter feed supplements that will be needed. Thin cows usually need larger amounts of supplement high in energy plus minerals and vitamin supplementation as compared to cows in moderate to good body condition.

Body condition or change in body condition, rather than live weight or shifts in weight, are a more reliable guide for evaluating the nutritional status of a cow. Two animals can have markedly different live weights and still have similar body condition scores. Conversely, animals of similar live weights may differ in condition scores. These animals would differ markedly in both biological and economical response to the same feeding and management regime with possible serious consequences.

In commercial practice, body condition scoring can be carried out regularly and satisfactorily in circumstances where weighing may be impractical. Body condition scores are numbers used to suggest the relative fatness or body composition of the cow.

TABLE 1.  
Description of Body Condition Score (BCS)

BCS	Description
1.	Bone Structure of shoulder, ribs, back, hooks and pins sharp to touch and easily visible. Little evidence of fat deposits or muscling.
2.	Little evidence of fat deposition but some muscling in hindquarters. The backbones feel sharp and are easily seen with space between them.
3.	Beginning of fat cover over the loin, back and foreribs. Backbones still highly visible.
4.	Foreribs not noticeable but 12th and 13th ribs are still noticeable to the eye. Full but straightness of muscling in the hindquarter.
5.	12th and 13th ribs are not visible to the eye unless animal has been shrunk. Areas on each side of the tail head are fairly well filled but not mounded.
6.	Ribs fully covered, noticeable to the eye. Hindquarters plump and full. Noticeable sponginess to covering of foreribs and on each side of the foreribs and on each side of the tail head.
7.	Abundant fat cover on either side of the tail head with some patchiness evident.
8.	Animal taking on a smooth, blocky appearance, bone structure disappearing from sight. Fat cover thick and spongy with patchiness likely.
9.	Bone structure not easily seen or easily felt. Tail head buried in fat. Animal's mobility may actually be impaired by excess amount of fat.

**THIN**  
**BORDER LINE**  
**OPTIMUM**  
**FAT**

Most people use a 1 to 9 scale, with 1 representing very thin body condition and 9 extreme fatness (see Table1).

A cow with a 5 body condition score should look average and will have 0.15 to 0.24 inch of fat cover over the 13th rib.

The results of three trials explain the effect of body condition at calving on subsequent reproductive performance. Cows that calved in a body condition score of 4 or less (thin) had a 65.7% pregnancy rate in a 60-day breeding season, whereas those that calved in body condition score of 5 or more had a pregnancy rate of 84%. Low or thin body condition can lead to low pregnancy rates. In all instances, cows scoring less than 5 at calving time had the lowest pregnancy rates, indicating that thin condition at calving time is undesirable. The acceptable body condition score prior to calving is at least 5 or better yet 6. This should be the target condition score at calving for all cows in the herd.

Some producers believe long breeding seasons are necessary to achieve good reproductive performance. Even after five and six months of breeding, the cows scoring less than 5 at calving do not conceive at an acceptable level. Until these cows have regained some body condition (fat) or have had their calf weaned, most thin cows will not rebreed regardless

of how long they are exposed to the bull.

It also is very important to watch the body condition of pregnant cows during mid-to late-gestation. Cows that lose 5% of their body weight following calving, reduced reproduction calving rates have been reported.

Calf sale weights can also be affected with loss in body condition. Cows that lose body condition prior to calving wean calves already at their side an average of 91 pounds lighter than cows that gain weight prior to calving. Some producers are afraid of cows gaining weight prior to calving. Those cows experiencing a weight loss prior to calving. Those cows experiencing a weight loss prior to calving had a rebreeding rate of a 73%, whereas the cows gaining weight prior to calving had a pregnancy rate of 91%. Body condition affects both reproduction rate and weaning weights.

It is desirable to maintain cows at a body condition score of 5 or more. This implies that cows scoring less than 5 at calving need to be fed to improve their condition through breeding, which is expensive to accomplish.

By recognizing difference in body condition, one can plan a supplemental feeding program so that cows are maintained in satisfactory condition conducive to optimum performance. ■

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