Vet Call

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Monitoring winter body condition

Cows in moderate body condition [body condition score (BCS) 5 to 6] usually require an average of about 55-65 days to resume fertile cycles after calving — meaning that mature cows that calve during the first half of the calving season in moderate body condition should be cycling by the time the next breeding season starts. In contrast, cows that calve with a BCS of less than 5 require 90-120 days to resume fertile cycles, and they have no chance of having fertile cycles by the start of the next breeding season — possibly not until late in the next breeding season.

Variation in BCS

Good body condition at calving is even more important for the reproductive performance of first-calf heifers compared to mature cows because they require 80-100 days to resume fertile cycles after calving. First-calf heifers must have a BCS of 5 or greater (preferably 5.5-6) to have acceptable pregnancy rates for their second breeding season. In order to reach or maintain a BCS of 6 for heifers, they should be separated from the mature cow herd and fed to gain the needed weight.

During the winter months, most cattle in the United States consume dormant or baled forage. In most situations the forage is poor to moderate in quality. When cattle graze marginal to low-quality forages, supplemental protein or energy is often required to enhance either forage intake or animal performance.

Poor-quality forages (grazed or hay) have two negative effects on cow diets. The first effect is lower intake. While a 1,250-pound (lb.) cow will consume about 31 lb. (as fed) of moderate- to good-quality forage, she will only consume about 24 lb. of poor-quality forage. The second negative effect is that the amount of energy per pound of intake is reduced compared to higher-quality forage.

Because of year-to-year variation in forage quality and weather stress, cow body weight and condition can have important year-to-year variation even when fed what appears to be the same diet. Slightly lower forage quality and increased weather stress can result in cows losing more weight than expected. If cows lose condition over the winter so that spring-calving cows calve with a poor body condition, calf health and cow reproductive efficiency will be negatively affected.

In general, mature cows in good body condition that are not nursing a calf and that only need to maintain weight can overwinter on forage alone if forage quality is at least moderate and weather stress is low. If cows in good body condition are forced to consume lower-quality forage or if winter weather is harsh, supplemental high-quality forage or concentrate will be required to maintain body weight.

If cows are thin and need to gain body weight prior to calving, moderate-quality forage will not supply the needed nutrients, and supplemental concentrate or high-quality forage must be fed. If only poor-quality forage is available, even greater levels of supplement must be fed to add body condition to thin cows prior to calving.

Young cows carrying their first pregnancy require energy and protein for their own growth as well as fetal growth, which makes their nutrient requirements higher than those of adult cows. Most dormant or baled forages do not provide all the calories needed for first-calf heifers over the winter, especially if the cattle face any weather stress. Ranchers should plan on providing first-calf heifers with supplemental high-quality forage or concentrate for at least part of the winter. The amount of supplement required depends on the quality of the base forage (grazed or baled).

PHOTO BY CRYSTAL ALBERS

►For more information on how to score cattle for body condition, including video clips of cows at different condition scores, visit Angus Productions Inc.'s website devoted to the topic: *www.cowbcs.info*. If you are viewing our digital edition, click the photo above to see the video clip of a cow with a BCS of 5. If you are reading the print edition, visit *www.cowbcs.info/videoclips.html* to access the video clips of various condition scores.

Performing a BCS

In order to determine the amount of supplement required for the available forage, you need to be able to estimate how much energy reserve the cows are storing as body fat. BCSs are used to describe the relative fatness or body fat reserves of a beef cow. The most commonly used system uses a range of 1 to 9, with a score of 1 representing a very thin cow and 9 representing an extremely fat animal.

BCS is an accurate measure of body fat and is convenient in that cattle do not need to be weighed, merely observed and palpated at a time when other procedures are performed. Depending on mature cow size, there is an approximate 80- to 100-plus-lb. difference in body weight per BCS. When evaluating body

condition, it is important to handle the cattle, so one is not mistakenly evaluating hair coat, gut fill or stage of pregnancy.

The areas to palpate when determining BCS are ribs, back, backbone and tailhead. The entire herd, or a subset of each age group, should be evaluated for BCS during the winter to allow adjustments in winter supplementation to occur before cows lose excessive body weight.

It is very difficult for cows to gain body weight once they have calved and started lactating — even if heavily fed. Therefore, cows should reach their desired breeding body condition by the time they calve. In order to have enough days for thin cows to gain weight, herds should be evaluated three to four months prior to calving. If evaluated at this time, the weight gain for a BCS 3 cow to reach breeding condition (BCS 5) will be approximately 1.5 lb. to 2.0 lb. per day (which is very possible with good forage and supplementation). In contrast, if cows only have two months to gain two body condition scores, they will need to gain more than 3 lb. daily — a much more challenging task.

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Table 1: System of body condition scoring (BCS) for beef cattle[a]

BCS	Description
1	**Emaciated** — Cow is extremely thin with no fat detectable over backbone, hip bones or ribs. Tailhead and ribs are very prominent.
2	**Poor** — Cow still appears somewhat thin but tailhead and ribs are less prominent. Individual backbones are still rather sharp to the touch, but some tissue cover exists along the spine.
3	**Very Thin** — Ribs are still individually identifiable but not quite as sharp to the touch. There is obvious fat along spine and over tailhead, with some tissue cover over upper portion of ribs.
4	**Thin (borderline)** — Individual ribs are no longer obvious. The backbones can be identified individually but feel rounded rather than sharp. Some fat cover over ribs and hip bones.
5	**Moderate** — Cow has generally good overall appearance. Upon palpation, fat cover over ribs feels spongy and areas on either side of tailhead now have palpable fat cover.
6	**High Moderate** — Firm pressure now needs to be applied to feel backbone. A high degree of fat is palpable over ribs and around tailhead.
7	**Good** — Cow appears fleshy and obviously carries considerable fat. Very spongy fat cover over ribs and around tailhead. Some fat around vulva.
8	**Fat** — Cow very fleshy and overconditioned. Backbone almost impossible to palpate. Cow has large fat deposits over ribs, around tailhead and below vulva.
9	**Extremely Fat** — Cow obviously extremely fat. Tailhead and hips buried in fatty tissue. Bone structure no longer visible and barely palpable. Animal's mobility may even be impaired by large fatty deposits.

[a] Richards, M.W. et al, 1986 *J Anim Sci* 62:300.