

**COW/CALF MANAGEMENT****Winter Cow Management**

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The winter season is upon beef cattle producers in the upper Midwest. Winter feeding management is critical as winter feed costs are the single largest expense in a cow/calf operation. A winter feeding program will vary for each operation depending on the quality of forage being fed, cost and availability of winter feed supplements, animal type (mature cow, replacement heifer or back-grounded calves) body condition of that animal and calving date, if applicable. In the upper Midwest, a large percent of winter feeding includes the middle and last trimester of gestation and a portion of the first stages of lactation in spring calving herds. To choose a winter feeding program that is the most viable for your operation, know what type of animal you are feeding, stage of pregnancy (if the animal is in production), body condition, available feed resources and feed prices. For example, dry cows require feed lower in quality than nursing cows and young females require feed higher in quality than mature cows.

Generally, winter feeding is accomplished with harvested forages, mainly hay and silage. One can estimate, based on dry matter (DM) intake/head/day, how much winter feed is needed per animal during the winter feeding period. A 1350-lb. pregnant beef cow will typically require 25 to 30 lbs. DM/day which equates to approximately one round bale of hay (1000 lb. bale) per head per month. Grazing crop residues may also be

utilized as well, but may not be a feasible option for areas that receive significant amounts of snowfall during the early winter months. Research has shown that cows will graze through deep snow (up to 9 inches) for high quality forages, but grazing can become difficult and reduce forage intake with as little as ¼ inch of ice covering the snow. Besides limiting the grazing of crop residues, winter conditions will decrease the feed's nutritional value by reducing the digestibility of dry matter and protein. Not only does winter precipitation need to be taken into account, adjustments for cold temperatures need to be considered as well. A practical rule of thumb is to increase energy intake by 1% for every degree of coldness below the lower critical temperature of a cow. As an example, a 20° F temperature can be used as the lower critical temperature. Thus, if the outside temperature is 0° F with calm wind speed, then energy intake will need to be adjusted 20%. If the daily TDN (total digestible nutrient; a measure of energy) requirement is 11.2 lb, then an additional 2.24 lb TDN are required to prevent environmental stress or weight loss on the cow.

Regardless of whether you feed stored forages or graze crop residues, the cow's diet must be sufficient throughout the winter months to uphold a body condition score (BCS) of 5 to 6 (9-point scale; 1 = emaciated and 9 = obese). It is generally accepted that a BCS of 5 to 6 is optimum for reproduction.

At this level of condition, a cow is able to maintain its body weight and support production functions such as lactation and fetal growth. During the last trimester of gestation (223 to 283 d of gestation), fetal growth can account for 55% to 70% of total fetal weight, thus maintaining adequate body condition in pregnant cattle is crucial in the two to three months prior to calving.

Depending on forage quality, supplementing beef cows may be necessary when nutrient demands are not met by the basic diet the cow is offered. Typically, diets of late gestating beef cows will meet nutrient needs if they contain a minimum of 55% TDN and 8% crude protein (CP). However, lactating cow minimum requirements during the winter increase to 62% TDN and 11% CP, such as with fall calving cows. When feeding pregnant first- and second-calf heifers, due to calve in the spring, maintaining diet TDN at 60% and CP at 11% from the beginning of winter through early lactation should be sufficient for maintaining a BCS 5 to 6. Those requirements will increase (TDN = 66-70%; CP = 11-13%) for fall calving first- and second-calf heifers during the winter months.

When requiring a TDN or CP supplement, compare nutrient intake of the diet with nutrient requirements of the cow (based on animal type and pregnancy status) and determine what additional nutrient(s) are needed for supplementation. Throughout the winter, evaluate cow performance (i.e. body weight and condition changes) as a result of your winter feeding program, especially if additional nutrient supplementation was needed in the diet. This will tell you if you are correctly supplementing your cattle through the winter and preparing those spring calving herds for the calving season.

One management practice that producers tend to oversee is pregnancy determination in spring calving herds prior to winter. One might ask why this is of any importance to winter feeding strategies in beef cattle. We know that winter feed costs can account for up to 60 - 70 % of all yearly feeding costs. When producers feed open cows during the winter, feed costs become substantially higher when there is no return on those open cows. Identifying those open cows early in the fall will allow a producer to market those animals when market prices permit. Typically cow prices are higher in late December through early February, so if a producer has a carry-over of summer and fall forages, holding those open cows to market in late December through early February may be an option to increase profit on those open cows, if feed cost per animal is minimal. Otherwise, selling those open cows early in the fall will prevent feeding additional winter feed.