

News Release  
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For: Around the County

### Prepare Now to Deal with Cold Stress

A body condition score describes the relative fatness or condition of a cow and is a great tool to use to design your feeding and management program. The period from weaning to 90 days pre-calving is a critical time to assess cow body condition. For spring-calving cows, this time period is a good opportunity to add body condition economically. One advantage of having cows in good body condition this time of year is that it improves the cow ability to deal with winter conditions. Cold stress increases a cow's energy requirement and can pull down her body condition. We don't know what winter conditions will be like this year, so it is good to think ahead and have a plan. Evaluate body condition score (BCS) now, and if cows are not at a 5 to 5.5 BCS, then take steps to improve BCS before cold weather hits. This can help reduce the impacts of cold weather on the cows.

Mary Drewnoski and Karla Wilke, Extension Beef Specialist at UNL describe how body condition score can impact the cow's ability to withstand cold stress. The threshold at which cattle have to start using energy to maintain their body temperature is called the lower critical temperature (LCT). Cows in good condition (BCS 5.0) that have a heavy winter coat that is dry do not need to use energy to maintain body temperature until the wind chill index is below 19°F.

Body condition is a risk management strategy and affects the LCT. A thin cow with a BCS 4 and a dry winter coat has a LCT of 27°F vs the 19°F of a cow in BCS 5. Getting cows into good condition early in the winter can be useful for managing risk of bad weather in that they have condition they can lose but also because cows with higher BCS will lose less than those with lower body condition. Additionally, a practical management strategy may be to consider putting thin cows in a group with your first calf

heifers as both have higher energy requirement in the winter, which can allow for strategic supplementation.

It is also important to understand that a wet hair coat changes things. A wet coat increases the LCT of a cow in good condition to 53°F. Thus, essentially anytime a cow's coat is wet in the winter they will be using energy to maintain body temperature. Therefore, in winters with more precipitation, especially freezing rain, we often see greater decreases in BCS.

To figure out how much more energy a cow needs you would take the cow's LCT minus the wind chill index and that would tell you the percent increase in energy requirement. For instance, if the wind chill index is 10°F and a cow has is BCS 5 with a dry winter coat and a LCT of 19°F, then  $19 \text{ LCT} - 10 \text{ WCI} = 9\%$  increase in energy needs. A 1200 lb cow in late gestation has a 13 lb/d TDN requirement and the cold increased this an additional 1.2 lbs of TDN for a total of 14.2 lb/d.

One strategy is to think about to mitigate wind chill is by providing wind protection. By providing wind protection, you can decrease energy needs by removing wind as a factor. If cows have protection from wind, the ambient temperature can be used to determine energy needs. Providing wind protection in the winter can be huge for reducing supplementation needs due to cold in the winter.

It is not advisable to change rations daily, but for extended cold or wet periods, consider feeding more of the same ration if cattle can eat more of the typical ration. If not, then providing a supplement is a good idea. When feeding lower quality hay, dormant range grazing or corn stalk grazing, additional feed will be needed. One option is to change to feeding a higher quality hay source, if available

Distillers grains are another option. Distillers is a good source of energy, it has more energy than corn, and because it is high in protein, it does not cause as much of a substitution effect. In the case of distillers and gestating cows, the pounds of energy needed to account for energy used due to cold stress would be equal to the pounds of dry distillers that would need to be fed. Limitations on the

amount of distillers that could be fed would be more based on budgetary concerns than digestive effects.

When wind chill temperatures are extremely cold or the cow has a wet hair coat, a lot of supplement would be needed to make up the greater energy needs and maintain body condition. For instance, if the wind chill was -10°F and the cows had a wet hair coat, 8.6 lbs of dry distillers would be needed to account for the increased energy requirement. However, feeding these levels is likely impractical. A better approach would be to provide a smaller amount of supplemental feed and to continue to feed the extra feed after the weather has moderated to allow cows to regain energy lost during the storm.

It is also important to remember that lactating cows have a much greater energy requirement than pregnant cows. Given this, the combination of cold stress and lactation can pull down BCS quickly. Thus, if lactating cows are also subjected to cold stress, increasing their energy intake prior to observing loss of condition is advisable.

Extension personnel can help with ration development. Contact your local Nebraska Extension office for more information.