Cold Weather Increases Nutrient Needs Of Cattle

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Cold weather brings on additional nutritional needs and increases stress on cattle. We are approaching the time of the year when both needs and stress are high.

Cold stress occurs when cattle are exposed to weather conditions that put them below their lower critical temperature. For cattle with a dry winter coat, the lower critical temperature is 32 degrees Fahrenheit. If the coat is extra heavy and thick, they can stand lower temperature and the critical temperature drops to18 degrees Fahrenheit. If the coat is wet, however, the lower critical temperature may increase up to 60 degrees Fahrenheit.

When the environment results in an effective temperature below the animal's lower critical temperature, the animal must increase heat production to maintain a constant body temperature and performance. To produce more heat, the animal must either receive an increase in energy from the ration or draw on body stores.

To compensate for the energy deficit created by the cold stress, follow this rule of thumb: Increase the amount of feed 1 percent for each degree of cold stress. If the wind chill temperature is present, use that temperature.

Keeping hay in front of the cattle may not take care of meeting the extra nutrient needs. If the hay is good, meaning it was harvested before it matured or was rained on, cattle can probably make it through cold weather in good condition. If hay quality is poor, the cattle may be in trouble. A 1,200 pound cow in good body condition (BCS of 5) needs a ration that has a minimum Total Digestible Nutrients (TDN) value of 50 percent and crude protein (CP) value of 8 percent under neutral environmental conditions. The TDN value is a simple estimate of energy content of the feeds. Concentrates have higher TDN and CP values than forages, but do not generate as much heat. In comparison, shelled corn has a TDN value of 90 percent and soybean hulls, 80 percent. If hay falls below the 50 percent TDN minimum, producers should consider supplementing with an energy-dense feed.

If protein levels are too low, rumen microbes cannot efficiently digest fiber. In that case, adding supplemental protein can increase hay consumption and digestion. High protein feedstuff includes soybean meal (49 percent CP), cottonseed meal (41 percent CP) and corn gluten feed (19 percent CP). If both energy and protein are low, the supplement should contain a balance of both.

Shelter from the wind, such as woods, hillsides with southern exposure or access to open sheds, can protect cattle from the air currents. Reduce mud in and around feeding areas. Cold mud on cattle draws on their energy stores and body temperature, especially in young calves.

Monitor the weather reports and make adjustments in feed needs two to three days before the front hits your area. Δ

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