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### WINTER COLD

As we head into winter, we once again get to deal with the effects of cold temperatures and snow storms on our cattle herd. As cold stress increases, so do energy requirements and animal body condition can drop. Many of us can attest to the large amounts of hay used during sustained cold snaps in the past

When we talk about cold weather affecting animals, we need to understand what a lower critical temperature is. The lower critical temperature is the threshold at which point animals need to start using energy to maintain body heat. Typically, an animal in average condition with a normal winter coat starts to experience cold stress at 32 degrees F. That's normal temperature without wind-chill. A very general rule of thumb is for every degree below 32, we can assume on average a 1% increase in hay demand to meet energy requirements. This threshold is impacted by a variety of different factors including animal condition, hair coat condition, whether the animal is wet or dry, and wind chill.

While we don't know what is in store for us this winter, taking time now to evaluate the body condition of your herd can be a great first step to limiting cold stress impacts. Animals should be going into winter at a 5 to 5.5 Body condition score. A lower body condition means a lower critical temperature. Animals will need extra energy to keep warm, even at higher air temperatures, causing us to burn through hay.

For example, a cow with a BCS of 5 with a dry winter coat will have a lower critical temperature of 19°F while a thinner cow with a BCS of 4, with the same dry winter coat raises that temperature to 27°F.

If you've ever seen snow collecting on a cows back during a storm, you've seen this principle in action.

A cow in good condition and with winter coat is well enough insulated, that the snow is able to collect and doesn't melt. A thinner animal will often have little if any snow on their back in the same storm. Without protective fat, body heat leaves the cow fast and melts the snow before it can accumulate. This is a zero sum game, where poor condition makes energy requirements rise, which leads to more condition lost, and increased energy requirements, and so on and so on.

So what can we do to put ourselves in a position to minimize the impact of cold weather on our cattle herd this year? Again look at your current cattle condition. If animals are on the thin side, consider supplementing a bit to bring up body condition scores to 5 before we hit the real cold snaps later this winter.

We can also address the physical impacts of weather on lower critical temperatures. That same BCS 5 cow that with a dry coat had a lower critical temperature of 19°F will have a lower critical temperature of 53°F if their coat is wet. Providing animals' shelter in bad weather can help keep coats dry and limit wind chill effects, both of which will work to minimize the impact of the cold.

Finally, know what you have to work with from an energy perspective in your feed yard. High quality hay usually has a TDN of 58-60% and should meet requirements for dry, good condition animals at wind-chill temperatures down to -15°F. With variability in hay quality and quantity put up this year though, having a plan for what to feed and when is important. This is where having a feed analysis done is helpful. In some situations, even high quality hay doesn't have the energy needed to meet animal requirements. In these cases, have a plan for another energy supplement ready to go.

With a little planning now, we can put ourselves in a good position to address cold weather impacts on our animals, before the herd takes a hit or we end up scrambling for solutions later on.

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