



Chills are relative

Cattle are built to take most weather in stride—as long as they stay in their region of origin, and the weather stays “normal.” Northern cattle with winter hair coats are comfortable with temperatures down to 20 Fahrenheit (F), unless they get wet and the wind blows.

A wet coat can raise their lower critical temperature (LCT) to where 57 F feels like 20, and if freezing rain drenches them at 20 F, it will feel like a 37-degree colder –17 F. Add a typical 20 mile-per-hour wind and the “real feel” drops another 20 degrees. If the wind gusts up to 40 MPH, it lowers the wind chill another 48 degrees. In the worst case, wet cattle without shelter would experience an effective –85 F, which could literally freeze them in their tracks.

The worst case is a 100-year rarity that we hope to avoid, but cold weather stress is a real concern every year across most of this country fall through spring. The problem is worse for southern cattle in northern feedlots, because they can be 20 degrees under their LCT and shivering next to contented Montana cattle. Fluctuating temperatures of more than 36 degrees daily are stressful for cattle of all origins.

Cattle try to reduce heat loss through the skin by curling up when they lie down, and their hair bristles to puff up its insulating value. But when that cold wind drops out of their comfort zone, cattle shiver and burn fat to keep warm.

Research shows cattle need 1% more net energy for every degree below their LCT, so a Northern origin steer experiencing a wind chill of –20 F needs to take in 40% more net energy, just for maintenance. That could mean 4 to 6 pounds more corn or twice that much more alfalfa.

Obviously, they can't eat enough extra feed to compensate for heat production loss at –50 F, and at such extremes most cattle eat less; only shelter and insulation from the frozen ground can help conserve body heat.

Cows are typically adapted to their farm or ranch home and weather the winter storms with little trouble. Newborn calves can be another story, especially for those coming in January and February. Their ability to shrug off cold stress begins with cowherd nutrition.

A couple of months before calving, cows should receive a rising level of dietary energy and protein to produce robust calves that quickly stand and nurse their fill of colostrum. Winter calving also requires some form of shelter, either natural or man-made, and at least daily supervision. Extreme weather may require intervention with heat lamps for chilled calves.

Feedlot cattle can be a greater challenge, and more is at risk with less flexibility of moving to shelter when a blizzard roars through. Pen design is critical, but it won't make any difference without expert bunk management—the kind that takes years of experience and specific nutritional consulting advice.

Cattle may eat more during the day and less during the night in the winter, so morning feedings are the rule. Icy or muddy conditions near the bunks or waterers may discourage intake, especially in heavy cattle. That's where design and maintenance come in.

When a storm is coming, cattle tend to eat more, less during and more immediately following. The after effect can last for several days, by which time another storm may arrive to muddy the plans and pens. Feedlot managers learn to navigate these moguls of intake by “reading” the bunks and adjusting the next feed calls gradually to where just a scattering of the ration remains. Left to themselves, cattle would overeat the day after a storm and develop serious digestive ailments.

Research has shown performance and carcass grade advantages to maintaining a stable intake. Some managers feed smaller amounts more frequently during storms, or add a little high-quality roughage in anticipation of the typically higher rate of passage afterwards.

Others have found cattle stay on feed better when they get a little straw bedding during cold weather, and again, research backs up the financial wisdom with an estimated \$8/head advantage. Managers must weigh that against the additional labor and eventual manure to spread, but the positive effects have been seen across the spectrum of feedlot sizes from Colorado to North Dakota.

Don't forget the potential cold stress of transporting cattle, when a rainy day can combine with road speeds to make wind chills far below comfort levels. Avoid trucking cattle in the winter when their coats are wet or matted down with manure or mud.

Next time in *Black Ink*, we'll look at cattle selection for economic traits. Questions? Call toll-free at 877-241-0717.

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