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Dakotaland Feeds, LLC

A NEWSLETTER OF DAKOTALAND FEEDS

Heat Stress

In a Nutshell:

- **Be aware of the livestock heat stress forecast**
- **Assess your water capacity and refill rate**
- **Figure 1 Gal. of water per pound of dry matter intake**
- **Split feeding can avoid peak environmental heat**
- **Shades may be a worthwhile investment**
- **Fly control helps reduce stress**
- **Parasitic wasps or Clarifly® help control fly populations**
- **Yeast culture can be beneficial for gut integrity**

While we have had a few hot days here or there, we are now getting into the season where we may have an extended number of days that inflict heat stress on our cattle. What is your plan, or what is the best course of action?

There are multiple interventions to consider when dealing with heat stress, but the first factor should be our awareness of conditions that are likely to cause heat stress in our cattle. We can have hot days but if our humidity is low and there is a breeze, the heat stress inflicted on cattle is not nearly as substantial as if we have higher humidity and no air movement. So, while the South Dakota wind is often a source of frustration, it is beneficial on hot days. There is an updated tool for forecasting heat stress available from USDA. It is available at https://www.ars.usda.gov/plains-area/clay-center-ne/marc/documents/heat-stress/main/

One of the first things that comes to mind to mitigate heat stress is water capacity. Not only do we need to have enough drinking space per head (1-3 linear inches per head), we need to have enough refill capacity to keep up with demand. One rule of thumb is that we should figure 1 gallon of water per pound of dry matter intake during heat stress (it will be less than this without heat stress). You should also plan on the cattle consuming their daily water intake in about 6 hours instead of 24 when heat stress is high. This may mean that you should have supplemental water space on some days. Filling an extra tank may seem like a pain or a waste of time, but when heat stress alerts are on, it will be an extremely helpful tool. In an emergency, sandbags could be used to make a temporary water trough in concrete bunks. Making sure pasture cattle know where the water source is located can also be critical when unloading them in a new place on a hot day.

Cattle generate heat of fermentation in the rumen as they digest feed. When cattle eat in the morning, the heat of fermentation of that feed coincides with the time of day when air temperatures are typically the hottest. Adjusting feed deliveries with split feeding so that you feed maybe 40% in the morning and 60% at night means the greater total heat of fermentation will happen at night, when the ambient temperature should be the lowest. Consistency of timing is still important, so try to keep the variation of daily feeding times to a minimum. Once daily feeding at night is another option, but the time still needs to be consistent.

When it comes to other interventions, one of the best returns on investment is shades. Solar radiation generates massive amounts of heat, especially in black-hided cattle. Eliminating or reducing the heat of solar radiation can be an absolute game-changer for these cattle. In a Texas Tech study, feedlot heifers that had shade gained 0.42 lbs more per day over a 131-day trial, adding up to 55 lbs of liveweight at the end of the study. In the study, misting the cattle with water was also evaluated, and it reduced respiratory rate but did not result in performance improvement like shade. Intakes were lower, and feed efficiency was poorer in cattle that did not have shade. Iowa State did a retrospective study after a severe heat event and found that 86% of pens that had shade had no death loss, compared to only 19% of pens without shade that had no death loss.

Another beneficial intervention for heat stress includes reducing fly pressure. Flies make heat stress worse by increasing the amount of stomping and head tossing that cattle exhibit. Controlling flies makes cattle more comfortable and lessens stress. The feed-through product Clarifly® has been successful in drylot and pasture situations and costs around $0.03-0.04/hd/d to add to your supplement or mineral, depending on the size of the cattle, and will control stable, house, face, and horn flies. Parasitic wasps are also useful for reducing fly populations.

Dakotaland Feeds has had success with adding Diamond V's liquid yeast culture product to liquid supplements to deal with summer heat stress. By having it in your liquid every day, we eliminate the need to start it before a heat event and then take it out later. It helps keep cattle on feed, and we don't see the same magnitude of intake loss that heat events can cause, and it is easier to bring them back on feed when they don't drop as far.

Gut integrity is critical during stressful periods and the yeast culture product helps maintain gut integrity. Beef Abate is another feed product to mitigate heat stress. It must be fed for several days prior to, during, and then several days after a heat event.

Heat stress can be a costly problem and there are things we can do as producers to make things easier on our cattle. As you consider your options, talk to your Dakotaland Feeds consultant to see what might fit your operation best.

Roxanne Knock, PhD

What do you need to be thinking about this time of year?

- **Get your creep feeders in shape to put out in pastures and *get creep feed out for spring-born calves***
- **Keep mineral in place for the cows on pasture**
- **Get Clarifly® or Altosid® in your feed to control fly populations**
- **Implant calves at branding time**
- **Get prepared for heat stress for cattle in the lots—shades, sprinklers, extra water tanks, etc.**
- **Ask about Intense Calf WSC mixer for orphaned calves**
- **Order wasps for feedlot fly control or ask about Clarifly® for feed-through fly control in the feedlot**
- **Make sure the bulls have mineral, too! Stress Tubs® or Ultimate Breeder® mineral provide the Availa-4® mineral**
- **Have a breeding soundness exam and semen test done on your bulls to help ensure high pregnancy rates**
- **Watch for signs of anaplasmosis in your herd—older cows are typically more affected**

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