



Managing Heat Stress in Feedlot Cattle

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With the Fourth of July having passed we are now entering the “Dog Days of Summer”. This is the time of the year when the temperatures and humidity typically rise while our spring and early summer high winds begin to decrease. While this may be a great time for summer recreation, it can be a difficult time for cattle, particularly those in feedlots. Heat stress in feedlots can cause decreased animal performance and may even lead to death if animals are not managed properly. This impact has hit home for many producers, as hundreds of feedlot cattle deaths have been reported in South Dakota feedlots during the recent high-heat, high-humidity days.

Cattle do not handle heat stress as well as humans. Feedlot cattle can generally handle air temperatures of up to 75-80 degrees without any negative effects on health or performance. This upper limit of heat tolerance may vary depending on body condition, hair coat length, coat color, and feeding strategies. Minor heat stress may occur when temperatures reach beyond 80 degrees, with more severe heat stress occurring when temperatures surpass 90 degrees. This is especially true when the high air temperature is combined with above average humidity or below average wind speed.

It is important for feedlot producers to pay attention to potential heat stress indicators. The combination of warm temperatures and high humidity can be particularly dangerous. An example would be a day in which rain falls in the morning and shortly thereafter the temperature rises

above 80 degrees. Another potentially stressful situation is overnight temperatures above 70 degrees. When temperatures remain at this level or higher, cattle are not able to cool down to prepare for another hot day. Observing cattle in the feedlot pen should give an indication of their comfort level. When cattle are stressed, they will move around the pen in an attempt to find a cooler, more comfortable place. This extra energy expenditure will further stress cattle, and slobbering from the mouth and increased breathing may be noticeable. Cattle may also elevate their head for easier breathing and position their body to minimize exposure to the sun, which generally results in cattle facing the sun.

In extreme temperatures, it is difficult to completely eliminate heat stress. However, there are strategies to minimize the effects. First, it is important to have plenty of water available. At high temperatures, a 1,000 pound feedlot steer may need in excess of 20 gallons of water. Up to three inches of linear water tank space per animal is recommended. It is especially important at this time to regularly clean water tanks to encourage water consumption.

Water sprinklers may help reduce cattle body temperature as well as the temperature of the feedlot pen surface. Sprinklers should be turned on in the early morning or possibly even overnight to help cattle cool down completely before the peak daytime heat occurs. It is also important that sprinklers cover a wide area to cover more

pen surface and to prevent cattle from crowding together.

If cattle must be processed or handled in any way during a heat stress period, it should be in the early morning, and never later than 10:00 a.m. unless shaded facilities are available. Nighttime processing should also be avoided, as cattle should be allowed to dissipate heat overnight. When loading out cattle for the packing plant, arrange for cattle to be loaded and to the packing plant by 8:00 a.m.

If handling is necessary, cattle should be returned to their normal pen in 30 minutes or less. Avoid bunching of cattle and attempt to minimize any cattle handling stress. If shade or sprinklers are available, they should be used in the processing area to keep cattle cool.

In systems where cattle are fed two or more times per day, it is recommended that at least 70 percent of the daily feed offering be delivered in the late afternoon after the peak daily temperature. This will allow cattle to spend more time eating later in the day rather than during the heat of the early and mid afternoon. This will also lower the heat produced through eating and walking to the bunk during the hottest part of the day.

Flies can cause added stress to cattle and will also cause cattle to bunch together. To reduce flies, the area around feedlot pens should be kept clear of weeds and brush. This will also allow increased airflow through the feedlot. Muddy and wet areas around the feedlot should also be minimized to reduce breeding areas for flies.

Further strategies to minimize the effects of heat stress, such as shade covering and improvements in air flow through the pen may require more extensive planning and construction. These items should be considered when constructing or expanding a feedlot, and should also be considered if extreme heat stress is a recurring problem.

Although heat stress cannot totally be avoided, it can be managed through planning and preparation. Through proper preparation, feedlot producers will be able to help their cattle get through the “Dog Days of Summer” with minimal impacts on cattle health and performance.

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