

Cool Down your Frustrations!

Dr. John Las
August 2018

With the cold months of winter seeming like a distant reality, this summer has proven to be a challenge for many producers and their cattle. It appears the length of hot weather spells and the lack of overnight cooling is becoming a new normal for our region. Add in high humidity to the equation and we start to see significant risk and impact to our cattle. Heat stress occurs when temperatures rise above the animal's thermal neutral zone and they must actively dissipate heat. Cattle start to experience heat stress when the ambient temperature rises above 28 °C (82°F). However, evidence of heat stress can be noted much earlier depending on other factors, such as relative humidity, exposure to direct sunlight, lack of air flow, and close proximity to other cattle (overcrowding).

The core temperature of cattle will peak approximately two hours after peak environmental temperature. It will take approximately six hours for the animals to dissipate the heat load. Heat stress causes measurable impacts on cattle that are quickly and easily identified by producers. Signs include decreased milk production, decreased feed intake, increased water consumption, and restlessness. However, longer term effects such as reproductive issues and an increased lameness incidence from sole bruising and ulcers are also a reality.

During periods of high temperature and humidity, utilize synchronize breeding programs and plan to inseminate in the morning during the coolest part of the day. If animals are due for vaccination, ensure these are administered early in the day or wait until cooler temperatures to avoid potential anaphylaxis, especially when using vaccines of gram-negative origin (ie. J-Vac® or Enviracor®J-5).

When designing, improving, or modifying ventilation and cooling options, it is important to include the dry cow and transition cows. Transition cows are very susceptible to heat stress and can have more metabolic impacts that will ultimately result in an increased disease incidence and decreased production for this lactation or even early culling.

Heat stress is not a new concept, however, the increasing duration of time cattle are at risk is becoming a reality in our part of the country. It is critical how we manage and cope with it to minimize the impacts it has on cattle, their production and your success.

When addressing the risks of heat stress, have short term and long term goals and plans in mind. Options can vary significantly depending on your facility layout and location. Proximity to nearby trees and prevailing winds will also influence what options may best suit your individual needs. Decreasing overcrowding during periods of increased

environmental temperatures will help minimize and spread out heat accumulation in the facility. The use of sprinklers and increasing air flow is an excellent way to increase evaporative cooling and help cattle cope during periods of high heat. However, it can also result in an increased humidity in the facility if not enough air flow is achieved. Added benefits of increasing air movement will reduce bunching and the presence of flies among the herd.

Whichever system(s) are chosen, they should be evaluated and adjusted to ensure optimum ventilation is achieved and to minimize dead zones or stagnant areas. This can be achieved with fogging and visualizing air flow and removing obstructions to air flow in the facility if possible. In addition, equipment should be maintained and kept clean to ensure it continues to work as it did when first installed. Rebates are often available so make sure to check with local utilities, dealers and government agencies if there are active programs that may help offset the initial cost of equipment and installation.

Lastly, be sure to discuss breeding and vaccination protocols in times of high heat and stress as well as ventilation and cooling ideas with your veterinarian and local equipment dealer. Taking a team approach and visiting other facilities to find out what does and does not work is always a great idea too.