By Clinton Laflin,
Livestock Production Agent

Corner Post CONVERSATIONS

K-STATE Research and Extension | Midway District

"AS I SEE IT"

Summer is quickly approaching as I write this newsletter on a sunny day in early June. Cattle across Midway District are out on summer grass, and days will soon turn hot. Heat stress is a annual issue that producers struggle with, but there is no easy answer on how to decrease heat stress for our livestock. An accumulation of factors – including humidity, solar radiation, the color of their hide, diet and more – can drastically change a cow's ability to withstand summer's heat. Read on to learn more about managing heat stress.

Heat stress decreases the reproductive efficiency and performance of cattle grazing on pasture. In confined facilities, heat stress often causes cattle to eat less, which negatively affects their performance.

The human body cools itself on a hot day by sweating, called evaporative cooling. but cattle sweat only 10 percent as much as humans, and panting is their primary way of dissipating heat.

"As temperatures rise and their heat load increases, they will start breathing faster," says KSU Beef veterinarian Dr. AJ Tarpoff . "They are dissipating heat through tiny droplets in the respiratory tract."

Doing so, however, causes cows to eat less, setting them on a path to poor growth and future performance. "This all has to do with heat load," Tarpoff said. "The internal temperature of cattle will peak two hours after the hottest point of the day. So our strategy for keeping cows cool needs to be built around knowing that."

Another factor is that cattle produce heat by digesting food, typically four to six hours after eating. "So if we feed animals within the wrong period of time, we can actually increase their heat load because the heat of digestion and the heat from the environment are building on top of each other," Tarpoff said. "We want to keep that from happening."

Tarpoff listed best management practices for helping to reduce heat stress in cows:

- **Handling.** Receive, ship or move cattle only during the coolest parts of the day, preferably before 10 a.m.
- **Feeding.** Modify feeding times. Feed 70 percent of the animals' ration as late in the evening as possible, which puts the peak heat of digestion overnight when temperatures are likely cooler. Decrease feeding during the day.

Tips For Managing heat.

Split cattle between pens or reduce stocking density. Maximize airflow by removing obstructions around facilities, including weeds. If feasible, install shade structures, which can reduce solar radiation and reduce the temperature on the pen's floor. Install sprinklers to wet cattle down at night or early morning so as not to increase humidity. Then, of course, there is the importance of providing water. Lots and lots of water.

"To put it into perspective, when the temperature goes from 70 degrees Fahrenheit to 90 degrees, cattle will consume about double the amount of water," Tarpoff said. As a rule, he said cattle should consume "about five times the amount of water as the dry matter they are consuming."

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This newsletter is designed to provide you with timely information on relevant issues facing livestock producers today. If I can assist you moving forward please contact me.
Looking forward to working with you!

K-State RESEARCH and Extension Midway District#15

LIVESTOCK WATER TANK CLEANING

A clean stock tank with high-quality water promotes healthy livestock. Nursing calves have a nine percent higher weight gain when drinking water from a trough rather than from a pond. Poor tasting water can influence forage intake. Drinking more water can mean more efficient forage consumption. Viruses, parasites, and bacteria thrive in tanks that are not properly cleaned.

Keeping your stock tank clean can be a challenge in the summer. Warm summer temperatures, abundant sunlight, and nutrients mix together to create ideal conditions for algae growth. Nutrients from slobber, excrement, leaves, or other debris can stimulate harmful algae growth. Algae changes the taste of water, and some types are even toxic, like blue-green algae, which is toxic to livestock. Using fencing or other barriers to limit livestock access to ponds can mitigate nutrient introduction. Barriers should be low enough that critters won't slip underneath.

Most tanks should be drained and cleaned once or twice a year. Add one part of household chlorine bleach for 32 parts of water. Let the water sit for 15 minutes. Drain and scrub the tank well. Keep livestock away from the tank for at least 30 minutes after cleaning. Getting the tank empty can be difficult unless the tank has a built-in drain. In the case of no drain, turn the water off and let the livestock drink the water down to a point where it can be managed.

Once the tank is cleaned, there are a few ways to keep it clean. First, keep debris (leaves, dead plants) out of the tank. Two ounces of household chlorine bleach to fifty gallons of water weekly will help regulate algae growth. Or copper sulfate, an eighth of a teaspoon per hundred gallons.

Goldfish are also an option for algae control. Add four to six goldfish per 100 gallons of tank capacity. Goldfish survive best when the temperature is at least sixty degrees, they need bricks, rocks, or some structure to hide from predators like birds or raccoons. Fish kills are a concern if the water level gets too low and there is not enough oxygen or in the winter when it's too cold.

Keeping the troughs out of direct sunlight can also help minimize algae growth. Freeze-proof troughs, such as floating ball top waterers, work well in cold weather and work to keep water cool in the summer.

By: Wendie Powell
Wildcat District Livestock Agent

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PINKEYE PREVENTION & TREATMENT

Pinkeye (Infectious Bovine Keratoconjunctivitis) can be a costly disease for cattle producers during the summer and early fall in Kansas. Understanding the cause, signs, treatment, and prevention of this disease can go a long way in reducing pain and discomfort for the cattle as well as help the productivity of the cattle operation.

Cause: Pinkeye is a multifactorial disease that is often initiated by direct irritation to the cornea followed by bacteria invading the lesion. Moraxella bovis has long been considered the key pathogen in pinkeye cases, however, other bacteria such as Moraxella bovoculi, Mycoplasma bovis, and Mycoplasma bovoculi have been implicated as well. Factors that can contribute to the disease are as follows:

- UV radiation from the sun
- Dust
- Grass awns (scratches on the eye from grazing tall grass)
- Face flies

. Flies feed on discharge from the eye. They can spread the bacteria rapidly from animal to animal.

- Stress
- Concurrent disease or viral infection (IBR, BVD)

These factors can cause physical irritation to the surface of the eye initiating the disease or inhibit the body's natural defense mechanisms.

Signs: Excessive tearing, blinking, and squinting are all early signs of pinkeye. The excess tears often drain down the face collecting dirt and grime. This can be seen from a distance. As the disease progresses the eye becomes extremely red, the cornea (clear part of the eye) becomes white and cloudy. The clear cornea can form an ulcer and even rupture in severe cases. Healed lesions on the cornea will appear as a white scar, which may clear over time.

Treatment: Injectable long acting oxytetracycline antibiotics are often used for treatment of pink eye cases with good effect. There are labelled veterinary prescription options as well. It is always important to work with your local veterinarian and have a valid Veterinary Client Patient Relationship (VCPR). If pinkeye is becoming an issue on a premise, a veterinarian has the tools and expertise to help in face of an outbreak. Samples may be sent to the diagnostic lab to determine the best course of treatment.
To help with the healing process, it is recommended that a glued eye patch be applied to the affected eye. An eye patch does two things to promote healing. First, it takes away the irritant of the sun's UV radiation and wind. Eliminating these irritants will increase cattle comfort during the healing process. Second, the patch can help decreasing the spread of the disease by physically blocking flies from feeding on the tears of the affected eye.

By: Dr. AJ Tarpoff, KSU Extension
Beef Veterinarian

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Pinkeye Prevention & Treatment Continued

Prevention: Prevention starts with ensuring optimal herd health. Quality forage along with vitamin and trace mineral supplementation supports a strong immune system. The immune system can be hindered during times of stress from shipping, weaning, weather, and changes in feed. A solid vaccine program against respiratory pathogens such as IBR and BVD is also important to help strengthen the immune system. These viruses can contribute to the severity of pinkeye outbreaks.

There are many commercially available pinkeye vaccines available on the market. There are also several companies that offer autogenous vaccines as well. Inherently pinkeye vaccines have some downfalls. There are many different subtypes of the bacteria that cause pinkeye. Many of which can be isolated from just one infected animal. Although the vaccines usually have several strains, unfortunately the different strains are not cross protective. This means if a different wild strain subtype of the bacteria infects the animal, disease may still occur in a vaccinated animal. If pinkeye vaccines are used, it is important to administer these products at least 4 weeks prior to pinkeye season (some products require 2 doses) to ensure adequate response. Discuss vaccine options with your veterinarian to see if they may have a place in the herd health plan.

Other ways to help prevent the disease is to manage the environment and vectors of the disease. This can include mowing tall stands of grass and weeds in the pasture or using dust mitigation strategies. This reduces the scratching and irritation potential. Fly control is also very important. Strategies may include fly tags, pour-on products, dust bags etc. Providing simple shade structures can decrease the irritation of the sun during the middle of the day. Also isolating infected animals may decrease the spread to other animals. Using these strategies will help prevent pinkeye severity on an operation.

By: Dr. AJ Tarpoff, KSU
Extension Beef Veterinarian