COLLEGE OF AGRICULTURAL, CONSUMER AND ENVIRONMENTAL SCIENCES

Department of Extension
Animal Sciences and Natural Resources

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Heat Stress in Cattle

Marcy Ward, Extension Livestock Specialist

Stories of heat stress sickness and mortality in cattle tend to be heard from regions with high humidity, and in many cases with air temperatures far below 100° F. For the summer of 2023, the incidents of heat related illness and death in beef cattle has now spread to the arid southwest. Sustained day temperatures over 100°F, followed by prolonged evening temperatures of above 80° are not allowing cattle to properly cool down. As a result, each successive day of excessive heat creates an additive effect until the animal can no longer reduce their core body temperature to a normal 101.2° F.

Unfortunately, ruminant animals generate a lot of internal heat based on their physiology and diet and are fairly inefficient at dissipating that heat. Most animals will compensate for increased internal heat through increased respiration. A cow's lung capacity compared to body size, however, prevents her from releasing heat effectively through panting. They do have the ability to sweat through their skin, but during a heat stress event, this is generally not sufficient enough to cool the animal. The combination of these factors makes cattle particularly vulnerable to heat and humidity.

When an animal's core body temperature continues to increase due to heat, the physiological response is to pump blood away from vital organs, including the brain. If this condition persists, a series of external symptoms will be evident and progressive.

Signs an animal is suffering from heat stress tends to be displayed in stages:

1. Elevated breathing rate
2. Elevated breathing plus light drooling
3. Elevated breathing plus excessive drooling
4. Obvious breathing distress, nervousness, disorientation
5. Death

Heat stress illness will affect multiple animals at the same time, so it is a good idea to manage them as a whole group. Much of the research and information in managing heat stress is in confinement, where the environment can be controlled through increased shading, and addition of fans or misters.

In large open pastures, heat stress management is more challenging. Shade and a good source of water are key to mitigating heat stress. Some pastures, however, do not provide much shade, and the excessive heat may have evaporated water source levels to the point of impacting water availability and quality. This double-edged sword makes it particularly difficult to help cattle through hot spells. The best options

are not easy ones. Can the cattle be moved to pastures with more tree cover? Can a better source of water be hauled to the cattle? These tasks can be expensive and time consuming, but it will reduce death loss due to the heat.

It is important to recognize that should heat stress symptoms appear, cattle must be handled slowly and quietly. Additional stressors can cause even further spikes in internal temperatures and result in cardiac arrest. If an animal is demonstrating the later stages of heat stress, immediate mitigation of shading, water baths, and electrolyte drenches/IV applications are needed.

Heat stress can happen at as low as 75°F in cattle that are not accustomed to heat or do not have the opportunity to properly cool during the night. Heat stress can also happen at high elevations, low elevations, and humid or arid regions. Recognizing the early signs of heat stress is the best way to manage prolonged heat waves, such as the one experienced this summer.

Side Note to Mrs. Kathy Bustos,
Kathy, your cheerful greetings and positive attitude will be greatly missed in our department. Enjoy your new chapter and please visit often!

Retirement for Kathy Bustos

I want to thank everyone in the college and especially the faculty and staff in our department for all the wonderful years I spent here, as well as folks in all the counties throughout New Mexico. I start a new chapter in my life, and I will cherish all the special people who I got to meet and work with; I will miss you all! *Kathy Bustos*

Up Coming Events

NM Youth Beef Contest - Sign up due date = September 15, 2023
NMSU Ranch to Rail Contest - Sign up due date = September 15, 2023

New Mexico Ranch to Rail Contest

Are you interested in knowing how your cattle perform in the feedlot?

Are you interested in knowing how your cattle grade on the rail?

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Rules:

- ✓ Retain 3 steer calves from the 2023 spring calf crop.
- ✓ Commitment notification due **September 15, 2023** *(Calves DO NOT need to be weaned by then)*
- ✓ $50.00 Entry Fee Per Ranch Due by September 30th.
- ✓ Ranch will feed steers to 800 lbs by March 2024
- ✓ Deliver calves to the Tucumcari Bull Test Station
- ✓ Feed and processing expenses will be covered by the rancher.
- ✓ Gain and feed efficiency data will be provided monthly.
- ✓ Cattle will be harvested at 1250-1350 lbs at a USDA facility.
- ✓ Carcasses will be evaluated for yield and quality grades.
- ✓ Prizes will be provided for best performing cattle by ranch for gain, feed efficiency, total cost of gain, and carcass categories, and overall top performance.
- ✓ Ranches can market beef themselves or with help from NMSU.

Opportunity to partner with youth:

An optional addition to the program is partnering with youth through the New Mexico Youth Feeder Beef Contest. This part of the program is designed to partner a ranch with youth who may not have access to house cattle. This is a great opportunity to mentor a young person that is interested in the beef industry. If interested, please indicate so when you enter the contest.

For More Information Contact:
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Have you herd?

Entry Deadline: September 15, 2023

It is time to sign up for the NM YOUTH BEEF FEEDER CONTEST!

- Focus on learning about the New Mexico beef industry
- Focus on skills and information that directly translates to a future in beef production
- Experience producing a beef steer through a commercial feedlot
- Work with New Mexico beef producers and provide information on how their calves perform in the feedlot and on the rail
- Leadership opportunities
- Scholarships awarded!
- And MUCH MORE!!!

For more information contact:

Dr. Frannie Miller 575-636-9305 or

Dr. Marcy Ward 757-644-3379

or email: nmyouth@nmsu.edu with any questions or to get an entry form

NM STATE
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NEW MEXICO BEEF COUNCIL