

Beat the Heat

With summer in full force and temperatures rising to the mid to high 90's, it is important that livestock producers keep in mind the dangers of heat and humidity. When these factors are high, losses can occur from "Hot Weather Stress". Heat stress can greatly impact cattle producers through decreased milk production and subsequent calf growth, decreased reproductive performance in cows and bulls, and decreased stocker and feeder performance. It's estimated that heat-stress has cost the cattle industry over \$75 million in the past 10 years.

Beef cattle prefer temperatures that are between 41° F and 77° F. When temperatures exceed this comfort zone, cattle are at risk of heat stress. Many environmental factors affect the potential for heat stress, including relative humidity, wind speed, solar radiation, ground cover, access to water, diet (grazing endophyte-infected fescue), shade and nighttime temperatures. In addition, individual animal characteristics can contribute to heat stress. These include hide color, breed, health, adaptation, hair coat length and disposition. When a combination of these factors and ambient temperature cause an animal's heat load to exceed its ability to dissipate that heat, heat stress occurs. Hot weather stress is of particular importance to confined livestock (hauling) and those being worked.

Identifying Heat Stress

When heat stressed, cattle exhibit many physical and behavioral changes. Heat-stressed animals will have increased body temperatures, increased water consumption, decreased feed consumption and decreased weight gains. The most obvious are cattle congregating in shady areas or standing in ponds, and decreased grazing activity. You may also notice cattle panting. Cattle with more than 90 breaths per minute is an indication of heat stress, and a respiration rate over 110 indicates a dangerous heat stress level.

Managing Heat Stress

Always provide fresh, clean water to cattle at all times. Water intake increases during times of heat stress, so make sure that you have enough clean fresh water to keep up with cattle demand. If ponds are the only source of water, monitor water quality throughout hot, dry periods. Ensure that cattle have access to shade. If shade area is limited, heat stress can be compounded by animals crowding together.

If possible, avoid working and transporting cattle during periods of heat stress. If cattle must be worked or rotated to a new pasture, do it as early as possible in the morning. Livestock producers need to be flexible when making plans to work and move livestock during these dangerous periods. Producers can adjust ventilation and bedding according to the temperature. When transporting livestock during hot weather, use bedding in trailers such as sand, sawdust, or wood shaving and "wet" the bedding. Avoid using straw, as it tends to insulate and trap heat. Use "wet" bedding in "short-sleeve" weather. It is also advisable to sprinkle animals that are in confined spaces.

Heat stress can also affect the reproductive performance of cows and bulls. Cows and heifers are more likely to have lower fertility, fewer visible signs of heat and shorter heats. It is not uncommon to have early bred cows to have increased embryonic loss during excessive heat stress. Also, do not forget about the bull. He will have lower libido, lower sperm production and decreased semen quality. Keep in mind that heat stress can impact semen quality for up to eight weeks.

If you have more questions, please do not hesitate to contact your livestock specialist or myself, David Hoffman at 816-380-8460 or hoffmand@missouri.edu.

May all you cows calve.