COW/CALF CORNER

The Newsletter

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Working Cattle in Summertime Heat

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Understanding and avoiding heat stress in cattle can be a valuable management tool for summertime in Oklahoma. According to the 1997 Oklahoma Climatological Survey most areas of Oklahoma have 10 or more days each year above 100 degrees and 70 or more days with high temperatures above 90 degrees Fahrenheit. This means that most cow calf operations will be working cattle on days when heat stress to cattle is possible. Cattle have an upper critical temperature approximately 20 degrees cooler than humans. When humans are uncomfortable at 80 degrees and feel hot at 90 degrees, cattle may well be in the danger zone for extreme heat stress. Humidity is an additional stressor that intensifies the heat by making body heat dissipation more difficult.

Over heating is sporadically encountered in cattle, but is really a rare problem. High humidity contributes to the likelihood of heat stroke or prostration because water evaporation from the oral and nasal cavities is decreased, in spite of rapid panting. At an environmental temperature of about 88 degrees, heat dissipation mechanisms such as sweating and evaporative cooling must take place to prevent a rise in body temperature. Sweat gland activity in cattle increases as the temperature goes above the thermoneutral zone. Panting is an important heat regulatory device in cattle.

The signs of overheating may develop suddenly and depend upon the environmental conditions and the health of the cattle exposed to the heat. Panting often occurs at rectal temperatures at or above 104 degrees F, but may begin even at lower body temperatures. Some animals manifest restlessness, excitement, and spasms of certain muscles. However, other animals may be dull and depressed. A protruding tongue may be covered with saliva, and frothy mucus discharged at the nostrils. Rectal temperatures of overheated cattle have ranged as high as 107 to 115 degrees F.

Overheating in cattle can be prevented under most management conditions. Allowing animals access to cool water and mineral supplements is a must in very hot summer weather. Shade and free air circulation should be provided if at all possible. Avoid working cattle during very hot parts of the day. Very excitable cattle will be even more prone to heat stress if handled at high environmental temperatures. If animals are going to have limited access to water under stressful conditions such as shipping by truck or trailer, they should be allowed water prior to further stressful situations.

If weaning calls for cattle to be gathered and put through a working chute for immunizations, implanting, or other operations, then a few common sense rules should be followed.

1) During hot weather, cattle should be worked before 8:00 am, if possible. Certainly all cattle working must be complete by about 10:00 am. While it may seem to make sense to work cattle after sun down, they will need most of the night cooling before enough heat is dissipated to cool down from an extremely hot day. Recent research at Oklahoma State University with rumen temperature boluses has shown that the core body temperature of beef cows peaks at 2 to 5 hours after the highest daytime temperature. On a hot summer day the highest daytime temperature is often late afternoon. Therefore the peak body temperature of cattle may occur at 6 PM to 11 PM. (Source: Pye, Boehmer, and Wettemann. 2011 Page 104; Abstract 285 http://adsa.asas.org/midwest/2011/Midwest_Abstracts_2011-revised.pdf.)

2) Cattle that must be handled during hot weather should spend less than 30 minutes in the working facility. Drylot pens and corrals loaded with cattle will have very little if any air movement. Cattle will gain heat constantly while they are in these areas. Therefore a time limit of one-half hour in the confined cattle working area should limit the heat gain and therefore the heat stress.

3) Make every effort to see that cool, fresh, water is available to cattle in close confined areas for any length of time. During hot weather conditions cattle will

drink more than 1% of their body weight per hour. Producers need to be certain that the water supply lines are capable of keeping up with demand, if working cattle during hot weather.

Drought Likely to Impact Cattle Markets for Years

Derrell S. Peel, Oklahoma State University Extension Livestock Marketing Specialist

The on-going drought in the Southern Plains and surrounding regions is having immediate market impacts and, with each passing day is increasingly likely to have multi-year impacts in the future. It is difficult to determine the exact impacts of the drought but some indications are emerging. The contrast between beef cow slaughter nationally and in the drought region clearly indicates that the impacts are significant. For the year to date, beef cow slaughter is down 4.4 percent nationally, while beef cow slaughter in Region 6, which closely corresponds to the drought area, is up 11.7 percent.

Measuring the drought impacts is difficult since it is impossible to know for sure what would have happened without the drought. However, analysis of typical slaughter patterns and tendencies suggests a range of impacts that probably captures the drought impact. At a minimum, Region 6 beef cow slaughter at the same rate (relative to the cow herd) as last year (which implies additional herd liquidation) would suggest about 49,000 head less slaughter than last year. This would result in a national slaughter rate that would be down 7.7 percent compared to the observed rate of 4.4 percent for the year to date. Moreover, a Region 6 slaughter rate that is closer to the long term average regional rate would suggest that an additional 100,000 head of cows are added to total beef cow slaughter so far this year due to the drought. Adjusting for this would put the national rate over 11 percent less for the year to date.

For the entire year of 2011, it appears that beef cow slaughter could have decreased roughly 10 percent year over year in the absence of drought, a value that is consistent with herd expansion. However, the additional 100,000 head of culling already estimated implies that the annual beef cow slaughter rate would be limited to a decrease of 7-8 percent. And that assumes no additional drought-induced culling for the remainder of the year. The drought is still very much in place and more culling is likely. Projecting the current rate of slaughter for the southern plains for the rest of 2011 would result in a national beef cow slaughter rate that decreases only by 3 percent.

The resulting drought impacts may have implications on the cow herd for several years. My early projections showed that it might have been possible to stabilize the beef herd this year but only under the most favorable circumstances. Even without a drought it was likely that the cow herd might decrease another 0.5 to 1 percent in 2011. Depending on how much additional drought liquidation occurs beef herd liquidation upwards of 2 percent is increasingly likely. If the drought impacts stop now, the additional cow slaughter that has already occurred would likely result in beef herd liquidation of close to 1.5 percent for the year. The additional herd liquidation will extend and exaggerate the current reduced animal inventories by at least another year. Herd growth rates will be limited when they finally do start so it is likely to take at least 4-6 years for any significant herd rebuilding.