Vet Call

► by **Bob Larson,** *Kansas State University*

Heat stress and considerations for fair and show season

Fair and show season is a fun time of year that provides a great opportunity to compare breeding strategies, to participate in friendly competition with other producers, and to participate in family activities. However, heat stress is an important concern for cattle exhibited in the summertime. Planning ahead to ensure cattle have access to plenty of water, shade and airflow is necessary to reduce the risk of heat stress.

Extremes

Almost every summer, at least some portion of the United States suffers from a period of extreme heat and humidity that can cause problems for cattle. As we move into summer, it is important to be prepared to limit the negative effects of heat stress. Cattle are more susceptible to heat stress than humans and can start to have problems if the temperature-humidity index reaches 80° F or higher.

Factors other than temperature and humidity are also involved with heat stress. These factors include high body condition, black hide color, rainfall, lack of wind, lack of night cooling, crowding together to avoid flies or for other reasons, and consumption of endophyte-infested fescue.

Rain and high humidity reduce the ability of cattle to use evaporation to get rid of body heat. Evaporation of sweat is one of the primary means that cattle have to cool themselves at temperatures over 70° F. Hot weather immediately following a rain is often associated with heat stress in cattle. In addition, if winds are calm or cattle congregate behind a windbreak or to fight off biting flies, their ability to be cooled is reduced.

Night temperatures that remain above 70° F increase the danger of heat stress because needed night cooling does not occur. Cattle that are not used to hot weather are also at greater risk if weather changes rapidly or they are shipped from a cool environment to a much hotter environment.

►Air movement is important to dissipate heat. Fans can provide much-needed airflow in a cattle show setting.

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Another factor that plays a role in heat stress is hide color, with black-hided cattle at greater risk than cattle with light-colored hides. Breed plays a role, in that *Bos indicus* breeds (Brahman and others) handle heat better than do *Bos taurus* (European) breeds. Show cattle that are not acclimated to a particular climate or that are nearing finished weight are at higher risk of heat stress.

Cattle that have eaten endophyte-infested fescue may have increased body temperature and be predisposed to heat stress. Even following removal from endophyte-infested fescue pastures, cattle may continue to experience severe health problems related to summer toxicosis for several weeks.

Water and shade

During periods of heat stress, it is important to have ample water available. When temperatures reach 80°, cattle need 2-3 gallons (gal.) of water per 100 pounds (lb.) of body weight, and they must have access to water throughout the day. If cattle must be handled during hot weather, work them from midnight to 8 a.m. after at least six hours of night cooling.

Providing shade to cattle (including show cattle) has been shown to reduce heat stress and to increase feed intake. Shade reduces the heat gain resulting from direct sunlight even when air temperature is not reduced. In a pasture or drylot setting, cattle seek out the coolest spots during periods of heat stress and are unwilling to leave these areas. Shades should therefore be placed over feed and over areas where the producer wants the cattle to spend time. Shades should have a north-south orientation to allow drying under the shades as the shaded area moves throughout the day.

Air movement is important to dissipate heat. Fans can provide much-needed airflow in a cattle show setting. In pasture settings, it may be necessary to remove or fence off windbreaks during the summer. For cattle confined in a lot, enhance airflow by providing mounds for cattle to stand on. Move cattle away from windbreaks and wind dead spots in the feedlot.

Sprinklers can be used to combat heat stress. In geographic areas where humidity can be high, a large water droplet is required to wet the skin; fine mists or fog systems are not recommended. Sprinklers reduce heat stress by increasing evaporative losses by reducing ground temperature and reducing radiant heat gain and by reducing dust. Sprinkling should be used occasionally throughout the day, otherwise high humidity may result and there may be little opportunity for evaporation.

Attending fairs and exhibitions is enjoyable and offers many benefits to participants. However, do not forget the risks that are taken any time cattle are placed in a new environment, especially if heat stress is a concern.

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