

# ON TARGET



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## *Plan to have it made in the shade*

It's been an interesting year for climate, as we could tell halfway through the spring. A parade of wind storms, fires, blizzards and floods moved swiftly by, leaving every cattle farm and ranch to cope with those and the peculiarities of an early or late spring, with too little or too much moisture. Still, cattle are one of the most adaptable food-animal species, proven by their thriving herds in operations across North America in heat, humidity, cold, wet and everything in between. Seasonal stocking rates for a cow-calf pair vary from less than 2 acres to more than 80. Feed and forage options are just as variable, depending on the ranch environment and local resources. Despite these differences, cattle remain the best option to convert solar energy into the most flavorful protein.

That flavor advantage is what keeps beef "king" for millions of consumers, the driving force in beef demand, food trends and taste preferences. As we've said before, consumer wants and needs make up the one constant that unites all ranch environments. And since the current market still reflect their preference for high-quality beef, let's look at some opportunities to produce more of the best by addressing the next seasonal challenge.

Summer means there will be some hot days. Timing and magnitude will vary, but sure as the sun comes up each morning, temperatures will rise and some cattle will experience heat stress. Regardless of the enterprise, from cow-calf to stockers or finishing cattle, summer heat will take a toll on productivity and ultimately beef quality. Cow-calf producers have several ways to ease the impact, some more apparent than others. Well-shaded areas should be available to pastures in late June and early July; these first few weeks of summer traditionally fall squarely in the midst of the breeding season. The first heat-stress event can be the most challenging because cattle have not fully adapted to the seasonally higher temperatures.

Keeping bulls cool may be of greatest importance. Your investment in the next great sire to advance all herd goals while targeting the brand with above-average marbling will be in vain if heat stress renders him sterile. Spermatogenesis requires 60 days, so heat stress events can have lasting consequences herd fertility through sub-fertile bulls. You may choose a calving season based on weather then, but breeding-season weather should be another consideration. Favorable calving weather makes no difference to open cows.

Try to keep cows on vegetative forages during hot weather. Grazing mature, high-fiber forage causes greater metabolic heat from rumen digestion of cellulose. Fly control is a not-so-common strategy for heat stress mitigation, but consider: cows bunch up to minimize fly exposure, resulting in decreased air cooling along with greater heat gain from herdmates and greater activity trying to avoid the flies. We may not be sure if cows stand in ponds to keep cool, or free from flies or both, but they do. Make sure water access is plentiful and clean, because a problem with either will reduce water intake and reduce productivity independent of heat stress.

Dairy studies show cows respond to hot weather by either finding a way to cool off or increasing their heat load to the point of illness as productivity declines along the way. Conceiving the next generation is a lower priority than feeding the current calf, so cows use reproductive energy to cool themselves at the cost of pregnancy. If heat stress persists, milk production declines as more energy diverts to further cooling, at the risk of lower weaning weights for beef calves.

Nutrient priorities differ in stocker and feedlot cattle, but productivity will decline in a similar way. After seeking shade and increased water intake, growing cattle reduce feed intake to lower their metabolic heat. Feeding more of the ration or supplement in the evening and increasing nutrient density by adding fat can maintain growth and carcass quality as intake declines. Stocker operators can feed more supplement to reduce heat increment from forage digestion.

We don't build our production systems around the extremes, or we'd be constantly under- or overstocked. Heat stress events seem extreme at the time but as with fires, floods and blizzards, the system operates on the average. You gain nothing by trying to select for environmentally adapted cattle through output reduction.

Current research suggests quite the contrary, as today's genetic prediction tools such as expected progeny differences (EPDs) let you build a foundation of genetic potential upon which the ranch environment will act.

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