

# MESSENGER-INQUIRER



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September 3, 2022

## Be Prepared for More Open Cows

Beef producers have dealt with drought and extreme heat during the breeding season for spring calving herds this summer, which may cause issues with pregnancy rates and calving rates. Dr. Les Anderson, Extension Professor for Beef Cattle at the University of Kentucky, wrote the following article to explain why.

Heat stress has profound impacts on many biological processes that can lead to poor reproductive rates. Prior to estrus, heat stress reduces follicle growth, hormone production, and egg competency. Combined, this reduces fertilization rates. Once fertilized, heat stress also reduces the growth of the newly formed embryo. This reduction in the growth of an embryo is likely the result of a smaller corpus luteum (CL) that produces less progesterone. This reduced growth rate leads to more embryos lost during the first week of gestation. Unfortunately, heat stress continues to impact embryonic growth through the first 21 days, which also increases the loss of these early pregnancies. Issues with heat stress continue throughout gestation. Exposure of 24 to 45-day pregnancies to heat stress reduces fetal growth and can result in the loss of up to 20% of these pregnancies. Heat stress reduces placental efficiency meaning the placenta has a reduced ability to deliver nutrients to the developing fetus. Toward the end of pregnancy, extreme heat stress can impact placental hormone production which can lead not only to

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premature calving but also to drastically reduced development of the mammary glands impacting lactation.

What does this mean for beef producers right now? First and foremost, have pregnancy diagnosed in your herd with palpation or ultrasound performed by a veterinarian. Pregnancy can also be diagnosed by taking a blood sample and either mailing the samples to a diagnostic lab or by using Alertys, a new chute-side blood test kit from IDEXX. The blood tests are accurate but consultation with your herd veterinarian is always recommended. The pregnancy rate can dip to as low as 50-60% when prolonged heat stress occurs during the breeding season.

What options does a producer have if a breeding disaster occurs? If you have a split calving season or calve year-round, the decision to keep or cull open females is a little easier. Simply roll cows younger than 5 years old over to the next breeding season. The decision is harder if you only have cows calving in the spring. Currently, cull cow prices are high and many market analysts suggest that cull cow prices may remain high this fall. If the cost of replacement breeding stock remains reasonable, then the optimum decision would be to cull and replace for this year. The decision to cull open cows isn't easy. Some would argue to cull all females that cannot conceive in their environment because their genetics did not match their environment or level of management. Genetics for reproduction are not very heritable, so they are a very small contributor to reproductive failure. If you only experience drought and excessive heat stress once every 5-10 years, should you penalize a cow whose genetics match the environment most of the time? To make the decision even more challenging, often cows that are culled are replaced with bred two-year-olds, who are inherently reproductively inefficient, will require additional feed inputs, and may take two years to reach optimum productivity.

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In the long run, what really costs more? Interesting problem to think about and certainly not one answer for all producers. The markets, and where we are in the cattle marketing cycle, should impact the decision. Currently, cow numbers are extremely low in the US, which normally results in higher calf prices. An experienced beef producer once told me when prices are high, own as many cows as you can and sell as many calves as you can. Extend the calving season if you need to because every calf sold was profitable. He didn't care to keep open females at all. However, when prices were low, he controlled the calving season tightly and culled cows that didn't conceive. His philosophy was when times were lean be efficient and when times were good, be productive. Good advice. It appears we are in an excellent position in the cow cycle with low numbers and impending higher feeder calf prices. Might be time to keep as many as you can afford to prepare you to take advantage of the higher cattle prices on the horizon.

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