

Beef Cow Drought Considerations

Management decisions have lasting impacts.

by **Brandon Nuttelman, Ph.D.**

Below-normal precipitation and windy weather conditions across the Northern Plains, the Midwest, and Western regions of the United States for some, if not all, of the past 12 months left ranchers concerned about their ability to have much, if any, grazing during the summer months. Ranchers in certain areas were forced to cull a higher percentage of cows than usual last fall because of dryer than normal conditions. Other producers might have elected to keep fewer heifer calves than normal as replacements to breed in the spring of 2022 due to the concerns about continued drought.

Without question, times of drought force cattle producers to evaluate their operations to help determine their options to get through these tough times. Each operation has a unique set of feed, labor, equipment and land resources that helps them achieve individual production goals. Therefore, what works for a neighbor might not be the best option for you. As a result, the topics discussed below simply

present information and ideas that could provide insight into potential management practices producers can implement during times of drought.

Body condition impacts revenue drivers

Management decisions made now can have an impact on production for years to come for both the cow, as well as the developing fetus. Body Condition Score (BCS) is a good indicator of a cow's nutrient status. It is well documented that cows with an adequate BCS (score of 5 on a scale of 1-9) at the time of calving are more likely to breed earlier in the subsequent breeding season than cows that calve with a BCS of 3 or 4 (Wiltbank et al., 1983¹).

A University of Nebraska — Lincoln (UNL) research trial evaluated the weaning weight and feedlot performance of 1,019 spring-born steer calves according to their date of birth in the calving season (Funston et al., 2012²). Calves were sorted by date of birth and then categorized into the first 21 days, second 21 days or third 21 days of the calving season. Steers

born in the first 21 days were 75 pounds heavier at weaning than steer mates born in the last 21 days of the calving season, as a function of days of age.

In this same UNL study, heifers born in the first 21 days of the calving season were 49 pounds heavier at weaning, and the conception rate for the heifers exposed as yearlings for replacements was 15% greater compared to heifer calves born in the last 21 days of the calving season.

When considering the fetal programming effects, researchers (Stalker et al. 2007³) supplemented cows during late gestation. Steer progeny from supplemented dams were heavier at weaning, and the heifers out of supplemented cows had greater conception rates compared to progeny from cows that were not supplemented during late gestation. Therefore, if the cow's BCS becomes too low, and she is not allowed time to increase her BCS prior to calving, there is a chance that more cows will get bred at a later date in the subsequent breeding season or be open in the fall of 2023, resulting in

¹ J.N. Wiltbank, 1983. Maintenance of a High Level of Reproductive Performance in the Beef Cow Herd. Symposium of Herd Health Management – Cow-calf and Feedlot.

² Funston, R.N., J.A. Musgrave, T.L. Meyer, D.M. Larson, 2012. Effect of Calving Period on Heifer Progeny. 2012 Nebraska Beef Report, pg. 18-19.

³ Stalker, L.A., D.C. Adams, T.J. Klopfenstein, 2005. Effects of Supplemental Protein During Gestation and Grazing Sub-irrigated Meadow During the Postpartum Interval on Pregnancy Rates of Spring Calving Cows and Calf Growth. 2005 Nebraska Beef Report, pg. 7-9.

⁴ Kovarik, L.M., M.K. Luebbe, R.J. Rasby, G.E. Erickson, 2009. Limit Feeding Beef Cows with Bunkered Wet Distillers Grains plus Solubles or Distillers Solubles. 2009 Nebraska Beef Report, pg. 11-12.

⁵ Nuttelman, B.L., W.A. Griffin, T.J. Klopfenstein, W.H. Schacht, L.A. Stalker, J.A. Musgrave, J.D. Volesky. Supplementing Wet Distillers Grains Mixed with Low Quality Forage to Grazing Cow/Calf Pairs. 2010 Nebraska Beef Report, pg. 21-23.

⁶ Warner, J.M., K.H. Jenkins, R.J. Rasby, M.K. Luebbe, G.E. Erickson, T.J. Klopfenstein, 2014. Effects of Calf Age at Weaning on Cow and Calf Performance and Efficiency in a Drylot/Confinement Production System. 2014 Nebraska Beef Report, pg. 27-28.

younger, lighter calves at weaning time in 2024.

Additionally, if cows are restricted on nutrients this summer and BCS declines due to lack of feed resources, the developing progeny in utero can be negatively affected the following year at weaning time and when the heifer progeny are exposed for breeding.

Cow management options

As previously discussed, it is well documented that cows in poor BCS at certain times in their production cycle can have lasting effects on both their subsequent calving date and their developing progeny in utero. Utilizing NASEM (2016) equations, the energy and protein requirements for the cow can be reduced up to 30% when the calf is weaned.

When the nutrient demand for lactation is removed, the available energy and protein that is consumed by the cow is available for maintaining or increasing BCS. Additionally, if a producer has the option to dry-lot cows so they can control daily feed dry matter intake (DMI), the amount of energy and protein fed to the cow can be reduced to maintain the cow in her current BCS.

In one study (Kovarik et al. 2009⁴) researchers limit fed dry cows 17 pounds of a wet distillers grains plus solubles (WDGS) and cornstalk diet and compared them to cows fed a grass hay, cornstalk and haylage diet fed ad libitum. The limit-fed cows actually gained slightly more body weight and consumed 23% less feed. These cows were fed in feedlot pens, but producers can confine their cows in a pasture or certain areas they are willing to sacrifice as a pasture until moisture allows cows to be turned out to graze again.



Photo by Amber Sharpe

Cows' nutrient status at key points in the production cycle can have lasting effects on their subsequent calving date and their developing progeny in utero.

Similarly, researchers (Nuttelman et al. 2010⁵) supplemented a wheat straw and WDGS mixture to cow-calf pairs grazing Sandhills pastures. Grazed forage intake was reduced for the groups of pairs supplemented with the mixture.

Calf management options

Weaning the calf from the cow reduces the cow's energy requirement and therefore could potentially reduce her daily dry matter intake while maintaining proper cow BCS. However, managing the calf still needs to be considered.

One option is to simply sell the calf early at time of weaning to allow the producer the opportunity to direct all available feed and management resources toward the cow.

If the producer can wean the calves and feed them, the overall feedstuffs required on the operation will not be reduced. According to researchers (Warner et al. 2014⁶) the amount of feed required to maintain cow BCS while still lactating was similar to the amount of feed necessary to feed the dry cow and also to feed her weaned calf separately.

The types of feedstuffs available and costs for these feedstuffs will play a large role in determining the proper decision for each operation. I encourage producers to reach out to their Extension specialists or contact a nutritionist to discuss the best option for your operation. Pens and handling facilities also need to be considered to determine if they can handle younger, lighter-weight calves.

Drought proves to be one of the most challenging situations cattle producers must face. There is not a simple answer that works for every operation. I encourage producers to seek help where necessary and keep in mind the lasting effects that the management decisions can have on the cow, calf and pasture productivity for years to come after the drought has subsided. **HW**

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