Early Weaning as a Drought Mitigation Strategy

Keith Harmony, a range scientist and K-State researcher out of Hays stresses that precipitation in May and June is vital for optimum forage production on pastures. Grazing research has been conducted at the KSU Agricultural Research Center—Hays since the 1940s. Using 40 years of data, researchers have studied the relationship between precipitation amount and timing to end of growing season forage production. The study suggests that forage production on shortgrass rangeland is most efficient when the precipitation in May and June is 6.25 inches or below (Harmony, 2022). This relationship is illustrated in Figure 1, which represents the relationship between May and June precipitation and forage production. This time period is crucial to production as it coincides with the physiological stages of western Kansas’ dominant rangeland grasses in which the most rapid growth occurs. Actually, 65% of the forage production during a growing season typically occurs by the end of June (Harmony, 2022).

The results of these grazing studies stress that the end of June becomes a vital time period to make decisions about how forage will be managed for the remainder of the grazing season. Understanding when a majority of the forage growth occurs on pastures, how much precipitation the area has received and when can be used as a good predictor of pasture productivity (Harmony, 2022). In short, with less than ideal conditions producers should manage pastures very carefully and make changes as needed as to preserve pasture health as much as possible.

One strategy that has been used to mitigate stressors that come with drought is weaning calves early to reduce cow nutritional needs and extend forage availability. Some research by South Dakota State University weaned calves 90 days early which resulted in a reduction of forage disappearance by 36%, otherwise 18.9 pounds per head per day. This reduction in forage use resulted in an additional 1.1 AUM over the remaining 90 days opening up options for additional grazing (Rusche, 2021). This extension of available forage can provide options for grazing cows as well as reduce the risk of overgrazing. Furthermore, early weaning can reduce the nutritional requirements of the cow as lactation ceases. Without the demand of lactation, body conditions may improve and reduce the need to add body condition in winter before the subsequent calving season. Again another advantage for producers when feed supplies may be limited.

While it is ideal to let the cow raise the calf on a low cost feedstuff like grass in comparison to a feed ration, drought and forage availability can force producers to strategize and adjust as needed. In general, early weaned calves are more efficient compared to calves weaned at the traditional size and age. However, this calf efficiency can be expected when provided a high quality diet. Calves weaned 90 days early require a diet containing 16% crude protein and 70% TDN (Rusche, 2021). One early weaning approach is creep feeding calves while still on pasture, then sorting the cows off to wean, and finally utilizing feedstuffs such as crop residue (if available), cover crops, or grain regrowth to cut costs.

Early weaning, however comes with its own set of challenges. If drought and forage availability is a widespread problem, producers who utilize an early weaning strategy may find a flooded market when it comes time to sell calves. Furthermore, young calves in the feedlot are seen as a challenge in terms of facilities and management. Due to these difficulties selling younger calves in a flooded market and likely into a feedlot, producers are encouraged to retain calves to a more traditional size before selling when resources allow.

Beyond marketing concerns, there are also health concerns to be considered. The stress of weaning combined with some of the hottest and dustiest months of the year can encourage respiratory disease to take off. Implementing a sound vaccination program, planning around the hottest days, and cutting down on dust as much as possible are all good practices to limit risk.

In summary, drought always seems to be a looming problem requiring livestock producers to adjust as needed. Taking into account the amount and timing of rainfall received, available forage, the market, and other resources there are strategies to lighten the load. To offset these potential challenges, early weaning is best for producers that can implement a sound vaccination program, have access to other feedstuffs, and retain calves until they reach a more traditional age and weight to sell.

For more information on early weaning please visit or call the Cheyenne County Extension Office at (785)332-3171.

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