

Cattle Producer's Handbook

Reproduction Section

410

Shortening the Calving Season

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Setting and maintaining a breeding and calving season is one of the first steps toward reproductive management and profitability. The optimum goal should be to maintain a 45- to 60-day calving season to allow sufficient time after calving for all cows to be exhibiting estrous cycles at the beginning of the subsequent breeding season.

Shortening the calving season will improve the reproductive performance of the cowherd. Cows that calve during a short period are obviously bred in a short period. Therefore, late-calving cows with a shorter interval from calving to breeding and fewer heat cycles in which to become pregnant are avoided. Since breeding must begin within 80 days after the first calf is born to maintain a 365-day calving interval, increasing pregnancy rates in late calvers requires planning and often induction of estrous cycles.

A controlled calving season concentrates the time and labor for calving. It can also reduce expenses and increase efficiency through better management of herd health and nutrition, with all cows being in the same stage of production allowing for strategic supplementation and body condition management. In addition, it allows for closer observation of the cowherd during calving and decreased calf mortality.

If producers generally calve over a longer period of time, it is imperative to make the transition to a shorter calving season over several years. Simply reducing the breeding season, followed by pregnancy testing and culling of open cows, can eliminate late calvers but may also eliminate a large portion of the herd. Depending on how long the calving season is, transitioning 15 to 20 percent of the herd per year to a 45-day calving season may be great progress.

In order to maintain a shortened calving season it is important to identify the causative factors of an extended season. The cause must be identified and corrected before

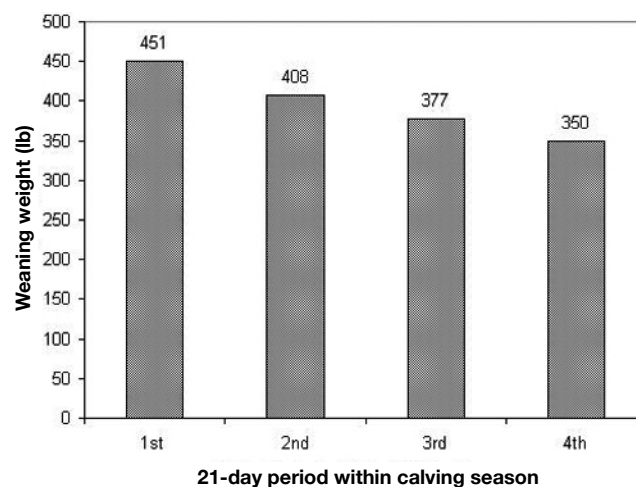


Fig. 1. Weaning weights of Utah steer calves born within the 1st (1-21 days), 2nd (22-42 days), 3rd (43-63 days), or 4th (64-84 days) period in the calving season.

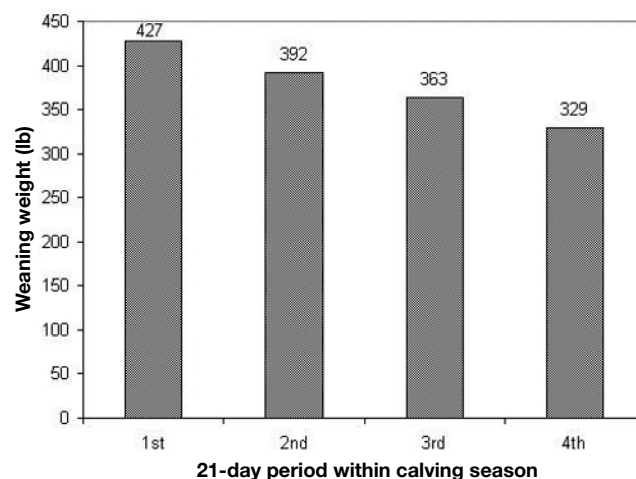


Fig. 2. Weaning weights of Utah heifer calves born within the 1st (1-21 days), 2nd (22-42 days), 3rd (43-63 days), or 4th (64-84 days) period in the calving season.

attempting to shorten the interval. A producer should look at all aspects of management for indications of problems. These causes may include but are not limited to: nutritional deficiencies, reproductive diseases, and inadequate bull-to-cow ratio.

Age at weaning exerts the greatest influence on calf weaning weight. A calf can only gain so much each day, thus calves born earlier in the calving season will be heavier at weaning than a calf born later in the season. This is illustrated by data from a 10-year Utah study (Figs. 1 and 2 for steers and heifers, respectively).

Heifers

Puberty in beef heifers is directly related to age and weight. Heifers born early during the calving season are heavier and older at weaning and breeding and make more logical herd replacements. Heifers that are younger and lighter at weaning will generally conceive later in the breeding season and tend to always calve later during their productive life. Calving heifers 30 days before the cowherd allows for an increased postpartum interval for the most difficult group of cows in the herd to become rebred.

Heifers calving for the first time are subjected to additional stress. They are expected to produce milk, raise a calf, maintain growth, and become rebred. These animals may be adversely affected by inadequate nutrition and should be cared for at a higher level than the mature cows (≥ 4 years old). Breeding yearling heifers 30 days before the cowherd allows them additional time between calving and re-breeding, enabling them to cycle and be ready to rebreed with the mature herd.

Reduce Breeding Season

The easiest way to shorten the calving season is by reducing the breeding season to the desired length of calving. A reduced breeding season, followed by pregnancy testing and culling of open and late calving cows can eliminate those that are not reproductively sound. This is also an accurate way to identify cows calving every year and to select for fertile females. Producers can remove bulls from breeding pastures and/or pregnancy check cows earlier and cull the late calving cows.

Estrous Synchronization

Estrous synchronization can be used in conjunction with artificial insemination and/or natural service. Regardless of how the cows are bred, synchronizing estrus is a way of shortening the calving season through increasing the proportion of females that exhibit estrus early during the breeding season (usually during first 5 days) and calve earlier in subsequent years.

There are several methods of estrous synchronization, and the protocol that best fits a particular operation varies (see 405 for estrous and ovulation synchronization protocols). If cattle produce suspect having a high

percentage of cows that have not yet resumed normal estrous cycles before and at the beginning of breeding, then protocols incorporating progestins (MGA or CIDRs) may be more beneficial.

Bull Exposure

Bull exposure will also shorten the postpartum interval to estrus but the response is better when cows are at least 40 days postpartum when first exposed to bulls. Generally, bull exposure has no effect on estrous resumption when cows have been exposed continuously to bulls since calving. Induction of estrous cycles with bull exposure generally takes about 15 days and the bull to female ratio should be kept at or around 1:20 (Geary 2003).

Early Calving Assistance

Early calving assistance is imperative to avoid damage, temporary and permanent, to the cow reproductive tract and reduce the postpartum interval. When calving assistance is needed, earlier assistance greatly decreased the interval from calving to the subsequent pregnancy. After a heifer has spent 1.5 hours in stage II labor (hooves visible), every 30-minute delay in providing assistance resulted in a 6-day longer interval to pregnancy (R. A. Bellows, personal communication per Geary 2003).

In addition, heifers experiencing calving difficulty were at 36 percent greater risk of being culled, because of reproductive failure in the subsequent year(s), compared to cohorts who were not assisted (Rogers et al. 2003). Calving assistance is important in cows too, even though fewer cows experience dystocia. The same study by Rogers et al. (2003) revealed that cows that experienced calving difficulty were even more likely (58%) to be culled from the herd for reproductive failure during the following breeding season.

Early Weaning

Lactation is the largest nutrient drain during the cow production cycle. Weaning the calf will decrease the dam's needs for energy, protein, water, and other minerals and nutrients. Calves can be weaned as early as 60 to 80 days of age or partially weaned by using creep feeding (see 930 for more details). Early weaning of a calf will decrease the amount of body condition lost during lactation and subsequently reduce the time and amount of feed needed for a cow to remain or regain optimum condition to start cycling as quickly as possible after having a calf.

If early weaning is used to improve reproductive performance during the same year, then it must be used before the end of the breeding season (the earlier in the breeding season, the better). Early weaning is often viewed by producers as a drastic measure to improve reproduction that has numerous costs and benefits associated with it but certainly has the greatest potential for shortening a typically long breeding season without

a decrease in pregnancy rates. Short-term calf removal (for 48 h) coupled with synchronization of estrus at the onset of breeding may be as beneficial as complete early weaning at the same time.

Finally, having cows in a Body Condition Score (BCS) of 5 or 5.5 at the beginning and during the breeding season tends to make the most economic and reproductive sense. However, cows with a BCS less than 5 on an increasing plane of nutrition tend to achieve similar results (see 330 for more information).

In conclusion, shortening the calving season will result in:

1. Heavier more uniform calves at weaning.
2. Efficient use of labor.
3. Increased tools for fertility in the cowherd.
4. More income.

Literature Cited

- Geary, T. W. 2003. Management of Young Cows for Maximum Reproductive Performance. In: 2003 Proceedings of Beef Improvement Federation.
- Rogers, P. L., C. T. Gaskins, K. A. Johnson, and M. D. MacNeil. 2003. Risk factors associated with culling females in a composite beef herd. Proc. Western Sec. Am. Soc. Anim. Sci. 54:68-71.



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