

Controlled Breeding and Calving Season

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Establish a controlled breeding and calving season that works best with YOUR operation is vital to the profitability and sustainability of your cattle business. Most producers in our region are part-time farmers with full-time jobs; and, for that reason, different calving seasons may work best for different operations. Even full time cattleman will obtain great benefit from established breeding and calving seasons. Establishing a controlled breeding season will obviously give you the controlled calving season.

Calving seasons are usually classified into three categories:

Winter (January - February); Calving in the winter season means calving in the coldest time of the year, but sets your calves up to wean on summer pasture, leading to higher weaning weights. The cow herd must be watched closely for calving and calf health problems.

Spring (March - April); Having a spring calving cow herd means increased nutritional needs of cows during the winter leading up to calving. Good winter grazing or access to economical feed-supplement is needed for a spring calving herd.

Fall (September - October); Fall calving allows the use of summer pasture to keep the cow herd in good condition prior to calving. Calf health, however, will have to be watched closely due to the extreme swing in temperatures from early September to late October. It is possible that your first calf be born with a high temperature of 100 and last calf with a high temperature of 35.

Developing your marketing, forage/feed, and production cycle plans will enable you to determine which of the above calving seasons work for you. We will use these three plans to uncover some of the advantages to a controlled breeding season.

Production Cycle Plan is a set of guidelines that outlines best management practices that must be done on a yearly basis. It answers the questions, what needs to be done?, when does it need to be done?, and



who does it need to be done too?. Of course, certain task may depend on other decisions or outcomes and therefore they are considered contingencies. For example, if drought occurs and grazing is limited then the contingency may be to early wean the calves. Controlled breeding season is very important to having a good production cycle plan. Without the controlled breeding season every cow's production cycle is different and therefore, the farm does not have "one" production cycle plan.

Forage and feed plan is arguably the most important tool you can discuss and formulate on your operation. Nutrition is the single most important driver of reproduction on a beef cattle operation. Establishing the forage feed plan allows producers to schedule supplement, mineral, fertilizer, and herbicide purchases depending on need. More importantly, producers use growth curves of available forages to determine when forage availability works best with the production cycle. Cattle producers are really forage farmers that use cattle to harvest their crops, and produce a high quality product. Implementation of a controlled breeding season allows you target your high quality grazing for certain times within the production cycle. For example, producers would want to offer the highest quality grazing and supplement to the 2-year-old cow that is lactating, still growing, and trying to get rebred. In the continuous system, these cattle are unable to be targeted for increased nutrition as they are spread out across the entire year.

The marketing plan should establish guidelines for how and when your cattle will be marketed. Will you market purebred genetics, weaned calves, weaned/backgrounded calves, or will you retain ownership. A producer may choose to retain ownership on his calves unless he is limited on grazing or supplement prices exceed X number of dollars. This example makes it very clear why it so important to have a plan that is written down with marketing contingencies to aid in the decision making process. Also, knowing when you are going to market your calves will aid in determining the calving season. Figure 1 clearly shows the increase profit potential (due to increased weaning wt) of calves born in the first 21 days of the calving season. Cattle that calve in the first 21 days of the breeding season are also more likely to breed back the next year, and their daughters will be more likely to successfully become pregnant replacement females.

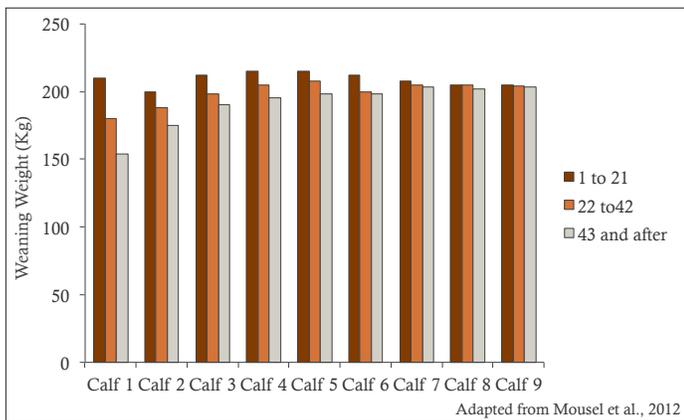


Figure 1. Influence of calving date in first calving season on average weaning weight of calves.

Developing the above plans will provide a blueprint that is specific to each individual operation, and having a controlled breeding and calving season is just part of that process. Transitioning from a continuous breeding season to a defined breeding season can present some challenges. To be successful in the transition from continuous breeding to a controlled 90-day breeding season several steps must be taken.

- Determine when your breeding season will take place.
- Make sure you have adequate facilities to house bulls when they are not with cows.
- Determine how the transition will be made, make a plan, and stick to it.

Producers have a few options when it comes to making the transition, but both options have advantages and disadvantages.

Option 1: Use a period of 3-4 years to gradually decrease the amount of time in your breeding season. This option allows producers to maintain a calf crop every year, but cull open cows that do not fall within the parameters of that years breeding season (Figure 2). The time investment and management to make this transition is certainly a challenge and a longterm commitment in option 1.

Year	Breeding Season
1	Continuous Breeding
2	Continuous to 180-day breeding
3	180 – 138-day breeding
4	138 – 90-day breeding

Figure 2: Continuous to Controlled Breeding Season Transition

Option 2: Use 1 year and make the transition for all of your cattle. If it is determined that the breeding season is going to be in April. Bulls would be pulled on April 1st of year 1. The last calves would be born in January; the bulls would be turned out April 1st of year 2 for your 90-day breeding season. Option 1 will cause the loss of one years calf crop, due to the extended period of time that bulls are removed, however, it does make the transition much quicker.

In Summary, transitioning to a controlled breeding season from a continuous breeding season will take discipline and good management. Maintaining an accurate according for where you operation is coming from and where you want you operation to be in 5 years will be very important. Determining the time for the breeding season is very critical and extensive planning will ensure the proper timing for individual operations. It becomes very difficult to switch breeding season around once the transition has been accomplished. Having a controlled breeding season will increase operation efficiency, decrease nutritional needs, decrease labor needs, and when combined with other best management practices increase profit (Figure 3).

Management Practice	Controlled Breeding/Calving Season	Continuous Breeding/Calving Season
Nutrition	Supplement or provide grazing to meet the needs of all cows during specific times of the production cycle	Trying to meet the needs of cows if multiple different stages of the production cycle.
Utilization of Forage	Strategic grazing of high quality forages at pre determined stages in the production cycle to improve reproductive success and calf health. This also includes key management strategies to offset the detrimental effects of K-31 Tall Fescue.	Management cannot dictate which cattle are pregnant/open and therefore does not graze accordingly.
Marketing	Calves born in the first 21 days will on average weight 100lbs more at weaning. Group marketing will give a premium of \$4-\$10/cwt.	Calves are born at different times and therefor marketed at different times or different weights and do receive any premium.
Selection and Culling	Weaning is a good time to cull based on pregnancy status, feet, udder, disposition, and performance.	No expectations or guidelines are established and therefore cattle cannot be compared.
Heifer Development	Heifers that are born early in the calving season are more likely to breed earlier in the breeding season and maintain that advantage for almost 9 years of production.	Difficult to design a true heifer development program with maturity levels varying by 365 days.

Figure 3: Advantages for having a controlled breeding season.

References:

Mousel, E.M., R.A. Cushman, G.A. Perry, and L.K. Kill. 2012. Effect of Heifer Calving Date on Longevity and Lifetime Productivity. Proceedings, Applied Reproductive Strategies in Beef Cattle, Sioux Falls, SD.

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