

# Starting and Managing a Defined Calving Season

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## Why is a calving season important?

Of all the management practices used to improve both the economic success and performance of cow-calf production, having a defined calving season is the most important. In fact, it is better to think of it as a gateway tool to allow the use of other management practices. The term “defined” or “controlled” calving season simply means managing the cow herd to calve within a relatively short period of time (usually 45, 60 or 90 days). Most of the other practices cannot be performed easily if calves are of different ages and if they are not at the same place in their production cycle. A few scenarios for consideration follow. They will demonstrate how the marketing potential of a uniform calf crop can be improved.

One example of a management practice that is difficult to apply to year-round calving herds is a proper vaccination protocol. Imagine having 7-month-old calves in the same pasture with 3-month-old calves and newborn calves. They will not all be ready for the same vaccinations at any one point in time. Gathering just a few calves at a time when they reach the appropriate age for a given vaccination is inefficient and is rarely maintained diligently. Thus,

the health of the cows and calves suffer in year-round calving herds.

Similarly, consider nutritional management. Providing the proper nutrition (not too much and not too little) to a dry cow that is in the same pasture with a cow nursing a 2-month-old calf is practically impossible. Either the dry cow will get more nutrition than it needs (the stocking rate could be increased or it could be decreased on lower quality hay/pasture), or the cow in peak lactation will get less nutrition than she needs and will lose body condition. In other words, supplementing lactating cows in the same pasture with dry cows (that do not need extra nutrition) wastes feed and money.

Improving calf crop uniformity (ages, size, weight, color and breed type) can also provide more marketing opportunities. Many years of market data from across the country show that marketing groups of uniform calves together, as opposed to one at a time, results in a higher average price per pound. Buyers are able to pay more for uniform groups (even as small as five head) because the time and labor they spend on assembling truckload lots are reduced. Essentially, buyers pay sellers for making their job more efficient.

Therefore, it seems logical that most cattle producers would have a defined calving season. But, the National Animal Health Monitoring System (NAHMS), a USDA source for cattle production statistics, reports that less than half of the small herds across the country had a defined calving season in 2008. The most likely reason is that small herds are not often the primary source of income for a producer, which results in less incentive to increase revenue. The two most common arguments against having a controlled breeding and calving season are, “I do not have anywhere to put the bull when it is not

with the cows,” and “I like having a calf ready to sell whenever I need it throughout the year.”

It is true that bulls need to be out of the pasture for a period of time, but not for the entire time outside of the breeding season. The bull should be separate from the cows when they are calving and until the breeding season starts again. However, bulls can remain in the pasture after the calving season. For example, if they remain in the pasture longer than a producer’s planned 90-day breeding season, the veterinarian will be able to tell which pregnant cows will not calve in his calving season and market them as bred replacements that might fit into someone else’s calving season. This flexibility could help producers make use of bull leasing programs or buying bulls together with producers who use a different breeding season.

Regarding the idea of having a continuous stream of revenue for year-round calving by staggering the availability of weaning-aged calves, recall the limited management options for health and nutrition, which were discussed earlier. Having a calf available to sell at any given time is less important than increasing the overall profitability and ease of management. Also, consider the opportunity to concentrate the time spent on calving management. If all the cows calve within a defined period of time, it is easier to watch them diligently, assist when needed, and reduce loss from death (both calves and cows/heifers). In other words, labor can be scheduled for the calving season, whereas year-round calving leads to producers missing calving difficulties. This issue can result in thousands of dollars lost if a cow and calf die calving while the producer is out of town or not expecting calves to arrive at random times.

Finally, consider the example of soybean production. When planting row crops, a producer does not plant one pass with the planter one week, another pass a week later, and so on until the field is completely planted. The entire field is planted at the same time and managed as a single unit throughout the growing season, including fertilizing, applying insecticide and herbicide, and harvesting the entire field at the same time. Calving year-round is comparable to staggering the planting of a field over the entire growing season. If cows are at different places in their production cycle, and calves are newborn to weaning age, many of the management practices cannot be performed for all the cattle at the same time.

## Choosing a Calving Season

It is important for producers to decide what time of year they would like their calves to arrive. Most herd producers in Tennessee who already have a defined calving season choose to breed for calves that are born in the spring. Spring calving can be thought of as the “default” season because, even in year-round calving herds, several of the calves naturally will be born in the spring. This factor might significantly influence the decision about which calving season to adopt.

The reason more cows tend to calve naturally in the spring is that they adapt to match their nutrient needs to environmental changes. Cows’ nutritional demands are usually highest during the first few months after they calve, which is when they are in peak lactation. So, if that happens when more (and higher quality) grass is available in the spring, those cows will remain in better condition. If the cows stay in good condition before and during lactation, they will start cycling again sooner after calving and breed back quicker, keeping them within the spring breeding and calving season.

Cows that calve in the fall experience high nutritional demands when forage is less abundant. They usually require more supplemental feed to maintain their condition. The cost of feeding cows is the largest single annual expense for cow/calf producers; thus, if that expenditure is increased because cows are carrying calves through the winter and require more supplemental feed, then the calf crop must generate more revenue to offset the added cost.

For producers who traditionally market calves immediately after weaning, spring-born calves are marketed in the fall, and fall-born calves are marketed in the spring. Seasonal highs for feeder calf prices usually hit in the spring as feeder calf supplies tighten and the demand for calves increases to utilize spring and summer forages. Producers who retain ownership of calves post-weaning must look at seasonal costs and marketing opportunities further down the production chain. Seedstock producers should consider targeting the calving season so that cattle reach a marketable age during peak demand periods for replacements.

The effects of heat stress on fertility are more dramatic than cool-season effects. Heat stress results from a combination of both temperature and humidity (Heat Index). The hot and humid summer months in Tennessee can depress fertility in cows, heifers and

bulls. Examples include hormone imbalances, lower conception rates, lower calving rates and reduced blood flow to the uterus. Conception rate averages are greatly depressed in July, while early spring and fall conception rates are three to five times higher.

Calf performance is also influenced by season. Calves born in the fall generally come earlier than spring calves. Because of this, calf birth weights are typically higher in spring than fall. A possible explanation for this occurrence is that as fall-calving cows gestate through the hot summer months, blood is shunted away from the fetus to the extremities in order to dissipate heat. The reduction in blood flow to the fetus may decrease calf birth weights. Weaning weights in the southeastern U.S. tend to be lower in spring-born calves than fall-born calves. Calves born during summer months are significantly lighter at weaning and have more health issues than calves born during the rest of the year.

If there are enough cows in a single herd to justify it, another good option is to use two defined calving seasons. This provides the opportunity to move breeding females that are not pregnant to the opposite calving season without having to miss an entire production cycle. But, producers should keep good records to ensure that unproductive cows are sold before they become a liability. This practice also reduces the number of bulls that are needed. Herd sires can be used in both seasons, but nutritional programs must be designed to maintain good bull condition going into each breeding season. If more than one calving season is used, producers have the opportunity to compare the effects of changes in markets and weather on production and profitability at a single location.

## **Moving a Year-round Calving Herd to a Defined Calving Season**

The most widely used procedure for converting to a controlled breeding season is to convert slowly over a three-year period (Figure 1). This method usually results in a transition that does not require culling a majority of the cows in one year and is more economically feasible than transitioning in a single season. For some market scenarios with high purchasing costs or raising replacements, an even slower transition might be considered. As mentioned previously, if there are enough cows to run two herds in opposite breeding seasons, grouping based on

initial pregnancy status can make the transition less costly. Doing this will create an opportunity to “roll” open cows to the opposite breeding season when they come open for the first time.

In year one, determine the ideal last day of the breeding season, which will become the last day of the breeding season throughout the entire process and for years to come. For the example charted in the timeline below (Figure 1), the last day of the breeding season is June 20. Recall the discussion about heat stress and fertility; both cow and bull fertility drastically decrease during the hottest summer months. The cows can be checked for pregnancy somewhere between 30 to 60 days after the bull is removed, depending on the method that will be used. Cows that are open and do not have a calf at side as well as open cows with a calf old enough to market should be either marketed or moved to the alternate season.

In year two, the beginning of the breeding season will be set. This date will move later in the third year and can continue to be adjusted to shorten the breeding season over time. In this example, start the second year on January 20 and pull the bull again on June 20 (the same day as year one). Check for pregnancy again after the bulls have been out long enough for the method that will be used and market (or roll to the alternate season) cows that are open without a calf (there should not be many of these cows in year two) and cows that are open with a calf old enough to market. As a result, the calving season will begin at the end of October and end at the end of March.

In year three, the bull is put back with the cows later than in the previous year to shorten the breeding season to about 90 days. In this example, the bull would go back with the cows on March 20 and be removed again on June 20. The cows are checked for pregnancy after the bull is removed. Continue to market open cows or roll them to the alternate season (again, only once per cow) if using two herds. If the economics of salvage value for open cows and the cost of bred replacements (whether raised on the farm or purchased) change, a better choice would be to market all open cows rather than give them a second opportunity in the opposite breeding season. Always keep an eye on the nonfed and replacement markets and be flexible enough to adapt when the market changes in years to come.

The breeding season can be shortened more often in subsequent years. It is good to start breeding replacement heifers three weeks to a month before

the mature cows. Doing this will require producers to select heifers born early in the previous season that will be old enough and have already started cycling.

## Conclusion

Managing cows to calve in a short and defined season:

- Can be accomplished with a little planning and without too much difficulty.
- Allows other management practices to be applied more easily and efficiently.
- Makes pasture and nutrition management more efficient and less costly.
- Makes a cow herd more profitable.

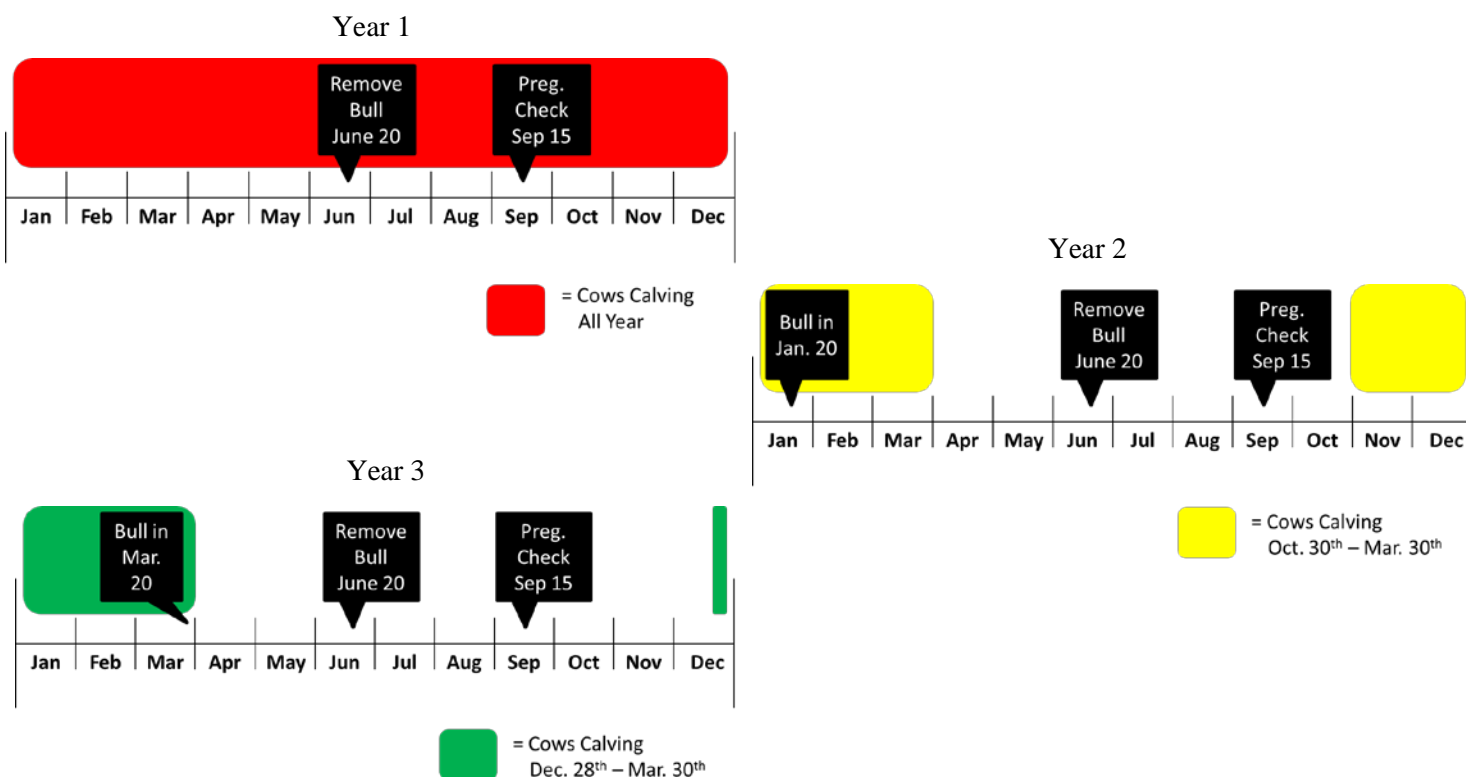


Figure 1. Three-year plan for converting from year-round calving to an approximately 90-day calving season.



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