

## Controlled Breeding and Calving Seasons

The key to profitable beef production is management control. Beef cattle should not be bred to calve throughout the calendar year. The herd cannot be managed efficiently without specific breeding and calving seasons.

Farmers plant crops such as corn, peanuts, soybeans, and tobacco within specified time periods to get greater yields and uniformity of the crop. Other businesses start and stop specific projects by established dates so that both labor and materials will be used most efficiently.

Beef production is not different from other businesses; it, too, is most efficient when the cow herd is at a similar stage of production. The cow herd should be: bred and nursing calves, or dry (calves weaned) and carrying calves, or calving, or with calving just completed and not yet bred. When operated in this manner, the owner is in total control of the labor, breeding, calving, herd health, and marketing. With anything less than this, control is lost, and so is the opportunity for efficiency and profit.

### DISADVANTAGES OF SUMMER-BORN CALVES

Records show clearly that weaning weights of summer-born calves will be lighter than those of calves born during other months. Actual weight differences due to month of birth are presented in Table 1.

**Table 1. Calving Date vs. 205-Day Weight**

Calving Dates	Number of Calves	Avg. 205-Day Wt., lb.	Difference, lb.
Jan., Feb., Mar.	1,208	450	
April, May, June	816	421	- 29
July, Aug., Sept.	624	380	- 41

SCBCIP Records.

When the difference column is examined closely, we find that calves born in July, August, and September weigh some 70 pounds less than calves born in January, February and March. Summer-born calves are less profitable, or to look at it another way, the summer-born calves are more expensive to the owner as they return some 70 pounds less per head.

There are many reasons for not wanting summer-born calves.

- They weigh less at weaning (see Table 1).
- Cows are not able to provide necessary milk. Milk production peaks within 6 weeks following calving. Therefore, milk production is declining throughout the winter.
- Forages are declining in nutritional value during late summer, early fall, and winter when cows nursing calves demand the highest nutrient intake.
- Generally without costly supplemental feeding, total digestible nutrients (TDN) and protein are low or deficient in winter.
- Parasite infestation of the calf is usually higher in the winter, reducing his growth potential.
- Castrating and dehorning are not recommended in the summer.
- Rebreeding in late summer or fall is more difficult than in spring and early summer due to the availability and quality of forages.

### WHY HAVE A CONTROLLED PROGRAM?

Reasons for a controlled, seasonal calving program are numerous. For our discussion, the following reasons appear to be logical.

**Natural cycle.** Calving in late winter and early spring has many advantages. Cows will calve slightly ahead of maximum grass production. Nutritional

requirements for calves are minimal at birth; then as nutritional requirements increase, more grass is available and more milk is produced. Because of the nutritional advantage of lush spring grass, rebreeding occurs over a shorter period of time. Taking advantage of nature is beneficial.

**Stage of production.** Because the cow herd is at a similar production stage, parasite cycles can be broken more easily and there is an advantage for supplemental feeding of such cows -- efficiency.

**Replacement heifers.** This is the most important, and yet the most overlooked, advantage of a controlled breeding season. The fact that winter-born calves are some 70 pounds heavier than summer-born calves has been mentioned. This extra weight is most important in replacement heifers. Heavier heifers cycle earlier, breed earlier, and are more likely to calve by 24 months of age. Cost and returns today will not allow the luxury of calving at 3 years of age.

**Marketing.** Many producers would place marketing lower in priority. However, feeder-calf production demands that emphasis be placed on marketing. Producing a product that is in demand, heavy, and with eye appeal can mean an additional \$50 to \$75 per head. Feeder calves of large and medium frame, with average and above-average muscling, uniform in size (weight), and produced in large numbers will bring the most dollars.

**Management tools.** Only when calves are born within a short calving season can the producer take full advantage of growth promotants (ear implants), internal and external parasite control, herd health (vaccination), and creep grazing.

**Herd Health.** When the cow herd is in a similar stage of production, producers can fully use vaccinations in a preventative health plan. Killed, modified, and live vaccines can be used to the best advantage.

**Brood-cow production.** Only when all cows are calving within a short period of time can they be fed adequately and efficiently. Before calving, a dry cow requires only 10 to 12 pounds of TDN. The day after calving, this requirement increases to 14 to 18 pounds of TDN. Not only can cows be bred on schedule, but feed can be saved if they do not calve until late winter. Proper feeding of cows on a breeding calving schedule reduces cost and improves the breeding and conception rate.

**Care at calving time.** Percent calf crop is the major profit-determining factor in a cow-calf operation. Calving over a short season allows for close supervision. There is no way to properly check cows when they are calving year-round.

**Genetic expression.** A specific calving season (late winter) will allow calves to express their true genetic ability to gain because the "natural cycle" of events allows it; that is, calf needs and forage quality match.

**Meaningful records.** Records of cows and their calves are only meaningful when produced within the same environment. Thus, records on calves from more than a 90-day calving season are not meaningful. Having specific calving and breeding dates allows the owner to cull both open cows and low producers. Regular pregnancy checks each fall remove dead wood and elevate the reproductive efficiency of the cow herd. Even without formal records, the closed (short) calving season will allow decisions to be made based upon informed data--birth dates and actual weaning weights.

## BEST CALVING DATES

The timing, reason, and length of calving season is especially important in South Carolina, a feeder-calf producing state. Therefore, energy should be directed toward producing a desirable product to sell each fall. The industry demands crossbred calves of medium or large frame with average and above-average muscling. Order buyers and feeders actively look for calves each fall, namely September and October. This means that, while the prices are not necessarily the highest each fall, the interest is there.

With the feeder-calf demand present in September and October, the best calving dates are January and February. Assuming a market date of October 1, let's look, at calving dates of January-March (Table 2). Less marketable weight results when the calving season is extended over extra days. Actual marketable product is reduced an average of 62 pounds per calf. Clearly, the short calving season is more advantageous. Stated another way, a short calving season of 60 to 90 days is recommended. Numerous reasons have been given, but the one to remember is that it is more profitable.

New producers figure out quickly that the earlier-born calves are heavier at weaning and return greater income. Calving in November and December should

**Table 2. Effect of Calving Date on Weaning Weight**

Breeding Season	No. Days	Average Calving Date	Weaning Date	Average Age	Average Weaning Weight, lb.	Difference lb.
March 20 - May 20	60	Jan. 30	Oct. 1	270	634	
March 20 - June 20	90	Feb. 15	Oct. 1	255	603	-31
March 20 - July 20	120	March 1	Oct. 1	240	572	-31

Assumptions: Average cow weaning 500 pounds of calf. Calf birth weight of 80 pounds and average daily gain of 2.05 pounds (500 lb. wng. wt. - 80 lb. birth wt. = 420 lb. gain)

**Table 3. Bull Management --From 365 Days to 60 Days**

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Present Breeding	*	*	*	*	*	*	*	*	*	*	*	*
Year 1	*	*	*	*	*	*	*	*				
Year 2	*20 <sup>th</sup>	*	*	*	*	*	*					
Year 3		*20 <sup>th</sup>	*	*	*	*	*20 <sup>th</sup>					
Year 4			*20 <sup>th</sup>	*	*	*20 <sup>th</sup>						
Year 5			*20 <sup>th</sup>	*	*							
Year 6			*20 <sup>th</sup>	*	*20 <sup>th</sup>							

\* Bull with herd. Certainly, every herd will be different and a change might be made in less than 6 years. However, for most herds, the gradual change will be more cost efficient.

give heavier weaning weights because calves will be older in the fall. However the day after calving, energy and protein requirement go up drastically, and this additional cost of energy and protein is generally greater than the benefits from calving early. For example, fall calving makes for long, costly winters in the Piedmont area of South Carolina. Calving before January 1 may not be advisable. In the coastal plains area, earlier calving may be profitable when winter cover crops are available.

There is no short cut. Some producers use two 60-day calving seasons, one in the fall and another in the spring. This sounds great; however, the fall-calving cows require large amounts of stored feeds and their returns will not compete favorably with cows calving in late winter and early spring. Therefore, a 60-day calving season, extending from January 1 to February 28, is favorable for many South Carolina farms.

## ESTABLISHING A CONTROLLED SEASON

Breeding dates that allow a producer to change from calving year-round to a 60-day season within 5 to 6 years are presented in Table 3. The following steps are helpful in establishing a controlled breeding and calving season.

- (1) Establish a bull pasture, preferably away from the herd. Running a cow and her steer calf with the bull for companionship works very well. The pasture allows the bull ample exercise for strong feet and leg development.
- (2) Start breeding replacement heifers 20 days ahead of the main herd. Use only well-developed heifers that are at least at their target weights or heavier. Breed only for 45 days. Pregnancy check and sell open heifers.
- (3) Use only well-developed, fertile bulls. This means that preweaning and postweaning data should be required along with a breeding soundness exam.
- (4) Each fall after weaning, pregnancy check and cull open cows.

## SUMMARY

Controlled breeding simplifies management. Breeding, calving, weaning, and marketing are all accomplished within specified dates, just as planting, harvesting, and marketing a row crop. Deworming, for example, is much more effective when cattle are in similar production stages. Pregnancy-checking cows within the herd is simplified; all cows are at the same stage of developing a new fetus, making pregnancy checking much easier. This is a must if a producer is serious about controlled breeding and improved reproductive efficiency. Controlled breeding is the key to good beef management and profits.

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