



Vet Call

► by **Bob Larson**, Kansas State University

Postcalving infertility

Even before the calving season starts, cow-calf producers should be working to ensure that their cows will resume fertile cycles and be ready to become pregnant again early in the next breeding season. To optimize forage utilization and marketing options, it is important that herds calve over the same relatively short period of time each year.

From calving season to breeding season

Because cows do not have estrous cycles (also known as heat cycles) during pregnancy, the complex hormonal controls that stimulate and regulate the timing of displaying heat and releasing a fertile egg must be restarted after calving before cows can become pregnant again. Because pregnancy lasts about 280 to 285 days, in order to have an opportunity to become pregnant again at a time that allows a 365-day interval between calves, cows must resume fertile cycles soon enough to become pregnant again within 80 to 85 days after having their last calf.

The length of time between calving and resuming fertile cycles varies greatly among herds and among cows within a herd. Scientists who have investigated the length of time required for beef cows to resume fertile cycles after calving have reported herd averages of 55 to 95 days. Individual cows within a herd may resume fertile cycles as soon as 20 days after calving or as late as more than 180 days after calving.

Even though the herd average length of time to resume fertile cycles after calving is reported to be less than 80 days for many beef herds, it is important to remember that the herd average describes the length of time it takes for about one-half of the cows to resume fertile cycles. One-half of the cows will not be having fertile cycles by the same

length of time. To predict when about 90% of cows will resume fertile cycles, several studies suggest that it is necessary to add about 20 days to the herd average. Therefore, beef herds are expected to require 75 to 115 days after calving to attain 90% of the cows resuming fertile cycles.

When one realizes that cows must resume fertile cycles within 80 to 85 days after calving to have a 365-day interval between calves, herds must be managed to approach the lower end of reported herd average postcalving infertility length.

Factors affecting anestrus interval

Some of the factors that affect the variation in length of postcalving infertility among cows and among herds include: body condition at calving, nutrition (particularly energy intake) between calving and the start of breeding, milk yield, suckling intensity, uterus health, and age. It also appears that cows that calve during times of the year with shorter daylight hours require more time to resume fertile cycles than cows that calve during longer days — but long days are often confounded with abundant growing forage, which also contributes to a shortened period of postcalving infertility.

Young cows nursing their first calves are still growing and require nutrients to meet that growth demand. Cows that are able to produce abundant milk also require a lot of nutritional input to meet the demand of

lactation, and cows that calved in thin body condition must gain weight before fertile cycles will be resumed. If the available diet is not able to supply sufficient nutrients to meet these demands, then fertile cycles are not likely to be resumed until either nutrient demands decrease later in lactation, or the available nutrients increase through improved forage or supplementation. Cows that had calving difficulty, retained placenta or uterine infection are also expected to experience a delay in the resumption of fertile cycles after calving.

Although many cow herds can achieve a sufficiently short period of infertility following calving, without careful management and planning, many herds have lower-than-desired reproductive efficiency or higher feed costs as a consequence of prolonged periods of infertility after calving. Therefore, monitoring body condition leading up to calving and making any changes in diet necessary so that the herd calves in adequate body condition is important to ensure a successful breeding season. Also, ensuring that forages are available to supply sufficient nutrients to allow first-calf heifers and mature cows to be in a positive energy balance during early lactation when they must conceive for the next pregnancy limits the amount of supplementation required to achieve desired pregnancy rates.

Herds that have a higher number of difficult births or other postcalving complications, such as retained placenta or uterine infections, will also experience a delay in the onset of fertile cycles after calving. Appropriate heifer development and bull selection that considers calving ease for heifers limits the risk of calving difficulty. Cows calving in appropriate body condition in a clean environment will decrease the occurrence of many postcalving complications.

Because the length of pregnancy for beef cows is only 80 to 85 days less than the length of the year, it is important that herds are managed to approach a herd average 55- to 65-day period of postcalving infertility so that nearly all the cows can achieve the desired 365-day interval between calves. Monitoring body condition leading up to calving, planning for forage and supplement

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availability after calving, and minimizing calving complications are all important considerations that must be managed well before calving to ensure that the following breeding season will be successful.

Summary: Duration of postcalving infertility

- ▶ Duration of post-calving infertility is important to herd reproductive efficiency.
- ▶ Cow herds with average duration of postcalving infertility of 55 days (few cows with postcalving infertility >75 days) are positioned for herd average

365-day intervals between calves.

- ▶ Cow herds with average duration of postcalving infertility of 65 days have quite a few cows with postcalving infertility >75 days, and those herds have the potential for some improvement in herd reproductive efficiency by focusing on decreasing the duration of postcalving infertility.
- ▶ Cow herds with average duration of postcalving infertility of 75 days or longer will not maintain a herd-wide 365-day calving interval.
- ▶ Individual cows with more than a 75-day or longer duration of postcalving

infertility are more likely to be open than cows with a 60-day or less duration of postcalving infertility.

- ▶ Extended duration of postcalving infertility should be considered when investigating lower-than-desired reproductive efficiency.



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