

# VETERINARY CALL



by Bob Larson, Kansas State University

## When should heifers be bred to calve?

*By knowing an individual herd's reproductive characteristics, the ideal length of time to start the heifer breeding season ahead of that of the mature cows can be optimized.*

First-calf heifers that become pregnant early in the breeding season for their second pregnancy have greater lifetime productivity and longevity than those who don't become pregnant until later in the breeding season. Because a year lasts 365 days and pregnancy lasts about 285 days, cattle must become pregnant within 80 days after calving in order to maintain a 365-day interval between calvings.



### Breeding timing

Although a high percentage of adult cows in good body condition are expected to resume fertile cycles within 80 days after calving, the length of postcalving infertility in first-calf heifers is often longer than 100 days. Therefore, many veterinarians and animal scientists recommend heifers be bred to calve several weeks before the mature cows begin their calving season.

Studies have indicated heifers that calved early produced greater lifetime calf weaning weight due to their calves being older through six pregnancies than the calves of heifers that conceived later in their first breeding season. In addition, heifers that became pregnant earlier were

likely to stay in the herd longer than heifers from the same herds that became pregnant later.

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importance of selecting bred replacement heifers that will calve over a short calving season that either starts before that of the mature cows or that is confined to the first few weeks of the mature cows' calving season.

For first-calf heifers to give birth to their first calf at about 22-23 months of age so they have 90-100 days between calving and the start of the next breeding season, they must become pregnant by 12½ to

13½ months of age and should reach puberty by 12-13 months of age.

Fortunately, the average age at which beef heifers reach puberty has been reported to commonly range from 10 to 14 months, meaning it should be possible to select and manage heifers that can become pregnant in a breeding season that starts ahead of the mature cows' breeding season.

Even though there are potentially important benefits to calving heifers earlier than mature cows, it is important to recognize this strategy will increase labor requirements because the calving season is longer, it requires that heifers reach puberty at an earlier age, and the strategy has not proven to improve herd fertility in all situations.

A careful evaluation of each herd's

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expected length of postcalving infertility in both first-calf heifers and mature cows, the age when a high percentage of replacement heifers have reached puberty, and the costs associated with moving heifer breeding earlier than mature cow breeding allows producers to make the best decision for their situation.

### Three to six weeks early

A recently published study that evaluated the effect of breeding heifers to calve one to six weeks earlier than mature cows found that if the length of the period of infertility following calving for first-calf heifers is 80 days or longer, then breeding heifers to calve ahead of the mature herd resulted in more cows pregnant in the first 21 days of breeding, more cows pregnant in a 60-day breeding season, and greater total weaning weight.

As would be expected, the greatest benefit occurred when heifers were bred to calve six weeks earlier than cows. However, breeding heifers to calve three weeks ahead of the cows resulted in nearly as much benefit.

The authors of the study reported that if the period of infertility following calving for the first time was fewer than 80 days, a herd

would not be expected to benefit from breeding heifers to calve ahead of mature cows. Because some herds are likely to have an 80-day or shorter period of infertility for first-calf heifers while other herds are likely to have a 90- to 100-day or longer period of first-calf heifer infertility following calving, it would be valuable to determine when a majority of a herd's first-calf heifers

begin having heat cycles following calving.

By knowing an individual herd's reproductive characteristics, the ideal length of time to start the heifer breeding season ahead of the mature cows' season can be optimized to capture reproductive benefits while minimizing cost. **AJ**

*Editor's note: Photos by Shauna Rose Hermel.*

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