



# Cattle Producer's Handbook

Reproduction Section

413

## Rebreeding the First-Calf Heifer

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Rebreeding performance of first-calf heifers has major economic consequences. This classification of breeding animal is often the most challenging to manage for reproductive efficiency, primarily because this animal is not only subject to the stresses of calving and lactation for the first time, but she is still growing.

Inability to rebreed after delivery of the first calf is one of the primary reasons for culling in a beef cattle operation. A considerable amount of money is invested in the development of this replacement animal, and high replacement rates can greatly decrease the profitability of a beef cattle operation.

### Herd Health

A sound herd health program is an essential part of any reproductive management system. Cattle are susceptible to a variety of diseases that are detrimental to reproduction (see the Animal Health section for papers on specific diseases associated with reproductive failure and abortions). Cattle producers should work closely with their veterinarian in establishing their herd health program.

A relationship exists between poor nutrition and increased incidence of herd health problems. Several vitamins and minerals are necessary for immune system function, and nutrient deficiencies in these areas can result in increased susceptibility to diseases (see papers from the Nutrition section for further information).

### Breed Heifers to Calve Earlier Than the Cowherd

Even when properly developed and managed, beef heifers generally have a 20- to 30-day longer postpartum interval (interval from calving until the first fertile estrus) than older cows. The practice of breeding virgin heifers 20 to 30 days earlier than the cowherd will provide the

heifer additional time to return to estrus and rebreed with the older cows the next year. It is important to manage these heifers separately for two reasons:

1. Earlier calving will likely mean that heifers will not have pastures readily available after calving, thus additional nutrients will need to be supplied.
2. Nutrient requirements (% of ration) are higher for first-calf heifers than for mature cows (see 300, "Nutrient Requirements of Beef Cattle"). Breeding heifers early will be of no benefit if they are not properly managed after calving.

### Minimize the Postpartum Interval

The period from calving until the cow conceives is critical in a cow's production cycle. Minimizing this time period is important to maximize reproductive and economic efficiency of a beef cattle operation. Cows that cycle early in the breeding season have more opportunities to become pregnant during a limited breeding season.

By keeping other factors constant, such as genetics, age of dam, and nutrition, cows conceiving early in the breeding season generally wean older and heavier calves. The length of breeding season will influence uniformity of calves and their value at weaning. Therefore, in order to have a successful, short breeding season, it is vital that cows cycle and conceive early in the breeding season.

The ability to minimize the postpartum interval is limited by uterine involution, which is the time needed for the reproductive tract to repair after calving so another pregnancy can be established. Uterine involution generally occurs within 30 days postpartum and does not generally limit the ability to cycle, however, factors such as malnutrition, disease, and calving difficulty may delay normal involution.