Breeding heifers at puberty is usually easier than rebreeding them after their first calf. The greatest portion of females being culled for failure to rebreed are first-calf heifers. The main reason this failure is nutritional stress. First-calf heifers need more energy, protein and minerals after calving than mature cows because they are still growing. Feed analysis will greatly assist in how to feed these females. No supplement may be needed with good quality pasture. However some supplementation may be needed for fall calving or early spring calving heifers on poor quality hay. Ideally, save your best hay for late gestation and early lactation. In all cases a quality mineral-vitamin supplement should be provided.

Early calving heifers have more time to rebreed and have their second calf with the rest of the cow herd. Research has demonstrated that the average interval from calving to first estrus is 49 days in older cows and 67 days in young cows suckling calves.

One of the keys to keeping 1st-calf heifers breeding on time and to minimize, where possible, competition with mature cows.
1. Feed separate from mature cows during 1st and 2nd winters, and 3rd winter if in poor condition
2. Feed to gain 1.5-1.8 lb./day during 1st winter (post-weaning)
3. Feed to gain 0.5 lb./day during 2nd winter when pregnant
4. Be sure that 2 yr. old bred heifers gain 0.5 to 1 lb./day during last 120 days prior to calving

**CALVING AS TWO-YEAR-OLDS VERSUS THREE-YEAR-OLDS**

If your customers are calving heifers as 2-year-olds, as most of them are, then you probably need to do so as well. A 15-year study in Oklahoma did not show that heifers calving as 2-year-olds "wear-out" sooner than heifers calving as three-year-olds. The study did show that calving as 2-year-olds resulted in an additional 300 lbs. of beef produced over their lifetime compared to heifers first calved as 3-year-olds. However, more calving difficulty may be expected with 2-year-olds than 3-year-olds. Using good management such as including pelvic measurements, adequate nutrition, and the proper bulls, should minimize calving difficulty problems.

**SUMMARY**

There are three or four things that you can do to improve reproductive efficiency. They are:
1. Cull open females
2. Breed them to calves as 2-year olds
3. Shorten your calving season
4. Select for larger testicle sires