

LOW COST COW/CALF PROGRAM

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Weight at Puberty

The most common problem experienced by those who move calving time (from winter to summer) is that the heifer does not achieve sufficient size for breeding in order to calve at two years of age. Generally, there are two root causes. When the herd calved in winter, they were fed supplemental energy to condition the cows prior to calving. The heifers, held for replacements, ate too. With the additional calories, the heifers would reach their genetically-predetermined size for cycling on time and without difficulty. The change to summer calving, in most areas, is the first step toward a low-input program. The feeding of hay in the winter comes to a screeching halt. Forcing the herd to live off the land brings on the other problem. The winter-calving cows are good-ol'-bigg'ns that give a lot of milk. They were part of a program that emphasized production rather than profit. It can be time consuming and expensive to change genetics. It is only expensive, however, when the market is high, as it is currently. It is during times like this that every female on the place must get bred and produce a calf. That may require some supplemental energy for the growthy heifer. The time to begin total reliance upon the land is when the market tanks.

Target Weight

The U of Nebraska¹ recently reported the results of a series of studies, in which heifers were fed to specific weights at breeding. The heifers were from two herds - a "spring" (calving commences March 1) and a summer (calving commences June 15) herd. The spring-born heifers were fed two diets, from December to mid-May. On the low-gain diet, the heifers reached a target weight of 53% (635 lb) of mature body weight (MBW) by May 15. (*MBW was calculated from the previous year's fall, cow weight of 1198 lb*). The weight of the second group was 58% of MBW or

695 lb. The summer-born heifers were fed from mid-January to mid-May, in order to reach a target weight of 60% of MBW (721 lb) by August 5 (one month before breeding the mature cowherd) or September 5 (same date as breeding the mature cows). The reason for the early breeding was to extend the heifers' postpartum interval time. Actual weights were 703 lb for the August-bred heifers and 727 lb for the September-bred heifers.

Consequences

For the most part, there were no big surprises. Even the feed cost (needed to achieve target weights) was expected. The high-gain group, from the spring-born, had a cost of \$107 and the low-gain group, \$85. The early-bred heifers, from the summer-born, cost \$66 while those bred in September cost \$55. Pregnancy rates during 45 days of breeding were similar across all groups, varying from 88% to 93%. Calving difficulty score was 1.25 and 1.22 for the low-gain and high-gain spring-born heifers, respectively. (*Calving difficulty was evaluated on a 1 to 5 scale, where 1 = no assistance and 2 = easy pull.*) The August-bred heifers from the summer group had a calving difficulty of 1.2, while those bred in September scored 1.0. The authors explain that since calf birth weights were the same for all treatment groups, calf size was not the problem. The difference, between those calving in May and those calving in June, was that the latter group was a month older. *Even I knew that.* They go on to say that other factors influencing calving difficulty "may have included warmer temperatures, less stress, more pelvic relaxation, better nutrition on green grass and more heifer exercise."

The Downside

Both groups of the spring-calving cows rebred at 91%. It was not so good for the summer calvers. Conception rate of the first-calf cows in the early-calving group was 78% and 82% for the June group. The authors explain that this probably was due to "the low, nutritional value of the mature grass during the September and October breeding season." The poor conception rates occurred "even though 2 yr-old cows

were supplemented (1 lb/d; 48% CP; as fed basis) during the breeding season." The research facility conducting this study is near North Platte, NE - 41° N latitude. In order to have the opportunity for a 100% rebreed, these cows need to be in a BCS of 6 at calving, when BCS and photoperiod are the only factors considered. That, of course, is not the herd average but any cow that is trying to get pregnant. These cows had an average BCS of 5.2, which indicates marginality for several in the herd. Weaning weights indicate that lactation probably was quite high. The ingredient composition of the supplement is not given but it can be surmised that it is an oilseed meal, which means energy. This brings up the matter of energy partitioning. The purpose of increasing dietary-energy intake at breeding is to supply energy to the maternal tissues in order to enhance ovulation, endocrine function, etc. In a situation in which a large proportion of stored energy is moving to mammary tissue, reproductive processes can be impaired. Any increased caloric intake tends to go with the enzymatically-influenced flow. Flow of energy-tissue reserves to mammary tissue may even be accentuated. The onset of estrus, particularly with the first-calf cow, may be delayed. This young cow is about 20% more likely to conceive on her third postpartum cycle than on her first. Sometime during the 45-day breeding season, she needs to experience that third cycle.

Rumors

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Thank you Tim Steffens, CO

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800.575.0864 or 520.544.0864

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¹ Funston, RN and GH Deutscher. 2004. Comparison of target breeding weight and breeding date for replacement beef heifers and effects on subsequent reproduction and calf performance. J. Anim. Sci. 82:3094.