

EARLY WEANING FALL-BORN BEEF CALVES FOR IMPROVED REBREEDING OR DECREASED WINTER FEED

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Story in Brief

Twenty fall-calving cows were assigned to early weaned or normally suckled groups. Early weaned calves were wintered on wheat pasture while their dams were fed only low quality sorghum-sudan hay. Normally suckled cows were fed high quality clover/grass hay and lost less weight in the winter but gained more through weaning in June. Early weaned calves grew less than normally suckled calves and weighed 110 pounds less at weaning. Early weaned cows rebred successfully and tended to have shorter calving intervals (19 days) than did normally suckled cows. The practice of early weaning fall calves and growing them on wheat pasture is a feasible alternative, especially if hay quality and quantity is too low for adequate winter feed for fall calving cows.

(Key words: Early weaning, Beef, Wheat pasture.)

Introduction

Calves can be successfully weaned at 6 to 8 weeks of age and efficiently raised to a normal weaning weight in drylot. Early weaning permits high conception rates and rapid rebreeding. While early weaning is certainly not a standard practice, it may be useful when feed is limited and could be more efficiently fed directly to the calf than to the lactating cow. Early weaning may offer cattlemen a chance to achieve high conception rates in cows too thin to rebreed otherwise.

Lactation roughly doubles the daily energy and protein requirement for a typical beef cow. For fall-calving cow this occurs at a time of the year when forage quality is low and cold stress can be severe. Removing the calf at 6 to 8 weeks into lactation reduces the quantity and quality of forage needed to maintain the cow. Adequate gains on fall-born, light-weight calves could possibly be achieved economically on high quality forage such as wheat pasture. Therefore the current study was conducted at the Eastern Oklahoma Agronomy Experiment Station to examine the weight gains of cows and calves

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after early weaning in late fall utilizing minimal feed inputs for early-weaned cows and wheat pasture for early-weaned calves.

Materials and Methods

Twenty fall-calving cows and their calves were blocked by age and sex of calf and randomly assigned to an early weaned or normally suckled group. Calves were vaccinated for blackleg and bull calves were castrated in late October. All calves were implanted and ear-tagged on December 1. On December 1, eight early-weaned calves were separated from their dams and drylotted with access to 12% crude protein sweet feed, free-choice grass hay, and fresh water. The calves were moved to wheat pasture (0.3 acres/head) on December 7 to December 10. Two late-born calves were weaned on December 15 and moved to wheat pasture on December 19. While on wheat pasture, calves received a total of 12 small square bales of grass hay fed periodically from December to March. No more than three bales were fed at any one time. Early-weaned calves were removed from wheat pasture on May 26 and returned to the same bermudagrass/clover pastures as the normally suckled cows and calves.

Normally suckled calves wintered with their dams. The cows received free choice high quality clover/grass hay (11.4% to 12.1% crude protein; 55.8% to 57.9% total digestible nutrients). Early weaned cows had free-choice access to lower quality sorghum-sudan hay (7.8% crude protein; 50.6% total digestible nutrients). All calves and cows were individually weighed on December 1, March 21, May 16, and June 26. The March 21 weigh date was chosen to coincide with normal withdrawal from wheat pasture if a grain crop was to be harvested. The May 16 weigh date was chosen to represent gains up to the end of wheat pasture graze-out. The June 26 weigh date represents normal weaning time for fall born calves.

The effect of early weaning on cow and calf weight change was analyzed using analysis of variance with treatment and calf sex as main effects and calf birth date and initial cow weight as covariate effects in the model.

Results and Discussion

Least squares means for weight changes of the cows during three distinct periods in the winter and spring are reported in Table 1. The corresponding least squares means for weight changes of the calves are reported in Table 2. The probability that a greater difference between early-weaned animals and control animals would occur due to chance is listed in the right hand column of each table. Also included in the Table 1 are the actual mean year to year calving intervals in days for early-weaned cows and control cows. Only 9 early-weaned cows were include in this analysis because one of the cows was

impregnated before the beginning of the assigned breeding season. Therefore, her calving interval was extraordinarily shortened. All 20 of the cows became pregnant before the conclusion of the breeding season.

Early-weaned cows lost weight during the winter months because of the very low amount of feed input available to them. However, during the spring and early summer months they regained much of the lost weight and had a numerically shorter mean calving interval (364 vs 383 days).

Early-weaned calves grew less than suckled calves at all weigh dates. The dense stocking rates may have contributed to their poor rates of gain and 110 pounds less weaning weight. Forage became very limited in the wheat pasture traps that the early-weaned calves were forced to graze. Also, drinking water quality was questionable for early-weaned calves, possibly reducing intake and performance. No significant health problems were observed in early weaned or normally-suckled calves.

Fall-born calves can be successfully early weaned (6 to 8 weeks of age) and wintered on small grain pastures. This allows for cows to be wintered on low quality roughage and still maintain excellent breeding rates.

Table 1. Weight gains and calving intervals for normally-suckled and early-weaned cows by period.

Period	Early-weaned	Normal	Probability
Dec. 1 - Mar. 21	-47.5	33.3	.04
Mar. 21 - May 16	65.5	-25.1	.01
May 16 - Jun. 26	89.5	66.9	.31
Dec. 1 - Jun. 26	107.6	75.1	.34
Calving Interval (days)	364	383	.13

Table 2. Weight gains for normally-suckled and early-weaned calves by period.

Period	Early-weaned	Normal	Probability
Dec. 1 - Mar. 21	141.0	187.2	.01
Mar. 21 - May 16	98.5	139.7	.001
May 16 - Jun. 26	64.2	87.0	.02
Dec. 1 - Jun. 26	303.7	413.9	.001