

Table 1. Effect of Preweaning Plane of Nutrition on Cow Productivity

	Preweaning Treatment of Cows		
	Weaned at 140 days	Weaned at 240 days	Cows Creep fed, weaned at 240 days
1965 and 1966 Calves			
No. cows bred	48	49	45
Calving date	4-4	3-31	4-8
Birth wt., lb.	65	65	63
% calved	77	79	84
% weaned	71	72	75
210-day wt., lb.	402	387	383
1967 Calves			
No. cows bred	49	46	50
Calving date	3-31	3-28	3-30
Birth wt., lb.	68	69	70
% Calved	90	85	90
% Weaned	78	74	76
210-day wt., lb.	430	410	406

Performance of Beef Calves During a Three Week Pre-weaned Period

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Story in Brief

Two hundred weaner beef calves were used to observe weight change patterns during a three-week period after weaning. Steer and heifer calves consuming limited amounts of supplemental feed while being weaned on pasture averaged 30 and 13 pounds of gain, respectively, during 21 days after weaning. The possibility of important sex differences in gain immediately after weaning is suggested.

Introduction

Much interest in pre-weaning of feeder calves before they are shipped to the feedlot has occurred during the past two years. It appeared desirable to establish the weight change pattern of calves after weaning when maintained on the farm or ranch for periods up to 3 weeks prior to shipment. This test was conducted in the fall of 1967 at the Ft. Reno Research Station.

Procedure

Two hundred, spring-dropped, commercial beef calves were selected as experimental animals for this test. The group consisted of 115 steer calves and 85 heifer calves from research herds maintained at the Ft. Reno Station. The calves were weaned at an average age of approximately 7 months.

Steers and heifers were maintained in separate Bluestem grass pastures after weaning on October 3, 1967. All calves were weighed individually at weaning and at 7-day intervals thereafter to measure weight changes occurring during a typical 3 week weaning period. All weights were non-shrunk weights following a one-quarter mile drive. The calves had been previously vaccinated (at about 3 months of age) for blackleg and no immunizations were given as a pre-weaning or pre-conditioning treatment since the test was designed to observe typical weight changes during a post-weaning period of the duration mentioned.

Supplemental feed was provided as follows: Free choice access to alfalfa hay for 6 days. From this point hay was eliminated and the calves were started on 1 pound of a 50:50 mixture of ground milo and crimped coats and remained near this level of grain intake for the balance of the period.

Results and Discussion

The results concerning calf performance, conformation grade and condition scores are summarized in Table 1.

The average increases in weight during the 21 day period were 30 and 13 pounds respectively for steers and heifers. Since the steers and heifers were maintained in different pastures, the difference in weight gain between the two groups should not be considered entirely due to sex differences. The question is raised, however, as to the relative aggressiveness of calves of different sex following weaning.

The small difference observed in grade and condition scores suggest that these characteristics remained basically unchanged during the period.

Hay consumption during the first week averaged about five pounds daily. Grain consumption during the last two weeks averaged about one pound daily. The low rate of supplemental feed consumption suggests the calves were on good pasture, which was the case. It is likely that the calves would have approached the gains observed without supplemental feed.

Table 1. Changes in Weight, Grade and Condition of Beef Calves During A Three Week Period Following Weaning

No. of Calves ¹	Steers 115	Heifers 85	Avg.
Calf Performance, lbs.:			
Weaning weight (10-3-67) ²	469	459	464
Weight 21 days post-weaning ²	499	472	485
Total Gain (21 days)	30	13	21
Daily Gain (21 days)	1.43	.62	1.00
Conformation Grade: ³			
At weaning	14.5	14.2	14.3
21 days post weaning	14.7	14.2	14.4
Condition Scores: ⁴			
At weaning	10.9	11.4	11.2
21 days post weaning	11.6	11.3	11.4
Feed Consumption per calf (21 days) lbs.:			
Ground Milo	8.9	8.9	8.5
Crimped Oats	7.4	7.5	7.4
Alfalfa Hay	35.8	33.3	34.5

¹ All calves were dropped in late winter and early spring of 1967.

² All weights are non-shrunk weights after approximately one-quarter mile drive.

³ Scores based on following scale: Average prime=16, average choice=15, average good=10

⁴ Scores based on visual appraisal with 11 representing calves that would grade average choice and 10 low choice as slaughter calves.

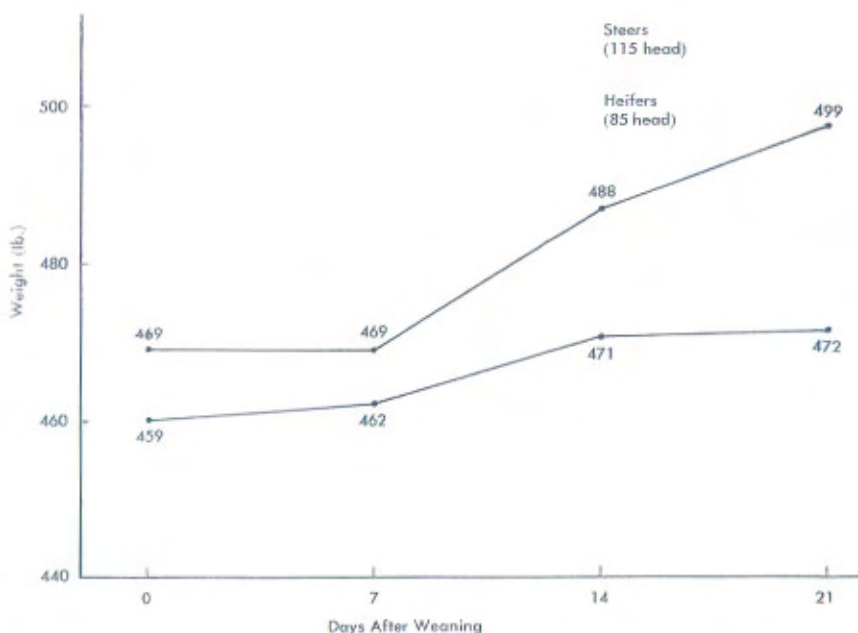


Figure 1. Weight change pattern of beef calves during a 3 week pre-weaning period.

The weight changes of steer and heifer calves are shown graphically in Figure 1. It is apparent that essentially no gain was made the first week. Both sexes exhibited the greatest weight gain the second week. During the third week the heifers made essentially no gain while steers exhibited a rate of gain of about 50 percent of that observed during the previous week. These data suggest that one week may not be sufficient to recover or exceed weaning weight. Therefore, at the end of two or three weeks weights could be comparable to those at weaning.

There are numerous factors that should be studied in conjunction with pre-weaning and pre-conditioning of beef calves (i.e. vaccinations & parasite control). Therefore, a total program must be designed to properly pre-condition calves.

Seasonal Variation in the Composition and Digestibility of Midland Bermudagrass

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Story in Brief

The seasonal variation in *in vitro* dry matter digestibility and certain chemical constituents are presented for samples of Midland bermudagrass taken at the Fort Reno Experiment Station during the years 1966 and 1967. Chemical analyses determined were crude protein, neutral detergent solubles, neutral detergent fiber, acid detergent fiber and acid detergent lignin. Also, samples were analyzed for percent calcium, phosphorus, magnesium and potassium.

The data indicate a positive relationship between neutral detergent solubles (cell contents), crude protein and *in vitro* dry matter digestibility. There is a negative relationship between dry matter digestibility and all three fiber fractions. It appears that Midland bermudagrass is a high quality forage for only about the first sixty days of the growing season.