

**Project 253-2: Factors Influencing Profitable Grass Utilization and Sound Pasture Management. Wintering Grazing and Fattening Heifers.**

**WINTERING HEIFER CALVES THAT ARE TO BE FATTENED FOR THE SUMMER OR EARLY FALL MARKET**

Experiment V - 1948-1949

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**INTRODUCTION**

Previous tests have shown that two or two and one-half pounds of grain daily will winter heifer calves well, which are to be full fed for an early market either after wintering or following wintering and grazing without grain 75 to 100 days.

This wintering phase was preparatory to grazing and feeding. Comparisons are being made of full feeding in the dry lot and feeding on bluestem grass and brome grass of both the well-wintered and rough-wintered heifers.

The objectives of this work with heifer calves are:

- 1 - To determine the best methods of utilizing grass in fattening heifers.
- 2 - To develop systems of fattening heifers that may be adapted to varying farm and ranch conditions.

Dehydrated alfalfa and dehydrated brome grass pellets were compared with soybean meal, cottonseed meal and linseed meal as protein supplements in the winter rations.

**Experimental Procedure**

- Lot 1 - Wintered with 20 pounds silage, prairie hay, two pounds of ground corn and one pound cottonseed meal per head daily. This lot will be grazed on bluestem grass until about July 15 then full fed in dry lot.
- Lot 2 - Wintered with 20 pounds silage, prairie hay, two pounds corn and one pound soybean meal per head daily. This lot will be full-fed on brome grass pasture following the winter period.
- Lot 3 - Wintered with 20 pounds silage, prairie hay, one pound linseed meal and two pounds ground corn per head daily. This lot will be grazed on bluestem grass until about July 15, then full fed on grass.
- Lot 4 - Wintered with 20 pounds of silage, prairie hay, two pounds of ground corn and dehydrated alfalfa pellets per head daily. This lot will be fed out at the close of the winter period without going to grass.
- Lot 5 - Wintered with 20 pounds silage, prairie hay, two pounds of ground corn and dehydrated brome grass pellets per head daily. This lot will be grazed on brome grass without grain at the close of the winter period and full-fed in dry lot beginning about June 1.
- Lots 6 - 7 and 8 - Wintered with 20 pounds silage, prairie hay and one pound cottonseed meal daily. These lots will be grazed on bluestem pasture with well-wintered lots 1 and 2 and will be full fed as check lots.

**Observations**

- 1 - Calves wintered on silage, prairie hay, one pound oil seed meal and two pounds grain, should gain approximately 1.25 pounds per day. Lot 1, 2, and 3, receiving one pound, cottonseed meal, soybean meal and linseed meal respectively made such gains. Neither 1.75

pounds dehydrated alfalfa nor 1.78 pounds of dehydrated brome grass equalled one pound of the oil seed meals as protein supplements.

- 2 - One pound cottonseed meal fed without grain to lots 6, 7, and 8, gave only slightly lower gains than 1.75 pounds of the dehydrated grasses plus two pounds of ground corn.
- 3 - Wintering costs on lots 4 and 5 are higher than lots 1, 2, and 3 due to the relatively higher price of the dehydrated feeds.
- 4 - Feeding the dehydrated feeds as a protein supplement decreased hay consumption slightly.
- 5 - Lots 6, 7, and 8 wintered on silage, prairie hay and one pound of cottonseed meal, gained approximately one pound per head daily which is about a normal gain on this ration.
- 6 - Lots 6, 7, and 8 were wintered together. It is of interest to note that more variation was found in gain between the lots eating the same feed out of the same bunk than resulted between the gains in lots 1, 2, and 3 which were fed different protein supplements in separate lots.

**Phase 1—Wintering**  
**November 29, 1948 to April 18, 1949—140 Days**

1—Lot Number .....	1	2	3	4	5	6	7	8
2—Number of heifers in lot .....	10	10	10	10	10	10	10	10
3—Ration fed .....	Silage Prairie hay Cotton- Seed meal Corn	Silage Prairie hay Soybean meal Corn	Silage Prairie hay Linseed meal Corn	Silage Prairie hay Dehyd- alfalfa pellets corn	Silage Prairie hay Dehyd- Brome grass pellets corn	Silage Prairie hay Cotton- Seed meal	Silage Prairie hay Cotton- seed meal	Silage Prairie hay Cotton- seed meal
4—Average daily ration, lbs .....								
Silage .....	20.	20.	20.	20.	20.	20.	20.	20.
Prairie hay .....	4.43	4.16	4.24	3.73	4.05	4.79	4.79	4.79
Ground Corn .....	2.	2.	2.	2.	2.			
Cottonseed meal .....	1.					1.	1.	1.
Soybean meal .....		1.						
Linseed meal .....			1.					
Dehyd. alfalfa pellets .....				1.75				
Dehyd. brome grass pellet .....					1.78			
Salt .....	.05	.04	.05	.05	.03	.02	.02	.02
5—Average initial weight .....	460.	463.	463.	446.	446.	446.	450.	440.
6—Average Final weight .....	631.	646.	633.	588.	596.	580.	604.	571.
7—Total gain per heifer .....	171.	183.	170.	142.	150.	134.	154.	131.
8—Average daily gain .....	1.22	1.31	1.21	1.01	1.07	.95	1.10	.93

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9—Feed required for 100 pounds; gain lbs.								
Silage .....	1628.65	1530.05	1638.23	1940.14	1853.33	2084.40	1813.70	2132.14
Prairie hay .....	362.92	318.96	349.41	368.52	738.20	500.60	435.58	512.06
Ground Corn .....	157.89	147.54	158.82	188.02	180.00			
Cottonseed meal .....	81.87					105.67	91.95	108.10
Soybean meal .....		76.50						
Linseed meal .....			81.17					
Dehyd. alfalfa pellets .....				173.16				
Dehyd. brome grass pellets .....					166.60			
10—Cost of feed for 100 pounds gain..	\$ 14.81	\$ 13.72	\$ 14.94	\$ 18.69	\$ 18.11	\$ 14.38	\$ 12.52	\$ 14.71
11—Feed cost per heifer .....	\$ 25.32	\$ 25.10	\$ 25.40	\$ 26.55	\$ 27.16	\$ 19.28	\$ 19.28	\$ 19.28
12—Initial cost of heifers at \$26.50 per cwt. ....	\$121.90	\$122.70	\$122.60	\$118.19	\$118.19	\$118.19	\$119.25	\$116.60
13—Heifer cost plus feed cost .....	\$147.22	\$147.80	\$148.00	\$144.74	\$145.35	\$137.47	\$138.53	\$135.88
14—Necessary selling price per cwt. to pay for feed and initial cost. ....	\$ 23.33	\$ 22.88	\$ 23.38	\$ 24.62	\$ 24.39	\$ 23.70	\$ 22.94	\$ 23.80
15—Appraised value per cwt. May 1, 1948								

FEED PRICES: Ground shelled corn, \$1.25 per bushel; Cottonseed meal, soybean meal, \$75.00 per ton; Linseed meal, \$80.00 per ton; Dehydrated alfalfa pellets, dehydrated Brome grass pellets, \$60.00 per ton; Prairie hay, \$15 per ton; Silage, \$6.50 per ton.