

Project 253-1: Wintering and Grazing Steer Calves

Methods of Wintering Steer Calves That Are To Be Grazed a Full Season and Sold Off of Grass—1949-1950

E. F. Smith, D. L. Good, R. F. Cox

INTRODUCTION

It is a well known fact that thin steers usually gain more on grass than fleshy steers. However, little information is available about the total gain, winter and summer, of steers wintered in different ways and then grazed on bluestem pasture. The primary objective of this test is to determine how steer calves that are to be grazed a full season on bluestem pasture and sold off of grass should be wintered. This is the first year's work on a three-year project.

EXPERIMENTAL PROCEDURE

Five lots of good quality Hereford steer calves, 10 head to a lot, were used in this study. All were wintered in a dry lot except lot 1 which was fed out on bluestem pasture. The different lots received the following wintering rations from November 25, 1949 to May 1, 1950 and were then grazed together on bluestem pasture until September 29, 1950.

- Lot 1—Bluestem pasture and 2 pounds of soybean pellets per head daily.
- Lot 2—Silage and 1 pound of soybean pellets per head daily.
- Lot 3—Prairie hay and 1 pound of soybean pellets per head daily.
- Lot 4—Prairie hay, 2 pounds of corn and 1 pound of soybean pellets per head daily.
- Lot 5—Prairie hay, 4 pounds of corn and 1 pound of soybean pellets per head daily.

OBSERVATIONS

1. This first test indicates that the most satisfactory way of wintering steer calves may be out on dry bluestem pasture if they are to be grazed a full season and sold in the fall. The winter of 1949-50 was exceptionally mild with very little rain or snow and the calves wintered on grass were in a creek bottom bluestem pasture with considerable bluegrass in it.
2. Steer calves wintered on dry bluestem grass (lot 1) had the lowest feed cost per 100 pounds of gain, the lowest total feed cost per steer and made the greatest return per steer.
3. Lot 5, fed 4 pounds of grain per head daily during the winter, gained 51 pounds more than any other lot and due to this large gain made practically as much money as lot 1, which was wintered out on the grass.
4. The lots that made the smallest winter gain made the largest summer gain.
5. The steer calves wintered on prairie hay supplemented with protein did not make quite as much total gain as did the calves wintered on silage supplemented with protein.

TABLE I—Methods of Wintering Steer Calves That Are To Be Grazed a Full Season and Sold Off of Grass

PHASE I—WINTERING

November 25, 1949-May 8, 1950—164 days

1. Lot number	1	2	3	4	5
2. Number of steers per lot	10	9	9	10	10

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head they were placed on a self feeder and the silage was omitted from the ration and replaced with a total of three to four pounds of alfalfa hay per head daily, which was about what they would clean up in a day.

The rolled milo was dry rolled and appeared satisfactory upon emergence from the roller; however, after sacking and when it was finally fed to the cattle it was broken into small particles and somewhat powdered. The coarse ground or cracked milo was the product of a burr mill. A hammer mill was used to prepare the fine ground milo, which was ground to a coarse mealy mixture.

OBSERVATIONS

1. Only small differences in daily gain have occurred; all lots have made very satisfactory gains to date.
2. Grain consumption was about the same for all lots. The steers fed coarse ground milo consumed slightly more grain than steers fed either rolled milo or fine ground milo.
3. Little or no difference is apparent at this time between the lots in regard to efficiency of gain or cost of production.

A Comparison of Rolled, Coarse Ground and Fine Ground Milo Grain for Fattening Steer Calves December 5, 1950 to April 13, 1951—129 days

1. Lot number	6	7	8
2. Management	Fine Ground Milo	Coarse Ground Milo	Rolled Milo
3. Number of steers per lot	10	10	10
4. Initial weight per steer	418	419	418
5. Final weight per steer	713	727	718
6. Gain per steer	295	308	300
7. Daily gain per steer	2.29	2.39	2.33
8. Daily ration per steer, lbs.:			
Milo grain	8.97	9.11	8.86
Soybean oil meal pellets	1.37	1.37	1.37
Sorghum silage	11.28	12.64	12.33
Alfalfa hay	2.25	2.45	2.33
Salt .....	.05	.06	.04
9. Feed required per 100 pounds of gain, lbs.:			
Milo grain	392.08	381.40	381.00
Soybean oil meal pellets	59.83	57.31	58.83
Sorghum silage	493.39	529.22	530.17
Alfalfa hay	98.31	102.76	100.00
Salt	2.40	2.30	1.60
10. Cost of feed per 100 pounds of gain	\$13.84	\$13.66	\$13.68
11. Initial cost per steer into feed lot @ \$31.50 per cwt.	\$131.67	\$131.99	\$131.67
12. Feed cost per steer	\$40.82	\$42.06	\$41.03
13. Steer cost plus feed cost	\$172.49	\$174.05	\$172.70
14. Necessary selling price per cwt. to meet steer cost plus feed cost	\$24.19	\$23.94	\$24.05
15. Appraised value per cwt. May 5, 1951			

	Bluestem Pasture	Dry lot	Dry lot	Dry lot	Dry lot
3. Place wintered ..					
4. Number of days in phase	157	164	164	164	164
5. Average daily ration:					
Corn	—	—	—	2.00	4.00
Soybean pellets	2.00	1.00	1.00	1.00	1.00
Silage	—	28.99	—	—	—
Prairie hay ² ....	.04 ²	—	12.25	10.95	9.00
Salt .....	.06	.07	.06	.06	.06
Bluestem pasture	Ad lib				
6. Average initial weight	431	430	434	432	432
7. Average final weight	578	588	594	618	687
8. Average gain	147	158	160	186	255
9. Average daily gain .....	.94	.96	.98	1.13	1.55
10. Feed required for 100 lbs. gain					
Corn	—	—	—	176.34	257.25
Soybean pellets	213.61	103.80	102.55	88.17	64.31
Silage	—	3009.49	—	—	—
Prairie hay	4.08	—	1286.53	965.27	642.59
Salt	6.87	6.97	6.63	5.67	3.92
Bluestem grass	Ad lib				
11. Feed cost per cwt. gain ³	\$12.16	13.56	12.25	13.55	12.35
12. Feed cost per steer ³	\$17.88	21.42	19.60	25.20	31.49

PHASE II—GRAZING

May 8, 1950-September 29, 1950—144 days¹

13. Lot number	1	2	3	4	5
14. Days in phase	151 ¹	144	144	144	144
15. Average initial weight	578	588	594	618	687
16. Average final weight	836	834	819	837	888
17. Average gain	258	246	225	219	201
18. Average daily gain	1.71	1.71	1.56	1.52	1.40
19. Cost of grazing per steer (blue- stem)	\$12.00	12.00	12.00	12.00	12.00
20. Cost of 100 lbs. of pasture gain ..	\$4.65	4.88	5.33	5.48	5.97

SUMMARY OF PHASES I & II

November 25, 1949-September 29, 1950—308 days

21. Lot number	1	2	3	4	5
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22. Average initial weight	431	430	434	432	432
23. Average final weight	836	834	819	837	888
24. Average gain ..	405	404	385	405	456
25. Average daily gain	1.31	1.31	1.25	1.31	1.48
26. Feed required for 100 lbs. gain					
Corn	—	—	—	80.99	143.86
Soybean pellets	77.53	40.59	42.60	40.49	35.96
Silage	—	1176.98	—	—	—
Prairie hay	1.48	—	534.66	443.30	359.34
Salt	2.49	2.73	2.76	2.60	2.19
27. Feed cost per 100 lbs. gain ³ ..	\$7.38	\$8.27	\$8.20	\$9.19	\$9.54
28. Total feed cost per steer ³	\$29.88	\$33.42	\$31.60	\$37.20	\$43.49
29. Initial cost per steer at \$24.50 a cwt.	\$105.60	\$105.35	\$106.33	\$105.84	\$105.84
30. Total cost of steer and feed ..	\$135.48	\$138.77	\$137.93	\$143.04	\$149.33
31. Selling price per steer at \$27.50 per cwt. ⁴	\$220.55	\$220.00	\$215.88	\$220.83	\$234.30
32. Return per steer	\$85.07	\$81.23	\$77.95	\$77.79	\$84.97

1. Grazing phase for lot 1 began May 1, 1950 rather than May 8, 1950.

2. Prairie hay was fed to lot 1 only when snow covered the grass.

3. Feed prices: ground shelled corn, \$1.25 a bu.; soybean pellets, \$75 per ton; prairie hay, \$13.00 per ton; silage, \$6.50 per ton; bluestem pasture per head, \$6.00 for the winter, \$12.00 for the summer; salt \$12.00 per ton.

4. Selling price per steer is based on a selling price of \$27.50 a cwt. and market weight which represents an average shrink of 4.1% from home weight.

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INTRODUCTION

This is a report on the wintering phase of this test. It will be completed at the close of the grazing season in 1951. The purpose of this study is to determine the best method of wintering good quality steer calves that are to be grazed on bluestem pastures the following summer and sold off grass.

EXPERIMENTAL PROCEDURE

Five lots of good quality Hereford steer calves, 10 head to a lot, were used in this study. All were fed in dry lot, except lot 1, which was