

Feed cost per cwt. gain (all phases)	\$16.13	\$17.72	\$17.77
Total cost of feed per steer	103.92	116.08	110.71
Initial cost per steer at 29 cwt. .	104.40	104.69	103.53
Feed cost + steer cost	208.32	220.77	214.24
Selling price per cwt. at market	22.00	22.00	22.00
Selling price per steer	218.68	225.72	215.60
Return per steer above initial cost + feed cost	10.36	4.95	1.36
Percentage wt. change in shipping to market	-1.00	+1.00	-1.00
Dressing percentage	60.0	60.7	60.6
Carcass grades, US*:			
Choice+			
Choice		1	
Choice-		3	1
Good+	1	3	2
Good	3	2	4
Good-	3		3
Commercial+	1	1	

1. Mineral was 2 parts steamed bonemeal to 1 part salt.
2. The trace minerals were fed as a trace mineral premix added to the soybean oilmeal to furnish the following amounts in milligrams per head daily in the wintering and fattening ration, respectively: manganese 25.0, 56.3; iodine .87, 1.97; cobalt .55, 1.25; iron 20.5, 46.13; copper 1.62, 3.65; zinc 1.52, 3.42.
3. Feed prices: corn \$1.60 per bu.; soybean pellets \$95 a ton; sorghum silage \$10 a ton; prairie hay \$25 a ton; mineral \$5 cwt.; salt \$12 a ton; bluestem pasture \$16 per head.
4. The carcasses were graded the following day as follows: Lot 1—1 commercial, 7 good and 2 choice; Lot 2—1 commercial, 5 good and 4 choice; and Lots 3-9 good and 1 choice.

Wintering, Grazing, and Fattening Heifers, 1952-53

PROJECT 253-2

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This test was to compare different methods of wintering heifer calves that are going to be full fed grain after a short summer grazing period. Lot 1 was wintered on dry bluestem pasture. Lot 2 was wintered in drylot. It was planned to winter Lot 3 on brome pasture but lack of moisture and bromegrass growth made it necessary to move the heifers in Lot 3 into drylot January 1.

Experimental Procedure

Thirty good quality Hereford heifer calves, 10 head to a lot, were used in the study. They cost 29 cents a pound delivered to Manhattan, Kansas, September 15, 1952. They originated in the Sterling City, Texas, area. From delivery date until November 15, 1952, they were fed prairie hay and 1 pound of soybean oilmeal pellets per head daily. The system of management for each lot follows:

Lot 1—wintered on dry bluestem pasture supplemented with 1½ to 2 pounds of concentrate feed per head daily, grazed on bluestem pasture May 1 to July 15, full fed in drylot 100 days.

Lot 2—wintered on Atlas sorgo silage, prairie hay, 1 pound of soy-

bean pellets, and 2 pounds of corn per head daily; grazed on bluestem pasture May 1 to July 15; full fed in drylot 100 days.

Lot 3—wintered on brome pasture until January 1, then moved to drylot. In drylot they were fed sorghum silage, prairie hay, and 1 pound of soybean pellets per head daily. From April 9, 1953, to July 14, 1953, they were grazed on brome pasture; starting July 14 they were full fed grain 100 days in drylot.

Observations

1. The winter of 1952-53 in general was mild and favorable for wintering on dry grass as demonstrated by the gain made by Lot 1 at a low feed cost. There were three snowstorms; one the latter part of November left snow covering the grass three weeks.

2. The heifers in Lots 2 and 3 made favorable winter gains. Lot 2 was showing considerable "fleshing" at the close of the winter period. This probably affected the summer gain to some extent, lowering it to .64 pound per head daily.

3. The heifers were self-fed grain during the fattening period and all lots made good gains. Lot 2 continued gaining at a lower rate than the other two lots, probably due to the additional finish they appeared to be carrying.

4. Lot 2, wintered at the highest level, sold for more than the other two lots and produced the highest grading carcasses.

5. Lot 3 wintered at a slightly lower level than Lot 2, made about the same gain, and had about the same dressing percentage. They lost a little more money than Lot 2, primarily because of a lower selling price.

6. Lot 1 wintered in dry bluestem produced the lowest total gain, selling price, dressing percentage, and carcass grade. However, in money lost they ranked favorably, along with Lot 2, largely because of lower feed costs.

Table 7.—Wintering, Grazing, Fattening Heifers.
Phase 1—Wintering 1952-53

Lot number	1	2	3
Place of wintering.....	Bluestem pasture	Drylot	Drylot and brome pasture
No. heifers per lot	10	10	10
Number of days in phase	170	170	145
Initial wt. per heifer	443	445	446
Final wt. per heifer	588	714	625
Gain per heifer	145	269	179
Daily gain per heifer .....	.85	1.58	1.24
Feed per head daily:			
Soybean pellets	1.16	1.00	1.00
Corn .....	.30	1.94	
Prairie hay	1.85	5.35	6.45
Sorghum silage		21.47	17.76
Mineral .....	.04	.06	.18
Salt .....	.04	.05	.09
Cost of feed per cwt. gain	10.37	17.65	17.15
Feed cost per heifer	18.05	47.52	34.86

Phase 2—Grazing			
Lot number	1	2	3
	Bluestem pasture	Bluestem pasture	Brome pasture
Place and time of grazing	May 4-July 14, 1953	May 4-July 14, 1953	April 9 to July 14, 1953
Number of days grazed	71	71	96
Initial wt. per heifer	588	714	625
Final wt. per heifer	717	759	749
Gain per heifer	129	45	124
Daily gain per heifer	1.82	.64	1.29

Phase 3—Full Feeding			
July 14, 1953, to October 22, 1953—100 days.			
Lot number	1	2	3
Initial wt. per heifer	717	759	749
Final wt. per heifer	949	970	970
Gain per heifer	232	211	221
Daily gain per heifer	2.32	2.11	2.21
Feed per head daily:			
Ground corn	14.48	13.67	13.97
Soybean oilmeal pellets	1.49	1.47	1.48
Prairie hay	5.68	5.35	6.19
Ground limestone	.10	.09	.09
Salt	.07	.06	.07
Feed per cwt. gained:			
Ground corn	624.35	648.82	632.13
Soybean pellets	64.11	69.78	67.30
Prairie hay	245.00	253.40	280.00
Ground limestone	4.22	4.60	4.43
Salt	3.02	2.80	3.53
Feed cost per cwt. gain	23.64	24.71	24.45
Total feed cost this phase	54.81	52.09	54.01

Summary of Phases 1, 2, and 3			
Lot number	1	2	3
Total gain per heifer all phases	506	525	524
Daily gain per heifer all phases	1.48	1.54	1.54
Feed cost per cwt. gain	17.56	22.02	20.01
Total cost of feed per heifer	88.84	115.59	104.85
Initial cost per heifer	128.47	129.05	129.36
Feed cost and heifer cost	217.31	244.64	234.21
Selling price per cwt. at market	22.00	24.25	23.00
Selling price per heifer	208.34	236.20	221.49
Loss per heifer	8.97	8.44	12.72
Percentage shrink in shipping to market	.20	.40	.40

Dressing percentage	58.9	61.9	61.6
Carcass grades, U.S.:			
Prime		1	
Prime—		1	
Choice+		2	1
Choice		1	
Choice—	4	4	5
Good+	2	1	2
Good	2		2
Good—	2		

1. Wintering period for Lots 1 and 2 was November 15, 1952, to May 4, 1953, 170 days; Lot 3, November 15 to April 9—145 days.

2. Feed prices were corn \$1.60 a bu.; soybean pellets \$95 a ton; prairie hay \$25 a ton; sorghum silage \$10 a ton; mineral \$5 a hundred and salt \$12 a ton.

3. Mineral was two parts steamed bonemeal, one part salt.

4. Fed only when snow covered the grass.

A Comparison of Alfalfa Silage and Alfalfa Hay for Wintering Heifer Calves, 1953-54.

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Introduction

Results of two years' trials previously indicated that alfalfa silage did not produce satisfactory winter gains on beef calves and that it was distinctly inferior to alfalfa hay fed free choice. This year's test was planned to study certain supplements when the dry matter intakes of hay and silage were held equal.

Experimental Procedure

Forty Texas Hereford heifer calves averaging 360 pounds each were divided into four lots of 10 head each. The feeding test was conducted from December 17, 1953, to April 8, 1954, or 113 days.

The alfalfa silage and hay were made from first-cutting feed in the same field, when it was approaching one-half bloom. One lot of silage was preserved with cornmeal at the rate of 150 pounds per ton of green forage. The other silage was made without preservative. Both silages were field-chopped and hauled immediately to the silos.

The first feeding plan was to add concentrates to the roughages at the same rate as the corn in the alfalfa-cornmeal silage. However, since consumption and gains of all the calves were so unsatisfactory at the end of 29 days of feeding, the plan was altered so that all groups were fed concentrates at the rate of 4 pounds per head daily, allowance being made in Lot 3 for the corn contained in the silage.

Table 8.—Alfalfa Silage and Hay for Wintering Heifer Calves.
(December 17, 1953-April 8, 1954—113 days)

Lot number	3	4	5	6
Number heifers per lot	10	10	10	10
Rations fed	Alfalfa-corn meal silage, ¹ corn	Alfalfa silage, corn	Alfalfa silage, corn, cottonseed meal	Alfalfa hay, corn
Av. initial wt., lbs.	360	360	360	360

1. Contained .07 pound corn per pound of silage.