

Table 30
The Influence of Stilbestrol Implants on Steer Calves, Wintering, Grazing, Fattening,
Wintering phase—November 30, 1955, to May 3, 1956—155 days.

Lot number	18		15	
	Controls	Implants 36 mgs.	Controls	Implants 36 mgs.
Daily ration, lbs.:				
Sorghum silage	29.7		Dry bluestem pasture	
Ground milo grain	3.9		3.6	
Soybean oil meal	1.0		1.0	
Treatment				
Number steers per treatment	10	8	4	4
Initial wt. per steer, lbs.	392	390	380	386
Final wt. per steer, lbs.	639	704	543	556
Total gain per steer, lbs.	247	314	163	170
Daily gain per steer, lbs.	1.59	2.02	1.06	1.09
Summer grazing phase—May 4, 1956, to August 3, 1956—91 days.				
Initial wt. per steer, lbs.	639	704	543	556
Final wt. per steer, lbs.	731	793	729	731
Av. total gain per steer, lbs.	92	89	186	175
Av. daily gain per steer, lbs.	1.0	.98	2.03	1.92
Full-feeding phase—August 4, 1956, to November 10, 1956—98 days.				
Treatment				
Number steers per treatment	5	4	4	4
Initial wt. per steer, lbs.	717	796	721	790
Final wt. per steer, lbs.	938	1039	914	976
Av. total gain, lbs.	221	243	193	186
Av. daily gain, lbs.	2.26	2.48	1.97	1.90
Complete feeding trial—November 30, 1955, to November 10, 1956—344 days.				
Av. initial wt. per steer, lbs.	388	383	395	398
Final wt., lbs.	938	1039	913	976
Av. total gain, lbs.	550	656	519	578
Daily gain, lbs.	1.60	1.91	1.5	1.68
			1.68	1.61

(36)

the controls: implanted animals in the dry lot gained 0.43 pound more per head daily than did the controls.

Grazing phase. All animals were grazed in the same pasture during the summer. There was little difference in the rate of gain of stilbestrol-implanted and nonimplanted steers.

Full-feeding phase. There appears to be some increase in gain due to implanting for those steers full-fed grain in dry lot after previously being wintered in dry lot.

The gains were about the same for both implants and controls for the steers self-fed grain on pasture. These steers were also wintered in dry lot.

Implanting with stilbestrol appeared to depress weight gain of steers full-fed grain in dry lot after being wintered on pasture the previous winter.

Summary

Due to the small numbers in this test, definite conclusions cannot be drawn. However, the data available indicate that management or feeds fed, perhaps roughage, may influence the results obtained from the stilbestrol implants.

Steer calves implanted with stilbestrol, wintered in dry lot, grazed on bluestem pasture in early summer, and self-fed grain in dry lot during the fall gained 106 pounds more per head than nonimplanted steers over the three phases.

The implanted steers self-fed grain on grass gained 59 pounds more per head than did the controls over the entire 346-day period.

In direct contrast the implanted steers wintered and summer grazed on bluestem pasture, then full-fed in dry lot, gained 25 pounds less than the controls during the entire 346 days of the test.

A Comparison of Wintering in Dry Lot with Wintering on Dry Bluestem Pasture for Yearling Steers on a Wintering, Grazing, and Fattening Program, 1955-1956 (Project 253-4).

E. F. Smith, B. A. Koch, and G. L. Walker

Yearling steers are often used by Kansas producers in a wintering, grazing, and fattening program or some variation of it. They can usually be purchased at a lower price per pound than steer calves and may be finished with a slightly shorter feeding period in the fall. They consume large quantities of roughage which may increase their feed cost considerably in the wintering phase. This study is concerned with lowering the cost of wintering and its effect on future performance, especially with respect to the effect on the carcass produced.

Experimental Procedure

Twenty head of good-quality yearling Hereford steers were used in the test. They were purchased from the Lonker Ranch, Medicine Lodge, Kans., as calves in the fall of 1954; they were wintered in dry lot and then grazed on bluestem pastures during the summer of 1955. November 16, 1955, they were divided to two lots of 10 steers each. The only difference in treatment of the two lots was during the winter. The treatment for each lot was as follows:

Lot 11, wintered in dry lot on silage supplemented with protein; bluestem pasture from May 3 to July 9; fed grain and protein on grass from July 9 to September 15, 1956.

Lot 12, wintered on dry bluestem pasture supplemented with protein; bluestem pasture from April 7 to July 9; fed grain and protein on grass from July 9 to September 15, 1956.

The 20 steers were grazed together from May 3 until September 15. During the grain-feeding period, July 19 to September 15, the two lots were penned each morning and fed separately.

Half of the steers in each lot were implanted with 84 mgs. of stilbestrol in December of 1955. The results of this treatment may be found elsewhere in this publication.

(37)

Observations

1. The extremely low summer gain of 0.32 pound per head daily of the steers in lot 11 is of special interest in this test. A low summer gain might be expected due to their excellent winter gain; however, this figure appears excessively low. Of interest also is the average condition score of the two lots on July 9. Lot 11, wintered inside on silage, scored somewhat higher than those wintered on dry grass, apparently still showing the effect of their good winter treatment.

2. During the fattening phase, lot 12, wintered on dry grass, gained 0.44 pound more per head daily than lot 11 on the same amount of concentrates and in the same pasture. Apparently their low winter gain was still having its effect during the fattening phase.

3. In a summary of all phases, the following advantages may be pointed out for the steers in lot 11, wintered on sorghum silage:

- (a) Gained 56 pounds more per head.
- (b) Yielded 1.96 percent more.
- (c) Graded about a third of a grade higher.
- (d) Scored somewhat more favorably in regard to various carcass measurements.

4. Lot 12, wintered on dry bluestem pasture, had a lower feed cost per 100 pounds gain and sold for about the same price per cwt. as lot 11. These factors enabled lot 12 to make a slightly greater return than lot 11, which was wintered in dry lot on sorghum silage supplemented with protein.

Table 31

A Comparison of Wintering in Dry Lot with Wintering on Dry Bluestem Pasture for Yearling Steers on a Wintering, Grazing, and Fattening Program, 1955-56.

Phase 1, Wintering, November 16, 1955, to May 3, 1956—169 days.		
Lot number	11	12
Place wintered	Dry lot	Bluestem pasture
Initial wt. per steer, lbs.	881	876
Final wt. per steer, lbs.	1145	920
Gain per steer, lbs.	264	44
Daily gain per steer, lbs.	1.56	.26
Feed per steer daily, lbs.:		
Soybean oil meal pellets	1.0	1.0 ¹
Sorghum silage	60.8	
Dry bluestem pasture		Free choice
Prairie hay	2.57 ²	.83 ³
Salt		Free choice
Mineral (bonemeal and salt)		Free choice
Feed cost per steer ⁴	\$44.12	\$11.92
Phase 2, Grazing, May 3, 1956, to July 9, 1956—68 days.		
Initial wt. per steer, lbs.	1145	920
Final wt. per steer, lbs.	1167	1078
Gain per steer, lbs.	22	158
Daily gain per steer, lbs.	.32	2.32
Condition score, July 9 ⁴	4.1	2.8
Feed cost per steer	\$18.00	\$18.00

- 1. The soybean oil meal pellets for lot 12 were discontinued April 7, 1956.
- 2. A limited quantity of prairie hay was fed to lot 11 the last six weeks of the test.
- 3. Prairie hay and a small quantity of alfalfa were fed to lot 12 only when snow covered the grass.
- 4. Individual steers were scored from 1 to 6 for condition on July 9 by a committee of animal husbandmen. The higher the score, the better the condition.

Table 31 (Continued).

Phase 3, Fattening, July 9, 1956, to September 15, 1956—68 days.		
Initial wt. per steer, lbs.	1167	1078
Final wt. per steer, lbs.	1290	1229
Gain per steer, lbs.	123	151
Daily gain per steer, lbs.	1.80	2.22
Daily ration per steer, lbs.:		
Ground milo grain	11.97	11.97
Soybean oil meal	1.63	1.63
Bluestem pasture		Free choice
Ground limestone	.06	.06
Salt		Free choice
Feed per cwt. gain, lbs.:		
Ground milo grain	661.78	539.07
Soybean oil meal	90.24	73.50
Feed cost this phase ⁶	\$23.09	\$23.09
Feed cost per 100 lbs. gain ⁶	18.77	15.29
Summary of Phases 1, 2, and 3, November 16, 1955, to September 15, 1956—305 days.		
Total gain per steer, lbs.	409	353
Daily gain per steer, lbs.	1.34	1.15
Feed cost per steer	\$85.21	\$53.01
Feed cost per 100 lbs. gain	20.83	15.01
Necessary selling price per cwt. to pay for original steer cost @ \$19 cwt. plus feed cost	19.58	17.25
Selling price per cwt. at market	20.73	20.82
% shrink in shipping to market	3.7	5.2
Dressing %, chilled	59.34	57.38
Carcass data ⁵ :		
Av. carcass grade, USDA	17.4	16.4
Av. ribeye firmness	4.14	5.16
Av. thickness of outside fat	4.28	4.83
Av. marbling score	7.42	8.50
Av. ribeye size	4.57	4.83

5. Three carcasses from lot 11 and four carcasses from lot 12 were shipped from the packing plant before carcass data were obtained from them. Only the packers' grades were available on the missing steers. The following numerals were assigned the USDA grades: High choice, 21; av. choice, 20; low choice, 19; high good, 18; av. good, 17; low good, 16; high standard, 15; av. standard, 14. The ribeyes were visually scored for firmness on the following basis: Moderately firm = 3; modestly firm = 4; slightly firm = 5. Thickness of outside fat was visually scored on the following basis: Modest = 4; slightly thin = 5. Degree of marbling; small amount = 7; slight amount = 8; traces = 9. Ribeye size: Modestly large = 4; slightly small = 5.

6. Feed prices used may be found inside back cover.

The Value of Phenothiazine and Stilbestrol Implants for Fattening Yearling Heifers; Heifers Implanted As Calves Nine Months Before Fattening (Project 253-2).

E. F. Smith, B. A. Koch, D. L. Good, and G. L. Walker

Many cattle producers practice wintering, grazing, and fattening heifers. The heifers used in this test had undergone a wintering and grazing phase. Part of them were implanted with stilbestrol as calves. Results of this treatment up to the fattening phase are reported elsewhere in this circular. Those that were not implanted were divided into two equal lots on the basis of weight. One served as a control, the other was fed phenothiazine, a worming agent, to study its effect on cattle performance.

Experimental Procedure

Good-quality yearling Hereford heifers purchased as calves in the fall of 1955 from the Williams Ranches at Lovington, N.M., were used in a wintering and grazing test and re-allotted as equally as possible for use in this test. Each heifer in the stilbestrol-implanted lot was implanted with 36 mgs. of stilbestrol December 20, 1955, when weighing about 475 pounds. The heifers treated with phenothiazine were each given a 60-gm. bolus of phenothiazine at the start of the test and were fed 2 gms. per head daily of phenothiazine mixed with their cottonseed meal throughout the test. Fecal samples taken from the heifers at the start of the test did not show evidence of any internal parasites.

Alfalfa hay was fed free choice to all lots. After the heifers were on full feed they were self-fed ground milo grain. The cottonseed meal was fed once daily on their grain.

Observations

1. The gain of heifers in lot 7 implanted with stilbestrol when they were calves was depressed during this fattening test. They did not eat quite so much grain as the other lots but ate slightly more hay. The control lot, number 8, was somewhat more efficient in feed use and sold for \$2 more per hundredweight. The implanted heifers had some udder development and somewhat of a cowy appearance. They graded one third grade lower in the carcass than the controls in lot 8.

2. The phenothiazine fed to lot 9 apparently depressed the gain of that lot but did not affect feed consumption, so feed efficiency was lowered accordingly. According to fecal samples, there were no internal parasites present in these heifers; therefore, the value of phenothiazine for worm control could not be studied.

Table 32

The Value of Phenothiazine and Stilbestrol Implants for Fattening Yearling Heifers; Heifers Implanted As Calves Nine Months Before Fattening.

August 2 to November 10, 1956—100 days.

Lot number	7	8	9
Management	Stilbestrol implanted	Control	Fed Phenothiazine
Number of heifers per lot	9	8	8
Initial wt. per heifer, lbs.	763	734	733
Final wt. per heifer, lbs.	963	985	953
Gain per heifer, lbs.	200	251	220
Daily gain per heifer, lbs.	2.00	2.51	2.20
Daily ration per heifer, lbs.:			
Ground milo grain	15.58	16.88	16.30
Cottonseed meal	.99	.96	.97
Alfalfa hay	7.00	5.52	5.64
Salt	.06	.03	.04
Phenothiazine, 2 gms. per head daily	No	No	Yes
Stilbestrol implants, 36 mgs. each on December 20, 1955	Yes	No	No

Table 32 (Continued).

Lbs. feed per cwt. gain:			
Ground milo grain	779	673	741
Cottonseed meal	49.5	38.2	44.1
Alfalfa hay	350	220	256
Salt	3.0	1.19	1.81
Feed cost per 100 lbs. gain ^a	\$23.56	\$19.37	\$21.52
Selling price per cwt. at market	\$18.00	\$20.00	\$19.00
% shrink to market	3.2	5.1	4.6
Dressing %	60.3	62.6	63.0
Av. slaughter (on foot) grade ¹	11.4	12.1	11.6
Carcass grades: [*]			
Average choice		2	1
Low choice	1	1	2
High good	3	2	3
Average good	3	1	
Low good		2	1
High standard	2		
Av. carcass grades, USDA ¹	10.1	11.0	11.3
Av. size ribeye ²	4.67	4.13	4.29
Av. thickness fat at 12th rib ³	3.67	3.75	4.14
Av. degree of marbling ⁴	7.78	7.00	7.14
Av. firmness ⁵	3.89	3.88	3.71

1. Based on low choice = 12; high good = 11; average good = 10; low good = 9.
 2. Based on moderately large = 3; modestly large = 4; slightly small = 5.
 3. Based on moderately thick = 3; modestly thick = 4; slightly thin = 5.
 4. Based on moderate = 5; modest = 6; small amount = 7; slight amount = 8; traces = 9.
 5. Based on moderately firm = 3; modestly firm = 4; slightly firm = 5.
 6. Feed prices may be found inside back cover.
- * One heifer in lot 9 was condemned at slaughter due to sarcosporidiosis.

The Value of Dry Bluestem Pasture and a Comparison of Supplements for Heifer Calves in a Wintering, Grazing, and Fattening Program, 1955-56 (Project 253-2).

E. F. Smith, B. A. Koch, and D. L. Good

Circular 320 from this station contains a three-year summary comparing heifers wintered in dry lot with heifers wintered on dry grass, and the effect of this winter treatment on their total performance in a wintering, grazing, and fattening program. The heifers wintered on dry grass gained 32 pounds less for the year, had a lower dressing percentage, graded lower, and sold for about \$1 a hundred less than heifers wintered in dry lot. However, the heifers wintered on dry grass returned as much money above feed costs as the heifers wintered in dry lot, due primarily to lower winter feed costs and high summer grass gains.

In the test reported here the plane of nutrition has been raised slightly for the heifers wintered on dry grass, to acquire some of the desirable characteristics associated with dry-lot wintering, but still maintaining low winter feed costs. In addition different levels of protein supplementation are compared.

Experimental Procedure

Thirty head of good-quality Hereford heifer calves purchased from the Williams Ranches at Lovington, N.M., were used in the test. They were divided on the basis of weight and quality into three lots of 10 calves each and assigned to the following treatments:

Lot 4—Wintered in dry lot on sorghum silage, 3 pounds of alfalfa hay, and 1½ pounds of corn per head daily, grazed on bluestem pasture from May 2 until August 2.