

Table 25

Summary—Supplements for Yearling Steers on Bluestem Pastures During the Latter Part of the Grazing Season, 1953, 1955, 1956.

August to October—70.3 days.

Lot number	1	2	3
Number of steers	33	33	33
Management	No supplement	2 lbs. soybean pellets	2 lbs. corn ground
Initial wt. per steer, lbs.	774	776	777
Final wt. per steer, lbs.	864	894	882
Gain per steer, lbs.	90	118	105
Daily gain per steer, lbs.	1.28	1.67	1.49
Gain in lbs. contributed to feeding soybean pellets or corn		28	15
Total soybean pellets or corn fed per steer, lbs.: Soybean pellets		141	
Ground shelled corn			141
Gain per steer by periods, lbs.: August	52	47	48
September	21	49	36
October*	21	33	32

* October gain is average of 1953 and 1955. In 1956 the trial was over October 2.

The Value of Stilbestrol Implants for Beef Cattle (Project 253-1).

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This test was conducted to study the effect of stilbestrol implants on steer calves fed various levels of supplements and wintered on dry bluestem pasture.

Experimental Procedure

Thirty choice-quality Hereford steer calves from the Williams Ranches near Lovington, N.M., were used in this test. These animals grazed together on dry bluestem pasture. They were separated for a brief period each morning into three groups and fed their different supplements. The supplements fed per head daily were: Lot 1, 1 pound of soybean oil meal pellets; lot 2, 2 pounds of soybean oil meal pellets; and lot 3, 1 pound of soybean oil meal pellets plus 1 pound of ground corn. Six animals in each of the three lots were implanted with 48 mgs. of stilbestrol.

Wintering phase. Gains between implants and controls were comparable in lot 1; however, in lots 2 and 3 those implanted gained 0.36 pound and 0.35 pound more per day than did the controls. There were some treated animals that exhibited abnormal secondary sex characteristics and uneven toplines.

Grazing phase. All animals were grazed in the same pasture during the summer. Gains between controls and implants were quite similar in all lots. Undesirable appearance due to implanting was still apparent in a few animals.

Summary

Numbers used in this test were limited but results indicate that the quantity of protein, or protein and energy, supplied may affect rate of gain due to stilbestrol.

Control and implanted calves that received 1 pound of soybean oil meal pellets during the winter and were summer grazed made similar weight gains for the two periods.

The implanted steers in lot 2, which had been wintered on 2 pounds of soybean oil meal pellets, gained 47 pounds more for the 216-day period.

Implanted calves wintered on 1 pound of soybean oil meal pellets plus 1 pound of ground corn gained 50 pounds more than did the controls.

Table 26
Effect of Stilbestrol on Steer Calves Wintering on Dry Bluestem Pasture Fed Various Levels of Supplement and Grazed on Bluestem Pasture the Following Summer.

Wintering phase—January 4 to May 3, 1956—120 days.									
Lot number	1	2	3						
Number of steers	10	10	10						
Ration	Dry bluestem pasture, 1 lb. SOM pellets per head daily	Dry bluestem pasture, 2 lbs. SOM pellets per head daily	Dry bluestem pasture, 1 lb. SOM pellets and 1 lb. corn per head daily						
Treatment	Controls	Implants	Controls	Implants	Controls	Implants	Controls	Implants	Controls
Number of steers per treatment	4	6	4	6	4	6	3 ¹	6	3
Initial wt. per steer, lbs.	598	570	605	582	586	583	586	583	583
Final wt. per steer, lbs.	673	652	681	701	639	678	639	678	678
Total gain per steer, lbs.	75	82	76	119	53	95	779	826	826
Daily gain per steer, lb.	.62	.68	.63	.99	.44	.79	1.40	1.48	1.48
Summer grazing phase—May 4 to August 7, 1956—96 days.									
Initial wt. per steer, lbs.	673	652	681	701	639	678	639	678	678
Final wt. per steer, lbs.	814	796	826	850	779	826	779	826	826
Total gain per steer, lbs.	141	144	145	149	140	148	140	148	148
Daily gain per steer, lbs.	1.46	1.50	1.51	1.55	1.45	1.54	1.45	1.54	1.54
Complete trial—January 4 to August 7, 1956—216 days.									
Initial wt. per steer, lbs.	598	570	605	582	586	583	586	583	583
Final wt. per steer, lbs.	814	796	826	850	779	826	779	826	826
Total gain per steer, lbs.	216	226	221	268	193	243	193	243	243
Daily gain per steer, lbs.	1.0	1.04	1.02	1.24	.89	1.12	.89	1.12	1.12

1. Removed from test because of sore foot.

Object of this test was to obtain information in regard to stilbestrol implants for heifer calves wintered on dry bluestem pasture or in dry lot and grazed during the summer on bluestem pasture.

Experimental Procedure

Thirty head of good to choice heifer calves from near Lovington, N.M., were allotted as equally as possible into three lots of 10 animals each. Four animals in each lot were implanted with 36 mgs. of stilbestrol at the beginning of the trial. All lots were grazed together on bluestem pasture from May 3 to August 3, 1956.

The heifers in lot 4 were wintered in dry lot and received per head daily 3 pounds of alfalfa hay, 1.5 pounds of corn, and 28 pounds of sorghum silage.

Animals in pasture 7 received 3 pounds of alfalfa hay and 1.5 pounds of corn per head daily.

Heifers in pasture 8 received 6 pounds of alfalfa per head daily. All animals received free choice salt and a bonemeal and salt mixture.

Observations

Wintering phase. The treated animals in lot 4 seemed to exhibit symptoms of hormonal disturbances such as nervousness, depressed loin, and sexual organ development sooner and to a great extent than treated animals in pastures 7 and 8. One heifer in lot 4 and one heifer in pasture 7 developed a vaginal prolapse. The heifer in lot 7 failed to respond to treatment and was slaughtered.

The implanted heifers in lot 4 gained 0.35 pound more per head daily than the nonimplanted heifers of that lot. The implanted heifers on grass tended to gain slightly more than the controls.

Grazing phase. All heifers were grazed together during the summer. The nonimplanted heifers in pasture 7 gained 0.24 pound more per head daily than the implants. Gains in the other two lots were about the same for controls and implants.

Summary

Numbers in this test were small. The wintering and grazing phases combined lasted 262 days. Stilbestrol implants gained 58 pounds more per head in lot 4, wintered in dry lot; 22 pounds more per head for those in pasture 8; and no increase for pasture 7.

The general appearance of the implanted heifers was extremely impaired by depressed loin and excessive development of secondary sex characteristics. In addition, one implanted heifer was slaughtered because of vaginal prolapse. After the test terminated, another heifer was slaughtered for the same reason.

The level of stilbestrol, 36 mgs. per heifer, apparently was too high with the type of high-roughage ration fed. Under the conditions of this study, stilbestrol implants proved undesirable at the level used for heifers on high-roughage rations due to the undesirable appearance of the heifers and the difficulty encountered with vaginal prolapse.

Table 27
Influence of Stilbestrol Implants on Heifer Calves, Winter and Summer Treatment.
November 15, 1955, to May 3, 1956—170 days.

Lot number	4		Pasture 7		Pasture 8	
	Sorghum silage, 28 lbs. Alfalfa hay, 3 lbs. Corn, 1.40 lbs.	Implants 36 mgs.	Alfalfa hay, 3 lbs. Corn, 1.5 lbs. Dry bluestem pasture	Implants 36 mgs.	Alfalfa hay, 6 lbs. Dry bluestem pasture	Implants 36 mgs.
Treatment	Nonimplants	Implants	Nonimplants	Implants	Nonimplants	Implants
Number heifers per lot	6	4	6	3 ¹	6 ²	4
Initial wt. per heifer, lbs.	473	473	471	482	474	480
Final wt. per heifer, lbs.	661	720	550	585	542	564
Total gain per heifer, lbs.	188	247	79	103	68	84
Daily gain per heifer, lbs.	1.10	1.45	.46	.60	.40	.49
Summer grazing phase—May 4, 1956, to August 3, 1956—91 days.						
Initial wt. per heifer, lbs.	661	720	550	585	542	564
Final wt. per heifer, lbs.	738	796	734	747	715	743
Total gain per heifer, lbs.	77	76	184	162	173	179
Daily gain per heifer, lbs.	.85	.84	2.02	1.78	1.90	1.97
Complete trial—November 15, 1955, to August 3, 1956—261 days.						
Initial wt. per heifer, lbs.	473	473	471	482	474	480
Final wt. per heifer, lbs.	738	796	734	747	715	743
Total gain per heifer, lbs.	265	323	263	265	241	263
Daily gain per heifer, lbs.	1.02	1.24	1.01	1.02	.92	1.01

1. Removed from test because of vaginal prolapse March 10, 1956.

2. Pregnant—removed from test during grazing phase June 7, 1956.

Project 253-3-5

For experimental procedure used in this test refer to Project 253-3-5 of this circular.

Object of this test was to determine the value of stilbestrol implants for yearling steers grazed on bluestem pastures.

Treated animals used in this study were implanted with stilbestrol at two levels, 24 mgs. and 36 mgs. A few steers exhibited raised tailheads and depressed or weak loins; this seemed to be more noticeable in the steers implanted at the 36-mg. level.

Considering animals in all pastures, the 24-mg. level of stilbestrol increased total weight gained 37 pounds per animal and the 36-mg. level increased total weight gained per animal 33 pounds over the controls.

Table 28

Effect of Stilbestrol Implants on Steers Pastured on Bluestem Pasture.
April 29 to October 1, 1956—155 days.
Pasture Management Study.

Pasture number	Pasture treatment	Number of steers	Av. daily gain	Total gain	Treatment
1	Normal stocked	9	.99	154	Controls
1	Normal stocked	4	1.26	195	24 mgs.
1	Normal stocked	4	1.33	206	36 mgs.
2	Overstocked	11	1.06	165	Controls
2	Overstocked	5	1.38	214	24 mgs.
2	Overstocked	5	1.25	193	36 mgs.
3	Understocked	6	1.05	163	Controls
3	Understocked	3	1.16	180	24 mgs.
3	Understocked	3	1.06	165	36 mgs.
4	Deferred and rotated	26	.90	140	Controls
4	Deferred and rotated	13	1.08	168	24 mgs.
4	Deferred and rotated	12	1.08	168	36 mgs.
9	Early spring burned	6	1.27	197	Controls
9	Early spring burned	4	1.41	218	24 mgs.
9	Early spring burned	3	1.54	239	36 mgs.
10	Mid-spring burned	7	1.33	206	Controls
10	Mid-spring burned	3	1.74	270	24 mgs.
10	Mid-spring burned	3	1.66	257	36 mgs.
11	Late spring burned	7	1.30	202	Controls
11	Late spring burned	3	1.52	236	24 mgs.
11	Late spring burned	3	1.46	227	36 mgs.

Project 253-4

For experimental procedure of this test, refer to Project 253-4 in this circular.

The purpose of this test was to study the effect of stilbestrol implants for yearling steers on a wintering, grazing, and fattening program.

Five steers in pasture 12 and in lot 11 were implanted with 84 mgs. of stilbestrol at the beginning of the test.

During the wintering and grazing phases some of the implanted steers displayed an uneven topline, presumably due to treatment. However, it appeared that during the fattening phase the noticeable effect from treatment was reduced.

Implants made greater gains than controls in the wintering and fattening phases, but the opposite was true during summer grazing.

Table 29

Yearling steers—Wintering, Grazing, Fattening Yearling Steers—160 Days.

Wintering phase—November 16, 1955, to May 3, 1956.

Lot number	11	12	Free choice	
Daily ration per steer, lbs.:				
Soybean oil meal pellets	1	1		
Sorghum silage	65.8			
Prairie hay	1.6			
Dry bluestem pasture				
Treatment	Controls	Implants 84 mgs.	Controls	Implants 84 mgs.
Number of steers per treatment	5	5	5	5
Initial wt. per steer	880	881	883	868
Final wt. per steer	1123	1167	907	932
Total gain for period	243	286	24	64
Daily gain for period	1.43	1.69	.14	.37

Summer phase—May 4 to July 9, 1956—67 days.

Initial wt. per steer, lbs.	1123	1167	907	932
Final wt. per steer, lbs.	1149	1185	1068	1088
Total gain for period, lbs.	26	18	161	156
Daily gain for period, lbs.	.39	.27	2.40	2.33

Full feed—July 10, 1956, to September 15, 1956—68 days.

Initial wt. per steer, lbs.	1149	1185	1068	1088
Final wt. per steer, lbs.	1269	1331	1210	1247
Total gain for period, lbs.	120	146	142	159
Daily gain for period, lbs.	1.76	2.14	2.08	2.33

Complete—November 16, 1955, to September 15, 1956—304 days.

Initial wt. per steer, lbs.	880	881	883	868
Final wt. per steer, lbs.	1269	1331	1210	1247
Total gain for period, lbs.	389	450	327	379
Daily gain for period, lbs.	1.27	1.47	1.07	1.24

Project 253-6

This test was designed to determine the effect of stilbestrol implants on steer calves wintered on dry bluestem pasture or in dry lot, and stilbestrol's subsequent effect on these animals summer grazed and full-fed during the fall.

Experimental Procedure

The calves were allotted to their winter-feeding treatment according to weight.

Lot 18—Eighteen steer calves, eight of which were implanted with 36 mgs. of stilbestrol in November, 1955, were wintered in dry lot. They were fed 30 pounds sorghum silage, 3.9 pounds ground milo grain, and 1 pound soybean oil meal per head daily. They were grazed together on bluestem pasture from May 3 to August 3. On August 3, the eighteen steers were divided into two equal lots—five controls and four implants—were self-fed ground milo grain and prairie hay with 2 pounds soybean meal per head daily in dry lot. The other nine—five controls and four implants—were full-fed in an identical manner on bluestem pasture, except grass replaced prairie hay.

Pasture 15—Eight steer calves (four implants and four controls) were wintered on dry bluestem pasture and fed 3.6 pounds of ground milo grain and 1 pound of soybean pellets per head daily; grazed on bluestem pasture until August 3; self-fed grain in dry lot starting August 3.

Observations

Wintering phase. Implanted animals did not appear to have any serious side effects from stilbestrol treatment. However, there were some treated animals that could be detected by observation. The gain of the calves on dry bluestem implanted with stilbestrol was about the same as

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
Daily ration, lbs.:		
Sorghum silage	29.7	Dry bluestem pasture 3.6
Ground milo grain	3.9	1.0
Soybean oil meal	1.0	
Treatment		
Number steers per treatment	Controls 10	Controls 4
Initial wt. per steer, lbs.	392	380
Final wt. per steer, lbs.	639	543
Total gain per steer, lbs.	247	163
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	543
Final wt. per steer, lbs.	731	729
Av. total gain per steer, lbs.	92	86
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	Self-fed, dry lot Controls	Self-fed, pasture Controls
Number steers per treatment	5	4
Initial wt. per steer, lbs.	717	721
Final wt. per steer, lbs.	938	914
Av. total gain, lbs.	221	193
Av. daily gain, lbs.	2.26	1.97
		2.48
		1.90
		2.34
		2.12
Complete feeding trial—November 30, 1955, to November 10, 1956—344 days.		
Av. initial wt. per steer, lbs.	388	380
Final wt., lbs.	938	958
Av. total gain, lbs.	550	578
Daily gain, lbs.	1.60	1.68
		1.61

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; blue-stem 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.