

2. Both of the implanted lots (stilbestrol and Synovex) showed significantly greater daily gains than the control lot.

3. The stilbestrol-implanted calves ate somewhat more silage than the Synovex-implanted calves. Average daily gain was the same for both implant groups.

4. Feed cost per cwt. gain was lowest for the implanted steers. The Synovex-implanted steers apparently utilized silage somewhat more efficiently than those implanted with stilbestrol. However, the higher cost of the Synovex implants eliminated economic advantage in this particular trial.

Winter Management for Steer Calves on a Wintering, Grazing, and Fattening Program, 1955-56 (Project 258-6).

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

Dry bluestem pasture has been used successfully several years at this station as a source of winter roughage for steer calves that are to be grazed during the summer and sold off grass as feeder or stocker yearlings. This is the first attempt to supplement dry grass during the winter with several pounds of grain combined with protein, in an effort to attain sufficient winter gain so the calves could be finished on grain in the late summer and sold as fat yearlings. The test is to determine if dry grass can be supplemented in such a manner that calves will compare favorably in total performance with steer calves wintered on good-quality roughages.

The steers were grazed until August 3 on bluestem pasture, then fattened in dry lot to choice grade.

Experimental Procedure

Seventeen head of good-quality Hereford steer calves from near Lovington, N.M., were assigned to the test. The calves were allotted to their respective treatments on the basis of weight and quality. Eight calves were assigned to the pasture group and nine to the dry-lot group. Nine other calves on a similar treatment were wintered with the dry-lot group.

The treatment assigned to each lot in this experiment is as follows:

Lot 18A—Wintered in dry lot on sorghum silage, 4 pounds of ground milo, and 1 pound of soybean pellets per head daily, free access to salt and mineral (bonemeal plus salt); grazed on bluestem from May 3 to August 3; fattened in dry lot from August 3 until they grade choice.

Lot 15—Wintered on dry bluestem pasture, 4 pounds of milo, and 1 pound of soybean pellets per head daily; continued on grass to August 3 without supplemental feed; fattened in dry lot from August 3 until they grade choice.

Four of the steers in each lot were implanted with 36 mgs. of stilbestrol at the start of the test. Results of this phase of the test are reported in another paper.

Observations

1. The steers in lot 18A wintered in dry lot gained 105 pounds more per head during the winter period. The cost of gain was not greatly different for the two lots, due primarily to the low cost of winter bluestem pasture charged against lot 15 which was wintered on dry grass.

2. The steers in lot 15 gained 90 pounds more on summer grass than the steers wintered in dry lot. On August 3 there was only 15 pounds difference in gain between the two lots in favor of lot 18A wintered in dry lot.

3. The steers in lot 18A gained slightly more during the fattening phase. Feed consumption was about the same for both lots.

4. For the three phases combined, the steers in lot 18A wintered in dry lot gained 28 pounds more than lot 15; however, their cost to produce a 100 pounds of gain was about \$2 a cwt. higher.

Under the costs assigned here, steers wintered in dry lot would have to grade higher and be worth more on the market to make greater returns than those wintered on dry grass.

Table 40

Winter Management for Steer Calves on a Wintering, Grazing, and Fattening Program, 1955-56.

Phase 1—Wintering, November 30, 1955, to May 3, 1956*—155 days.

Lot number	18A	15
Number of steers	9	8
		Bluestem pasture
Place of wintering	Dry lot	
Initial wt. per steer, lbs.	386	379
Final wt. per steer, lbs.	661	649
Gain per steer, lbs.	275	170
Daily gain per steer, lbs.	1.77	1.10
Daily ration per steer, lbs.:		
Ground milo grain	4.0	3.7
Soybean pellets	1.0	1.0
Sorghum silage	29.8	
Prairie and alfalfa hay57
Dry bluestem pasture		Free choice
Salt04	.05
Mineral (bonemeal and salt)04	.06
Feed cost per steer ¹	\$36.01	\$20.85
Feed cost per 100 lbs. gain ¹	13.09	12.27

Phase 2—Grazing, May 3, 1956, to August 3, 1956—92 days.

Initial wt. per steer, lbs.	661	549
Final wt. per steer, lbs.	752	730
Gain per steer, lbs.	91	181
Daily gain per steer, lbs.99	1.97
Feed cost per steer ¹	\$16.00	\$16.00

Phase 3—Full feeding, August 3, 1956, to November 10, 1956—99 days.

Initial wt. per steer, lbs.	752	730
Final wt. per steer, lbs.	983	948
Gain per steer in lbs.	231	218
Daily gain per steer, lbs.	2.33	2.20
Daily ration per steer, lbs.:		
Ground milo grain self-fed	16.4	16.0
Cottonseed meal	1.9	1.9
Prairie hay	4.6	4.8
Ground limestone1	.1
Salt	Free choice	Free choice
Feed per cwt. gain, lbs.:		
Ground milo grain	697	724
Cottonseed meal	81	86
Prairie hay	198	218
Feed cost this phase ¹	\$50.29	\$49.35
Feed cost per 100 lbs. gain ¹	\$21.77	\$22.64

Summary of phases 1, 2 and 3—November 30, 1955, to November 10, 1956—346 days.

Lot number	18A	15
Total gain per steer, lbs.	597	569
Daily gain per steer, lbs.	1.72	1.64
Total feed cost per steer	\$102.30	\$86.20
Feed cost per cwt. gain ¹	\$17.14	\$15.15
Initial steer cost at \$22.50 per cwt. plus feed cost	\$189.15	\$171.48

1. Feed prices may be found inside the back cover; \$1 was charged per steer for mineral and salt.

2. November 10 the steers were weighed off test due to a shortage of pen space. The two lots were then fed together until they graded choice on foot. December 30, 1956, four steers from pen 15 and two steers from pen 18A were shipped to market. January 28, 1957, four steers from pen 15 and six steers from pen 18A were sold. One steer in pen 18A died, cause unknown, December 27, 1956.

* Lot 15 was fed supplements on grass only until April 14, 1956.

Table 40 (Continued).

Necessary selling price per cwt. to cover		
initial cost plus feed cost	19.24	18.09
Carcass data ²		
Dressing percentage, chilled	62.8	61.5
Carcass grade, USDA		
Shipped 12-30-56:		
Av. choice		1
Low choice	1	1
High good		2
Low good	1	
Shipped 1-28-57:		
High choice		1
Av. choice	3	2
Low choice	3	1

Bringing Cattle to Full Feed of Grain Rapidly (with and without Stilbestrol Implants) (Project 253-6).

B. A. Koch, E. F. Smith, and R. F. Cox

Bringing cattle to a full feed of grain in the shortest time possible is one way to reduce the total time they require to reach market weight. Producers are always faced with the problem of bringing cattle on feed too fast and causing digestive upsets, which lengthen the feeding period. This study was designed to determine what advantage could be gained by mixing cottonseed hulls with the grain ration. One half the animals in the study were implanted with stilbestrol to secure further information as to its value.

Experimental Procedure

Twenty head of good-quality two-year-old steers were used in the study. The animals were divided into two uniform lots on the basis of previous treatment and weight. At the start of the study the steers were consuming approximately 25 pounds of cottonseed hulls, 1 pound of alfalfa meal pellets, and 1 pound of soybean pellets per head daily. One half the animals in each lot were impanted in the ear with 84 mg. of stilbestrol on the first day of the study. All animals received a tenth pound of ground limestone mixed in the feed daily and had free access to salt and water during the study. The concentrate portion of the ration was mixed with the cottonseed hulls each day and, as the quantity of milo was increased, the quantity of hulls was decreased.

Treatment differences were as follows:

Lot 1—Started at 4 pounds milo per day and increased 1 pound per head per day until the average daily intake was 12 pounds per head. The cattle were held at that level for one week. The milo intake was then increased 1 pound per day until the animals were eating 22 pounds per head on the 25th day of the trial.

Lot 2—Started at 6 pounds of milo per head daily and increased 2 pounds per head per day until the animals were eating 24 pounds per head on the 10th day of the trial.

Observations

1. All animals went to full feed without incident. About the 35th day both lots showed signs of going off feed. Milo intake was reduced to 20 pounds per head daily in both lots.

2. An occasional case of mild bloat was noted throughout the trial.

3. Cattle brought on feed fast showed a considerable weight advantage at the end of the first 28-day period. However, for the overall period there was no significant difference in gain.

4. Cost of gain favored the animals brought to full feed at the slower rate.

5. The cattle implanted with stilbestrol made a significantly greater daily gain.

6. Some side effects were noted in some of the implanted animals (raised tailheads, elongated teats).

7. The steers were grouped according to stilbestrol treatment and sold on the Kansas City market. All steers sold for the same price—\$19.25 per cwt.

Table 41

Two-Year-Old Steers Brought on Feed at Two Different Rates and Fed for 80 Days.

February 27, 1956, to May 18, 1956.

Lot number	1	2
Number steers	9 ¹	10
Av. initial wt., lbs.	1038	1033
Av. daily gain, lbs. per day	3.16±0.21 ²	3.28±0.20 ²
1st 28-day period	2.02	4.41
2nd 28-day period	4.58	2.82
3rd 24-day period	2.82	2.46
Av. daily ration, lbs.:		
Cottonseed hulls	9.1	7.5
Milo grain	17.1	20.0
Soybean pellets	2.0	2.0
Alfalfa pellets	1.0	1.0
Feed cost per 100 lbs. gain ³	\$17.81	\$18.92
Carcass grades: ⁴		
Choice	2	2
Choice -	1	3
Good +	3	3
Good	2	2
Good -	1	

1. One steer removed during trial.

2. Standard error of mean.

3. Feed prices inside back cover.

4. Steers were slaughtered 30 days after end of feeding trial (total feeding period 110 days).

Table 42

Two-Year-Old Steers with and without Stilbestrol Implants Fed for 80 Days.

February 27, 1956, to May 18, 1956.

Treatment	Control	Implanted ⁴
Number steers	9 ²	10
Av. initial wt., lbs.	1042	1030
Av. daily gain, lbs. per day	2.91±0.20 ³	3.49±0.17 ³
1st 28-day period	3.45	3.12
2nd 28-day period	3.18	4.09
3rd 24-day period	1.99	3.25
Carcass grades: ⁴		
Choice	2	3
Choice -	3	
Good +	4	2
Good		4
Good -		1

1. Seven 12-mg. pellets of stilbestrol in the ear (84 mg. total).

2. One steer removed during the study.

3. Standard error of mean.

4. Steers were slaughtered 30 days after the end of the feeding trial (total feeding period 110 days).