

**Table 4.—Effect of Feeding a Protein Supplement During the Latter Part of the Grazing Season to Two-Year-Old Steers on Bluestem Pasture, 1953.**

August 5-October 23, 1953—79 days.

	1	2
Lot number .....	1	2
Steers in lot .....	10	10
Management .....	No soybean pellets fed	Fed two pounds soybean pellets per head daily
Initial wt. per steer .....	1014	1009
Final wt. per steer .....	1079	1112
Gain per steer .....	65	103
Daily gain per steer .....	.82	1.30
Gain in wt. contributed to soybean pellets .....	0	38
Total soybean pellets fed per steer, lbs. ....	0	158
Gain per steer by periods:		
Aug. 5-Sept. 3 .....	51	38
Sept. 3-Oct. 2 .....	16	52
Oct. 2-Oct. 23 .....	-2	13

### Wintering and Grazing Yearling Steers

The Most Efficient Level of Winter Protein Feeding for Yearling Steers Wintered and Summer Grazed on Bluestem Pasture, 1953-54.

PROJECT 253-4

E. F. Smith, F. H. Baker, R. F. Cox, and L. A. Holland

This is a progress report covering only the wintering phase of this test. One other test has been completed for 1952-53, and is reported in this publication (page 6). The purpose of this experiment is to determine which is the more profitable method of wintering on dry bluestem pasture for yearling steers, feeding 1 or 2 pounds of cottonseed cake per head daily.

The results are to be measured by the combined winter and summer gains and the condition of the cattle.

The steers will be grazed together during the summer of 1954 and will be sold off grass as feeder steers in the fall.

#### Experimental Procedure

Twenty head of good quality Hereford yearling steers were used in this study. They were purchased from the Brite Ranch at Marfa, Texas, in the fall of 1952 as calves for 28 cents a pound. They were used in summer grazing tests on bluestem pasture in 1953. This test started at the close of the summer grazing season on October 26, 1953, and extended to April 1, 1954. During this test the steers were moved from pasture to pasture every 15 days to minimize any differences due to pastures.

During March one-half of the steers in each lot had access to molasses-sprayed grass in a pilot test to find out if this method of feeding might have some possibilities. The pastures in which the

steers were grazed were of such size as to vary the stocking rate from 6 to 19 acres per head. All pastures used in this winter test had sufficient grass remaining for winter use. They were lightly stocked during the summer of 1952.

#### Observations

1. The winter was mild, dry, open, and favorable for wintering on dry grass. The additional pound of cottonseed cake fed per head daily to Lot 19 increased the winter gain enough to pay for its use. However, this may not be true by the end of summer.

The results of the level of protein feeding studied here can best be evaluated at the close of the summer grazing season in 1954 and will be reported at next year's livestock feeders' day.

**Table 5.—Wintering and Grazing Yearling Steers.**

Phase 1—Wintering, October 26, 1953, to April 1, 1954—158 days.

Lot number .....	18	19
Number of steers per lot .....	10	10
Method of feeding .....	1 lb. cottonseed cake daily on dry grass	2 lbs. cottonseed cake daily on dry grass
Initial wt. per steer .....	743	743
Final wt. per steer .....	838	872
Gain per steer .....	95	129
Daily gain per steer .....	.61	.83
Daily ration per steer, lbs.:		
Cottonseed cake .....	1.00	2.00
Mineral (bonemeal and salt) .....	.16	.12
Salt .....	Free choice	Free choice
Dry bluestem pasture .....	Free choice	Free choice
Feed cost per steer <sup>1</sup> .....	\$11.47	\$17.13

1. Feed prices may be found on page 27 of this publication.

### Wintering, Grazing, and Fattening Steer Calves

1. The value of trace minerals in a wintering and fattening ration.<sup>1</sup>
2. Self-feeding grain in drylot vs. self-feeding on bluestem pasture, 1952-53.

PROJECT 253-6

E. F. Smith, R. F. Cox, and F. H. Baker

This is the second trial of this experiment; the first is reported in Kansas Agricultural Experiment Station Circular 297. The steers were all wintered, grazed and then full fed. One objective of the test was to find out the value of trace minerals, copper, cobalt, iron, manganese, iodine, and zinc on the performance of steers on a wintering and a fattening ration. Another objective was to compare self-feeding grain on grass to self-feeding grain in drylot for steers on the deferred full-feeding program. The system of production called deferred full-feeding uses good-quality steer calves and consists of three phases: (1) producing 225-250 pounds of gain during the winter; (2) grazing 90 days without grain; and (3) full feeding 100 days in the drylot.

1. The trace mineral premix used in this study was furnished by the Calcium Carbonate Company of Chicago, Ill.