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|--|--------|--------|--------|--------|
| 23. Appraisal value per steer @ \$34.00 per cwt., October 8, 1951 | 308.04 | 317.56 | 300.56 | 311.44 |
| 24. Return per steer over initial cost plus feed cost.... | 49.86 | 58.96 | 42.75 | 52.40 |
| 1 Mineral mixture consisted of 2 parts by weight of steamed bonemeal to 1 part salt. | | | | |
| 2 Prairie hay was fed only when snow covered the grass. | | | | |
| 3 One steer in Lot 2 broke a leg and was butchered May 6, 1951—one steer was removed from Lot 3 for experimental purposes. | | | | |
| 4 Difference between final weight for winter phase for Lots 3 and 4 and starting weight for grazing phase is due to removal of one steer from each lot. | | | | |
| Feed prices: Soybean pellets, soybean meal, \$75.00 per ton; alfalfa hay, \$20 per ton; prairie hay, \$13 per ton; bluestem pasture, \$7.50 winter, \$20 summer; salt, \$12 per ton; steamed bonemeal, \$5.50 per cwt. | | | | |

Project 253-4: Wintering and Grazing Yearling Steers

Effect of Feeding a Protein Supplement During the Latter Part of the Grazing Season to Two-Year-Old Steers on Bluestem Pasture, 1951.

E. F. Smith and R. F. Cox

Introduction

The nutritive value of bluestem pasture usually begins to decline rapidly after mid-summer. This test is concerned with what effect the feeding of a protein supplement after mid-summer will have on cattle gains and condition. It is hoped that by starting the feeding at different times the most opportune time to start feeding may be determined.

Experimental Procedure

Thirty-eight head of good quality two-year-old Hereford steers were used in this test. They were wintered on dry bluestem pasture and then grazed together until July 18, when this test started.

The steers were divided into four uniform lots and grazed on bluestem pasture with the following treatment from July 18, 1951, to October 3, 1951.

- Lot 1: July 18 to October 3—received 2 pounds of soybean oil meal pellets per head daily.
- Lot 2: August 10 to October 3—received 2 pound of soybean oil meal pellets per head daily.
- Lot 3: September 1 to October 3—received 2 pounds of soybean oil meal pellets per head daily.
- Lot 4: Received no supplemental feed.

Observations

1. In this test the feeding of a protein supplement on bluestem pasture after mid-summer was not profitable.
2. The average protein content of bluestem pasture grasses in July was 8.45 percent, in August, 7.95 percent, and in September, 7.33 percent. Heavy rains fell in July, and the grass remained green until late in the season.

1. The samples selected were of immature grasses or regrowth after grazing, in an attempt to take samples of grass the cattle were consuming.

3. The lots were ranked as to degree of flesh at the close of the test. Lot 4 appeared to be the fleshiest of the lots, followed by Lots 1, 3, and 2, respectively.

Effect of Feeding a Protein Supplement During the Latter Part of the Grazing Season to Two-Year-Old Steers on Bluestem Pasture (July 18, 1951, to October 3, 1951—77 days)

| Lot number | 1 | 2 | 3 | 4 |
|---|--|--|--|------------------------|
| No. steers in lot | 10 | 9 | 9 | 10 |
| Management | Fed 2 lbs. soybean pellets daily from July 18, '51, to Oct. 3, '51 | Fed 2 lbs. soybean pellets daily from Aug. 10, '51, to Oct. 3, '51 | Fed 2 lbs. soybean pellets daily from Sept. 1, '51, to Oct. 3, '51 | No soybean pellets fed |
| Av. initial wt. | 915 | 908 | 905 | 911 |
| Av. final wt. | 1018 | 1012 | 1009 | 1023 |
| Av. gain | 103 | 104 | 104 | 112 |
| Av. daily gain | 1.34 | 1.35 | 1.35 | 1.45 |
| Gain contributed to feeding of soybean pellets, lbs. | -9 | -8 | -8 | 0 |
| Total soybean pellets fed per steer, lbs. | 154 | 108 | 64 | 0 |
| Selling price per cwt. on Oct. 10, '51 | \$34.00 | \$34.00 | \$34.00 | \$34.00 |
| Gain per steer by periods, lbs.: | | | | |
| July 18-Aug. 10 | 35 | 48 | 42 | 47 |
| Aug. 10-Sept. 1 | 44 | 42 | 49 | 48 |
| Sept. 1-Oct. 3 | 24 | 14 | 13 | 17 |
| Total gain | 103 | 104 | 104 | 112 |

Project 253-4: Wintering and Grazing Yearling Steers

Methods of Wintering Yearling Steers on Bluestem Pasture, 1951-52.

E. F. Smith, R. F. Cox, and S. B. Fansher

Introduction

The wintering phase of this test will be completed May 1, 1952. The study is to test the value of dry bluestem pasture as a winter feed for yearling steers fed different kinds and amounts of protein supplements.

Experimental Procedure

Thirty head of good quality, about 750-pound, Hereford yearling steers were used in the test which was started December 7, 1951. The steers were purchased in the spring of 1951 and had been grazed on bluestem pastures during the summer and fall. They carried a moderate amount of flesh. They lost some flesh during October and November when they were on grass alone prior to the start of winter tests. The steers were sprayed twice with B.H.C. for lice. All of the pastures in which the steers were wintered had been grazed the previous summer at normal stocking rates, but a plentiful supply of dry grass remained. From 6 to 13 acres of pasture were allowed each steer.