

8—Feed required for 100 pounds gain		
Ground shelled corn	510.	488.
Atlas sorgho silage	436.	700.
Cottonseed meal	72.	63.
Alfalfa hay	108.	99.
Prairie hay	45.	62.
Ground limestone	5.	5.
9—carcass grades	1 choice	4 choice
	9 good	6 good

OBSERVATIONS

- Both lots of calves ate practically the same amount of corn.
- Lot 2 consumed considerably more silage than lot 1.
- The calves in lot 2 made an average gain of 49 pounds more per head than the calves in lot 1.
- The carcasses were graded by a government grader. In lot 2, four carcasses graded choice and six graded good. In lot 1, one carcass graded choice and nine graded good.
- This test indicates that feeder cattle can be selected which in addition to making faster gains in the feedlot, will also utilize a greater proportion of roughages to concentrates during the fattening period. It also indicates that these advantages in economy of gains can be combined with a higher market value of the beef produced.

Project 78—Factors Influencing Rate of Gain, Quantity of Feed Consumed and Carcass Grade.

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Preliminary Report - 1948-49

INTRODUCTION

This report is on two lots of heifer calves now on test in the study of the characteristics of feeder calves which are associated with differences in:

- Rate of gain
- Kind and amount of feeds required to produce gains.
- Value of the carcass.

EXPERIMENTAL PROCEDURE

The two lots were selected from 100 heifer calves purchased in November 1948 for feeding tests. These calves graded good to choice as feeders. There was more difference in the condition of the calves when received than there was in those used in the similar trial of 1947-48. This fact may account in part for the differences in results to date as compared with last year's results.

The two lots in this trial were sorted by the same method used last year, on the basis of differences in body capacity, chest room, fleshing, form and general appearance. The ten calves in lot 1 are those which were somewhat deficient in one or more of the above characteristics as compared to those in lot 2. All calves were graded individually by using a standard feeder cattle chart.

Differences in the initial weight of the calves was not considered in sorting the two lots, since the object of this experiment is to determine the relation of the various body features to rate of gain, kind and amount of feeds consumed, and the value of the carcass produced.

The calves in both lots are receiving the same kinds of feed, consist-

ing of all the ground corn and silage they will eat plus two pounds of prairie hay, one and three fourths pounds of soybean meal and .07 of a pound of ground limestone per head daily.

PRELIMINARY REPORT

November 15, 1948 to April 18, 1949—154 Days

1—Lot Number	1	2
2—Number of heifers in lot....	10	10
3—Average daily ration:		
Ground shelled Corn.....	8.81	9.48
Atlas Sorgho Silage.....	9.41	10.50
Soybean Meal.....	1.79	1.78
Prairie hay.....	2.04	2.04
Ground Limestone ..	.07	.07
4—Average Initial Weight.....	403	492
5—Average Final Weight.....	738	814
6—Average Total Gain....	335	322
7—Average Daily Gain	2.17	2.09

OBSERVATIONS

- Heifers in lot 1 have gained 13 pounds more per head than the heifers in lot 2.
- Consumption both of corn and silage, has been nearly the same in the two lots considering the difference in initial weight of the calves.
- The heifers in lot 2 appear to be more nearly finished and, if this difference continues, the heifers in lot 1 will require a longer fattening period to reach the same degree of finish.

Project 222-2—Fundamental Nutrition Studies of Sorghum Roughages and Grains. II—A Study of the Digestibility of Sorghum Silage.

EFFECT OF GRINDING ON THE NUTRITIVE VALUE OF GRAIN SORGHUMS FOR FATTENING STEER CALVES

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I. Digestibility study of Milo Grain.

A digestion trial was conducted with twelve steers which were allotted into three lots of four steers each. A ration of Atlas sorgho silage, cottonseed meal and milo grain was fed in all lots. Whole grain was fed in lot 1, coarsely ground grain to lot 2, and finely ground grain to lot 3.

Table I shows that the coefficients of digestibility of the dry matter, crude protein, ether extract, and nitrogen-free extract were highest for the steers in lot 3, and lowest for those in lot 1. Crude fiber was digested most efficiently by the steers in lot 1. These results confirm those of previous work done at this station.

It may be concluded from the results of this test that so far as digestibility is concerned milo grain is best utilized when finely ground. However the question of how fine milo grain should be ground for fattening cattle cannot be fully answered until feed lot trials are conducted and such factors as palatability, rate of gain and efficiency of gain are investigated.