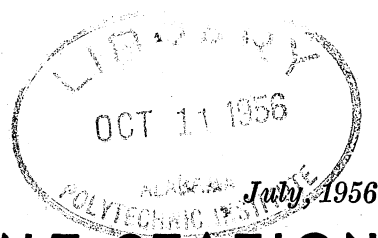


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AGRICULTURAL EXPERIMENT STATION of The Alabama Polytechnic Institute, Auburn, Ala. E. V. SMITH, Director

Increasing Weight And Slaughter Grade Of Thin Beef Calves By Grazing And Feeding

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MANY CALVES that are marketed as Commercial or Utility slaughter calves in Alabama have sufficient beef breeding but lack sufficient condition or finish to grade higher. The value of such calves could be substantially increased in many cases by further pasture and feed.

EXPERIMENTAL PROCEDURE

In September, 1954, 30 grade Angus steer calves were purchased for grazing and feeding test at the Gulf Coast Substation. They were thin and their slaughter grades were Utility or Commercial.

These calves were divided into three groups or lots for comparison of three different methods of finishing as follows:

Lot 1 was fed in dry lot from September 15, 1954, to March 30, 1955 (196 days).

Lot 2 gleaned cornstalk fields from September 15 to November 10, 1954 (25 days); grazed oats and crimson clover from November 11, 1954, to April 25, 1955 (196 days); and was fed in dry lot April 26 to June 19, 1955 (55 days).

Lot 3 gleaned cornstalk fields and grazed oats same as Lot 2; grazed white clover-Dallisgrass pasture and was fed an average of 11.7 pounds of mixed rations per steer per day April 26 to June 19, 1955 (55 days); and was fed in dry lot June 20, to July 17, 1955 (28 days).

Composition of the ration fed to each lot during the feeding periods is shown below.

Item	Lot 1	Lot 2	Lot 3
	Pct.	Pct.	Pct.
Ground snapped corn	55	65	75
Ground Alfalfa	35	25	15
Molasses	10	10	10

The cost of all rations was \$48 per ton. Since corn and alfalfa cost the same, the variation in percentages of these two items did not affect the cost of the mixed ration.

Average stocking rate during the grazing period for Lots 1 and 2 was one steer per acre, except from March 15 to April 25 when it was two steers per acre, using only half the acreage. This was done in order that crimson clover seed could be harvested from half of the winter pasture area. The winter grazing was charged at the rate of \$27 per acre. No charge was made for gleaned fields after harvest of corn since this would have been waste material if it had not been utilized by the calves. No credit was given for the crimson clover seed harvested from 10 acres of the winter pasture. The Dallisgrass-white clover grazing was charged at \$2.50 per steer for 55 days. An abundance of palatable forage was available for Lots 2 and 3 throughout all grazing periods.

During the dry lot feeding periods, the steers were full-fed, fresh feed being supplied daily. The steers in Lots 2 and 3 were weighed, graded, and evaluated at the end of the oats-crimson clover grazing period.

RESULTS

The average daily gain per steer for the 221 days was 1.55 pounds in Lot 2 and 1.60 pounds in Lot 3. There were 3 Good, 6 Commercial, and 1 Utility in Lot 2, and 4 Good, 5 Commercial, and 1 Utility in Lot 3. They were valued by a packer buyer at \$17.51 per hundredweight for Lot 2 and \$17.78 per hundredweight for Lot 3. This gave a value of \$130.98 per steer in Lot 2 and \$135.64 per steer in Lot 3.

The increase in value per steer for the 221-day grazing period after deducting the cost of grazing was \$39.92 for Lot 2 and \$44.06 for Lot 3.

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TABLE 1. SUMMARY OF RESULTS

Item	Lot number		
	1	2	3
Number of steers	10	10	10
Treatment			
Grazing, days	----	221	221
Grazing + feed, days	----	----	55
Dry lot, days	196	55	28
Average initial weight, lb.	385	404	408
Final weight, lb.	759	850	901
Total gain, lb.	374	445	493
Live grade, end of feeding:			
Choice	9	9	9
Good	1	1	1
Carcass grades:			
Choice	3	10	3
Good	6	----	7
Commercial	1	----	----
Dressing percentage:			
Hot	60.6	60.8	61.9
Chilled	58.9	58.8	60.8
Purchase price per cwt.	\$15.82	\$15.82	\$15.82
Initial cost per steer	60.86	64.06	64.58
Pasture cost per steer	----	27.00	29.50
Feed cost per steer	84.77	31.17	31.82
Total cost per steer	145.63	122.23	125.90
Selling price per cwt.	21.63	21.50	21.26
Total value per steer	164.17	182.79	191.49
Increase in value over feed and pasture cost per steer*	\$18.54	\$60.56	\$65.59

*No charge was deducted for labor in feeding, interest, or depreciation on facilities. The net increase is market value of steer less pasture and feed costs and original value of the steer calf.

SUMMARY

A summary of results is given in Table 1. There were 27 Choice and 3 Good steers (live grades) when they were sold. The value of these steers was increased from an average of \$63.16 at the beginning of the experiment to \$164.17 in Lot 1, \$182.79 in Lot 2, and \$191.49 in Lot 3. The increase in value per steer after deducting pasture and feed costs was \$18.54 for Lot 1, \$60.56 for Lot 2, and \$65.59 for Lot 3.

On the basis of weights and evaluations made at the end of the 221-day grazing period, the increase in value per steer after deducting grazing costs was \$39.93 for Lot 2 and \$44.06 for Lot 3. Therefore, of the \$60.56 net increase in value per steer in Lot 2, \$39.92 was produced during the grazing period and \$20.64 during the 55-day feeding period in dry lot; of the \$65.59 net increase per steer in Lot 3, \$44.06 was produced during

the grazing period, \$0.94 during the 55-day feeding period on pasture, and \$20.59 during the final 28-day feeding period in dry lot. Although Lot 3 showed a net increase of \$5.03 more per steer than Lot 2, \$4.14 of the difference had accumulated at the end of the 221-day grazing period. It is apparent that the 55 days of feeding on pasture was not profitable.

One year's results of this experiment definitely indicate possibilities for profitable use of winter pasture in the Gulf Coast area for increasing the weight and improving the market grade of thin, light-weight calves of good beef breeding. This one year's results show that finishing such calves in the dry lot for the entire period was much less profitable than the use of winter and spring pasture. They do show, however, that a short finishing period in dry lot at the end of the grazing period was more profitable than selling direct from pasture.