

Table 7 (Continued)

Feed per cwt. gain, lbs.:		
Sorghum grain	696	601
Soybean meal	32	27
Alfalfa hay	172	145
Feed cost per steer ³	\$50.31	52.72
Feed cost per cwt. gain	\$16.39	14.37
Summary—December 27, 1957, to November 14, 1958—322 days.		
Final wt. per steer, lbs.	1132	1199
Gain per steer, lbs.	603	669
Daily gain per steer, lbs.	1.87	2.08
Feed cost per steer ³	\$81.64	85.39
Feed cost per cwt. gain	\$13.54	12.76
Sale price per cwt., live weight, based on carcass value ⁴	\$26.69	26.45
Dressing %	59.4	58.2
Av. carcass grade ⁵	16.4	17.0
Av. marbling score ⁶	8.3	7.8

3. Feed prices may be found inside back cover.

4. Carcasses were evaluated per cwt. as follows: Choice, \$46.50; good, \$45.50; standard, \$43.58.

5. The USDA low good grade was assigned a value of 16; average good, 17.

6. The description of the marbling score was as follows: Small amount, 7; slight amount, 8; traces, 9.

Wintering Heifers on Bluestem Pasture; Molasses vs. Sorghum Grain, Soybean Meal vs. Soybean Meal Plus Beef Tallow, 1957-1958. Project 253-2.

E. F. Smith, F. W. Boren, and B. A. Koch

In this experiment two feeds were evaluated as possibilities for economically increasing gains on winter pasture. Molasses was self-fed to heifer calves in one pasture and compared with sorghum grain hand fed to heifer calves in another pasture. The dry matter intake was maintained at about the same level by varying the sorghum grain intake to equal molasses consumption. Soybean meal was fed as a source of protein to both lots.

A third lot was fed soybean meal with beef tallow added to study beef tallow as a source of energy and to observe its effect on palatability. The beef tallow varied in percentage fed, but the soybean meal fed this lot contained an average of about 10% tallow. Inedible stabilized bleachable fancy tallow was fed.

Good to choice Hereford heifers used in the test came from near Clovis, N.M., and were assigned to their experimental treatment on the basis of weight. The lots were fed as follows:

Lot 1. One pound of soybean meal per head daily and sorghum grain to equal the dry matter intake of molasses by lot 2.

Lot 2. One pound of soybean meal per head daily and cane molasses self-fed.

Lot 3. One pound of soybean meal per head daily with added beef tallow (about 10%) and molasses self-fed.

Plenty of old grass was available in all pastures, about 6 acres per head. A mineral mixture of 2 parts bonemeal and 1 part salt by weight and salt alone were offered free choice.

The winter feeding period was discontinued April 19 but the heifers were grazed with no supplemental feed until July 19.

Observations

Molasses was equal to sorghum grain as a source of nutrients, primarily energy, on winter pasture. An attempt was made to keep the dry matter intake of the lots about the same by regulating the sorghum grain consumption in keeping with molasses intake; the molasses was self-fed.

Due to the larger consumption of molasses on an "as fed basis" the cost of production was somewhat higher for the molasses lots.

The tallow fed to lot 3 was unpalatable. The first soybean meal fed carried 10% inedible bleachable fancy tallow; it was refused by the animals. They were then gradually introduced to the tallow by mixing only minute quantities with the soybean meal. The last 60 days the soybean meal carried 17% tallow. There appeared to be a great deal of individual variation in regard to acceptance of the tallow: one heifer was never observed eating the supplement, whereas a few ate it readily after a few days.

The tallow did not improve the performance of the heifers.

Table 8

Wintering heifers on bluestem pasture; molasses vs. sorghum grain, soybean meal vs. soybean meal plus tallow.

Wintering—December 13, 1957, to April 19, 1958—127 days.

Treatment	Sorghum grain and soybean meal	Molasses and soybean meal	Molasses and soybean meal plus tallow
Pasture number	1	2	3
Number of heifers per pasture	10	10	9
Initial wt. per heifer, lbs.	523	524	530
Final wt. per heifer	589	591	584
Gain per heifer	66	67	54
Daily gain per heifer	0.52	0.53	0.43
Daily ration per heifer:			
Soybean meal	1.0	1.0	
Soybean meal, 10% tallow			1.0
Sorghum grain	3.4		
Molasses, self-fed		5.1	4.2
Bonemeal and salt mixture		Free choice	
Salt		Free choice	
Bluestem pasture		Free choice	
Feed cost per heifer ¹	15.31	19.83	17.47

Grazing—April 19, 1958, to July 19, 1958—91 days.

Initial wt. per heifer, lbs.	589	591	584
Final wt. per heifer	761	753	767
Gain per heifer	172	162	183
Daily gain per heifer	1.89	1.78	2.01
Grazing cost per heifer	\$16.00	16.00	16.00

Summary—December 13, 1957, to July 19, 1958—218 days.

Initial wt. per heifer, lbs.	523	524	530
Final wt. per heifer	761	753	767
Gain per heifer	238	229	237
Daily gain per heifer	1.09	1.05	1.09
Feed cost per heifer ¹	\$31.31	35.83	33.47
Feed cost per 100 lbs. gain ¹	\$13.16	15.65	14.12

1. Feed prices may be found inside the back cover.

The Value of Supplementary Trace Minerals¹ and Trace Minerals Plus Bonemeal in a Fattening Ration, 1958. Project 253-2.

E. F. Smith, B. A. Koch, and F. W. Boren

This is the fifth experiment in this series conducted to determine the value of added trace minerals in a typical cattle-fattening ration. The four previous experiments are reported in Kansas Agricultural Experiment Station Circulars 279, 308, 335, and 358. No response has been obtained when trace minerals were added to high roughage rations of sorghum silage, sorghum grain and a protein concentrate, or to a fatten-

1. Supplied by Calcium Carbonate Company, Chicago, Ill.