

hulls, ground sorghum grain, additives and other nutrients, including additional protein. Ground rice hulls were used because it was thought they might be unpalatable and molasses might show more effect. The basal diet was finely ground and dusty. Molasses reduced the amount of fine material where it was included. The average chemical composition of the no-molasses mixture was 10.2 percent protein, 1.9 percent fat, and 17.8 percent fiber; the molasses mixture was 10.7 percent protein, 1.9 percent fat, and 17.4 percent fiber. In addition to the roughage-concentrate mixture, which was before the animals at all times, nearly 4 pounds of alfalfa wafers were fed per head daily and a small amount of prairie hay.

One of the lots receiving molasses and one on the no-molasses treatment were in pens with the shed shelter fenced off.

The concrete pens were 30 X 48 feet, with a 15- X 30-foot dirt-floor shed open to the south. The shed was about 7 feet high at the rear, 12 feet high in front.

Some calves in all lots bloated. One calf in Lot 17 died of bloat the first 10 days and was replaced. A calf in Lot 16 was stuck with a trocar to relieve bloat.

Calves fed the roughage - concentrate mixture with 10 percent cane molasses consumed an average of 1.71 pounds more of the mixture and gained 0.41 pound more per head daily. Their feed efficiency was slightly improved.

Shelter furnished by the sheds seemed to be of some benefit. In the comparison of shed and no shed with molasses in the ration some favorable effect was noted. The lot with shelter gained considerably more and required less feed to produce a pound of gain in the other comparison.

These trials will be completed in about 40 days.

The Value of Wheat Shorts in Coarse and Fine Ground Concentrate Mixtures for Fattening Heifers.

E. F. Smith, D. Richardson, and J. E. Kramer

Twenty-four yearling Hereford heifers with a USDA Feeder Grade of about High Good were divided on the basis of prior treatment and on a random-weight basis into four groups of six heifers each.

The experimental diet is listed in Table 53. Two lots of six each received wheat shorts to increase the protein content of the corn base ration to 10.5 percent protein, two lots received soybean oil meal in their mixture to raise the protein content to the same level. One lot fed wheat shorts and one lot fed soybean meal received their concentrate mixture fine ground; in the other wheat shorts and soybean meal lots, the mixture was fed in a medium-coarse ground form. The cattle were fed twice daily for about 60 days and then self-fed the latter part of the trial. No roughage was fed about the last 30 days of the trial.

The two sources of protein produced about the same result as did the two methods of grain preparation.

Table 53
The value of wheat shorts in coarse and fine ground concentrate mixtures for fattening heifers, June 10, 1963, to October 11, 1963—123 days.

Treatment	Wheat shorts		Soybean meal	
	Fine ground	Coarse ground	Fine ground	Coarse ground
Composition of concentrate mixture, %:				
Wheat shorts	25.0	25.0		
Soybean meal			5.0	5.0
Ground corn, 3/32" screen	73.0		93.0	
Ground corn, 1/4" screen		73.0		93.0
Ground limestone and trace minerals ¹	1.0	1.0	1.0	1.0
Vitamin A premix (supplied 600 I.U. per lb. feed)	1.0	1.0	1.0	1.0
Cost of concentrate mixture per ton delivered	\$48.70	\$48.70	\$50.30	\$50.30
Lot no.	1	2	3	4
Heifers per lot	6	6	6	6
Av. initial wt., lbs.	696	697	702	702
Av. daily gain, lbs.	2.33	2.37	2.19	2.53
Feed consumption per head daily, lbs.:				
Concentrate mixture	17.6	18.4	17.6	17.6
Sorghum silage	5.7	5.7	5.7	5.7
Prairie hay	1.5	1.5	1.5	1.5
Feed required to produce a lb. of gain (air-dry basis), lbs.				
	8.8	9.0	8.8	8.1
Carcass weight, lbs.	613	606	598	613
Dressing %	62.4	61.3	61.6	60.5
Carcass grades:				
High choice		1		2
Choice	1	4		2
Low choice	2	1	6	2
High good	3			
Marbling estimate ²	7.3	6.2	6.8	6.3
Carcass yield estimate ³	3.0	3.2	2.8	2.8

1. Trace minerals supplied by adding 1 pound of trace mineral premix (Calcium Carbonate Company) per ton of feed.

2. Marbling—the lower the score, the greater the degree of marbling; 6 is modest amount, 7 is small amount, scored from 1 to 19 (19 being practically devoid).

3. Carcass yield—the lower the score, the higher the yield; carcasses scored from 1 to 6.