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Drought-Damaged Corn Silage for Growing Beef Calves

Richard M. Luther and Jacob Fredrikson<sup>a</sup>

One hundred thirty-six steer calves averaging 440 lb. were used in a 56-day trial to study the value of supplementing drought-damaged corn silage with protein and energy. The silage contained only about 8 bushels of grain per acre and was harvested in mid-August at 30% dry matter. It was stored in a 71-ton stack, covered with a plastic cover and sealed with earth around the bottom. The stack was opened for feeding in January. Percentages of protein and nitrate nitrogen (dry basis) were 11.7 and 0.24 at ensiling. The four treatments (34 steers each) were 1 or 2 lb. of supplement (32% protein) per head daily each with 2 levels of corn grain. The supplements supplied 350 mg. each of chlortetracycline and sulfamethazine and 30,000 I.U. vitamin A per steer daily.

The drought-damaged corn silage used in this trial appeared to be in very good condition throughout the stack. "Normal" silage was not available for comparison. However, the performance of cattle fed the lower level of protein and energy was similar to that observed in other studies with silage properly supplemented and containing more corn grain. The addition of corn grain to the diet reduced silage consumption and increased gains at either level of protein supplementation. The additional corn fed with 1 lb. of protein increased gains 9% and with 2 lb. of protein 14% over the low energy level. The extra pound of protein improved gains 13% with the low level of corn and 18% with the medium level.

Data from this and other stations indicate that drought-damaged corn silage when properly supplemented has a feed value that closely approximates that of normal corn silage. These results suggest that protein-energy ratio may be important for growing beef calves fed high-silage diets.

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Supplements to Drought-Damaged Silage

	Protein Supplement			
	1 lb./steer/day		2 lb./steer/day	
	Low Energy	Medium Energy	Low Energy	Medium Energy
Avg. daily gain, lb.	1.92	2.10	2.17	2.48
Avg. daily feed, lb.				
Silage (wet basis)	23.55	20.59	23.55	20.67
Corn	2.63	4.83	2.63	4.83
Supplement	1.00	1.00	2.00	2.00
Hay and oats <sup>a</sup>	<u>0.15</u>	<u>0.15</u>	<u>0.15</u>	<u>0.15</u>
Total	27.33	26.57	28.33	27.65
Feed per 100 lb. gain, lb.				
Silage (wet basis)	1225	981	1083	832
Corn	137	229	121	194
Supplement	52	47	92	80
Hay and oats <sup>a</sup>	<u>7</u>	<u>7</u>	<u>6</u>	<u>6</u>
Total	1421	1264	1302	1112

<sup>a</sup> Used to start cattle on feed.