

CORN STOVER SILAGE VERSUS CORN SILAGE FOR MILK PRODUCTION¹

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The information available on the feeding value of corn stover silage is limited and no experimental data has been reported comparing corn stover silage, made from cured corn stalks, with corn silage, as feeds for milk production.

Rusk, of the Illinois Experiment Station, successfully maintained breeding beef cows through the winter on corn stover silage, and one pound of cotton seed meal daily. Long, of the Missouri Station reports that breeding beef cows gained in weight on a ration of corn stover silage and wheat straw.

In Wisconsin very little of the corn is husked as standing corn. The stalks are needed for feed and are usually harvested with the grain to be made into silage or are fed separate in the dry form. Claims have been made that corn stover silage, that is the stalks with ears removed, is equal in feeding value to ordinary corn silage. It was the purpose of the experiment reported here to obtain information that would corroborate or refute these claims, with reference to milk production.

ANIMALS USED

Eight cows producing an average of about one and one-fourth pounds fat daily at the time the trial was started, were used. They were separated into two equal groups.

PERIODS

Two periods each of four weeks duration with a preliminary week preceding each. The double reversal method of feeding the two kinds of silage was used.

¹ Read at Animal Production Society, Chicago, Ill., December, 1920.

FEEDS USED

Concentrate mixture:

	<i>parts</i>
Ground corn.....	4
Wheat bran.....	4
Linseed meal.....	1
Cottonseed meal.....	1

Equal amounts of concentrates fed each lot.

Alfalfa hay fed at the rate of slightly less than one pound of hay daily to each 100 pounds of cow weight. Equal amounts of hay fed each lot.

SILAGE

Each kind of silage was fed ad libitum twice daily. The corn stover silage tended to be somewhat dry near the wall of the silo. A good average sample of the silage contained 73 per cent of water. The cows took to the stover silage readily, although they consumed on an average of about 5 pounds less daily per animal than of corn silage.

RESULTS

The average results for the two periods for each ration are shown in the following tables:

TABLE 1

AVERAGE RATION	AVERAGE DAILY YIELD		TOTAL FAT	LOSS IN LIVE WEIGHT
	Milk	Fat		
	<i>pounds</i>	<i>pounds</i>	<i>per cent</i>	<i>pounds</i>
Corn silage ration				
Corn silage 33.25 pounds }	27.4	1.05	3.98	156
Alfalfa hay 8.78 pounds }				
Concentrates 9.39 pounds }				
Corn stover silage ration				
Stover silage 28.31 pounds }	24.5	0.98	4.00	110
Alfalfa hay 8.78 pounds }				
Concentrates 9.39 pounds }				

It will be noted from the above data that the average daily milk production on the corn silage ration was about three pounds more daily per cow than on the corn stover silage ration. A

corresponding relationship existed also in the productions of butter fat. Both lots lost some in live weight. The total loss of weight on the corn silage ration exceeded that on the corn stover ration by 46 pounds. This difference is not great enough to be considered significant.

TABLE 2
Financial summary

Corn silage ration:	
2103.9 pounds grain at \$50.00 per ton.....	\$52.60
7448.0 pounds silage at \$6.50 per ton.....	24.20
1964.0 pounds alfalfa at \$30.00 per ton.....	29.46
Total.....	\$106.26
Corn stover silage ration:	
2104.2 pounds grain at \$50.00 per ton.....	\$52.60
6352.0 pounds silage at \$4.00 per ton.....	12.60
1964.0 pounds alfalfa at \$30.00 per ton.....	29.56
Total.....	\$94.76

TABLE 3
Feed cost per hundred weight of milk and pound of butter fat

	COST OF MILK PER HUNDRED WEIGHT	COST OF BUTTER FAT PER POUND
Corn silage ration.....	\$1.73	\$0.43
Corn stover ration.....	1.73	0.43

The data shows that the costs per hundred weight of producing milk and per pound of butter fat are the same when the prices applied to corn silage and corn stover silage per ton, bear respectively the relation of \$6.50 to \$4.00. In other words the price at which the corn stover silage could be figured was 61 per cent of the price at which corn silage was valued. It is planned to carry on a more extensive trial than the one here reported at an early date.