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Soft Corn for Fattening Livestock

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Soft Corn *for*

Fattening Livestock

SUMMARY

1. Soft corn was profitably fed to fattening cattle, hogs and sheep.
2. Soft corn gave the greatest returns when fed during the winter as compared with spring and summer.
3. The two years' feeding trials showed the soft corn to have the following values in terms of hard corn, when fed to these classes of livestock in winter:
 - 82% to yearling steers
 - 78% to lambs
 - 76% to hogs and calves
4. The dry matter in the soft corn had practically the same feeding value as that in hard corn when fed during the winter.

Circular 48 (Revised) September, 1945

ANIMAL HUSBANDRY DEPARTMENT
AGRICULTURAL EXPERIMENT STATION

South Dakota State College
BROOKINGS, S. DAK.

Facts on Feeding Soft Corn

The soft corn feeding trials conducted at the South Dakota Agricultural Experiment Station indicate that the following facts are worth considering when feeding soft corn:

1. A farmer who has soft corn usually will obtain a greater return from it by feeding it to cattle, lambs or pigs than by selling it as cash grain.

2. The soft corn in these trials was best utilized by yearling cattle, followed in order by lambs, pigs and steer calves.

3. Soft ear corn should be fed during the winter months. When the soft corn was left in outdoor piles during the entire cattle-feeding period, it deteriorated during the warmer seasons. Its value for the entire period for feeding yearling steers was only 73 percent that of hard corn as compared with a value of 82 percent when fed during the winter. Likewise, when fed to calves, its value dropped from 76 to 57 percent that of hard corn.

4. Studies made on soft corn piled on the ground indicate that it can be so stored only during the winter months. If the amount of soft corn is greater than that which can be fed before the beginning of warm weather, it should be stored in narrow cribs to allow it to dry out rapidly with the coming of spring.

5. Soft corn can be fed without any special preparation such as drying, salting, shelling, crushing, or grinding. When broken ear corn is fed to cattle and sheep, wastage is reduced. Shelled soft corn and ground soft ear corn were eaten readily but were difficult to store as they heated and further molds developed.

6. The soft, moldy corn was palatable to cattle and sheep. When both kinds of corn were offered in separate bunks to other cattle on feed in 1943, the soft corn was always first to be consumed. The lambs fed soft corn usually cleaned their bunks more rapidly than those getting the hard corn.

7. No bad effects occurred in shifting livestock from a full feed of good quality grain to a full feed of soft, moldy ear corn. Twenty-nine steers on a full feed of shelled corn and barley were shifted in 5 days to a full feed of the soft ear corn without going off feed or showing any bad effects. The steers were fed the soft corn ration for 4 weeks and continued to make good gains throughout the period.

Ten yearling sheep on a full feed of No. 3 corn also were shifted to a full feed of soft, moldy ear corn with no indications of digestive disturbances; they were continued on this soft corn for a 6-week period or until fattened for market.

The material presented in this circular is to be regarded as a progress report, representing two years' feeding trials. With the soft corn encountered in the fall of 1945, it is planned to conduct further trials involving methods of feeding soft corn.

Soft Corn for Fattening Livestock

A PROGRESS REPORT OF TWO YEARS' FEEDING TRIALS WITH
SOFT CORN FOR STEERS, HOGS, AND LAMBS

By I. B. JOHNSON, LESLIE E. JOHNSON AND TURNER H. WRIGHT¹

"To what class of livestock can I best feed my soft corn?" and "What is its value?" These are two questions frequently asked by farmers having a soft corn crop, one which they are not able to convert into silage or market at a satisfactory price. There have been about as many opinions as to its actual value per bushel as there were farmers who produced it. In an attempt to use the full growing season, many farmers have planted varieties of corn which need a longer growing period than exists in much of the State. Such varieties are more likely to be damaged by frost than the early-adapted ones, which are becoming more important in South Dakota as the acreage devoted to hybrid corn increases. Three times within the past 4 years (1942, 1944, and 1945) heavy frosts have caught a large amount of immature corn in the eastern part of the State.

The answers to the soft corn questions were only partially available from previous experimental feeding trials at this and other State Agricultural Experiment Stations. There were no records of experiments in which soft, moldy corn was fed to lambs. Also, there were no experiments in which the different classes of livestock were fed from the same supply of soft corn at the same time. At the Illinois Station, where one feeding trial of soft corn was made with 2-year-old steers, the results indicated that ear corn silage was the most economical form for feeding soft corn; next in economy came shock corn, then broken ear corn, and finally "cattled-down" corn. Summing up the available research facts from all Stations wherein soft, immature corn, compared to mature corn, was fed to older cattle and hogs, the feed requirement for 100 pounds gain was practically the same, when the soft corn was reduced to the moisture content of the mature corn.

The experiments reported in this circular were conducted at the South Dakota Agricultural Experiment Station in 1942-43 and 1944-45 in order to obtain further information on the value of soft corn as a feed and on the livestock that could best utilize it.

Objectives and Plans of the Experiment

The objectives of the experiment are to determine (1) the relative ability of yearling cattle, calves, pigs, and lambs to utilize soft corn, (2) the feeding value of soft corn as compared with hard corn, and (3) a satisfactory method of feeding soft corn to livestock.

¹I. B. Johnson, Animal Husbandman and Director of the South Dakota Experiment Station; Leslie E. Johnson and Turner H. Wright, Associate Animal Husbandmen. The following Department members assisted with the first year's trials: J. W. Wilson, Emeritus Animal Husbandman; F. U. Peon, Associate Animal Husbandman; and W. H. Burkitt, Assistant Animal Husbandman.

Livestock fed. The different classes of livestock used each year were:

CATTLE: Two lots of yearling steers grading medium to choice and two lots of steer calves grading good to choice, 10 head in each lot.

HOGS: Four lots of good to choice feeder pigs, 10 head in each lot.

LAMBS: Two lots of good to choice feeder lambs, 20 head in each lot.

The animals were divided into uniform lots at the beginning of each trial on the basis of weight, type, quality and condition. Weights were taken on 3 consecutive days at the beginning and at the end of each feeding trial; 1-day weights were taken at regular intervals during the progress of the experiment.

Feeds used. The yellow corn and alfalfa hay used in these feeding trials were grown locally. The hard corn graded No. 3. The soft corn was harvested with mechanical pickers and contained considerable husks. At the time of purchase in 1942 and 1944, samples of shelled corn taken from the soft ear corn had an average of 25 and 32 percent moisture, respectively. All moldy and spoiled ears remained in the corn during storage. The alfalfa hay graded U. S. No. 1, extra leafy.

The hard corn was cribbed. The soft ear corn was stored in long, uncovered piles on the ground. It was fed field run, including all moldy, rotten, soft, or husk-covered ears. During the winter months some snow and ice were present in the soft corn when it was fed. The differences between the two lots of corn are clearly shown in the illustration on page 7. Both hard and soft ear corn were hauled from a central storage and fed to the lots of livestock as needed. The corn was hand-fed twice daily, with the exception of one lot of pigs self-fed shelled corn.

The protein mixture used for the pigs consisted of 2 parts tankage, 1 part linseed oil meal, and 1 part soybean meal. The mineral fed to them was a mixture of 40 pounds of ground limestone, 40 pounds of steamed bone meal, and 20 pounds of salt. To the cattle and the lambs, each of the foregoing minerals was offered free choice.

Samples of hard and soft corn were taken periodically during the feeding period. Chemical analyses were made by the Station Chemistry department² and the results are given in Table I. There was less protein and fat in the soft

TABLE I. CHEMICAL ANALYSES OF SOFT CORN AND HARD CORN
FED TO FATTENING STEERS, PIGS AND LAMBS

Substance	1943		1945			
	Soft corn (shelled)		Hard corn (shelled)	Soft corn (shelled)		Hard corn (shelled)
	Jan. 25	May 11		Dec. 27, '44	July 1	
Moisture	percent. 24.8	percent. 21.5	percent. 17.3	percent. 31.5	percent. 15.8	percent. 16.3
Crude protein	7.8	8.5	8.7	7.9	7.5	9.1
Carbohydrates:						
Nitrogen-free extract ..	60.7	62.5	64.3	55.1	69.1	67.9
Crude fiber	2.0	2.8	2.4	2.1	3.9	2.0
Fat	3.4	2.5	3.8	2.4	1.6	3.4
Ash	1.3	2.2	3.5	1.0	2.1	1.3

²These analyses were made by Geo. F. Gastler, Assistant Station Chemist.

corn at the start of the experiment than in the hard corn, and these differences increased as the corn continued to mold and rot. This was true for both years with the exception of one protein test in 1943.

During the winter and spring months the corn was sampled for destructive molds which caused certain of the damage and shrinkage. Although a great many molds were present on the corn, only a comparative few were responsible for reducing the bushel weight and possible nutritional value. The more important molds were *Penicillium* (three different species), *Aspergillus* (four different species), *Mucor*, *Fusarium* and *Alternaria*.³ These molds are commonly present on spoiled corn and range in color from white, yellow-green, and light blue to brown and black. In 1942, the soft corn showed a 68 percent visible mold compared to 48 percent for the 1944 corn. Each year as the season became warmer in the spring and summer, the mold damage became increasingly more severe. Laboratory tests made on representative ears of hard corn indicated that molds were present on the surface of the kernels, but did not develop during storage because of the lower moisture content of the corn.

During the feeding period the corn also was sampled at regular intervals by the Agronomy department.⁴ These analyses showed a marked reduction in both the moisture content and bushel weight with the beginning of warm weather in early spring (about March 15). These losses appeared to result from the drying out of the soft corn and from the molds digesting a portion of the food nutrients within the kernels. Since these losses became rather large as the season advanced, the feed weights for the cattle were corrected to adjust for this shrinkage. The lambs and pigs reported in Tables 4 and 6 were finished during the winter months before weight losses occurred, so actual weights are used for these trials. Thus the feed requirements for 100 pounds gain for the livestock in Tables 2, 4, and 6 represent the purchase weight of the soft corn in early winter.

Yearling Cattle Made Best Use of Soft Corn

No difficulty was experienced in getting the steers on a full feed of the soft corn. They were started on feed in December both years. The broken ear corn was full-fed, with alfalfa hay being offered in amounts that would be eaten readily, after the corn had been consumed. The minerals—salt, ground limestone, and steamed bone meal—were self-fed separately but are shown combined in Table 2 since they were consumed in practically similar proportions in all lots. From two to three pigs followed the cattle in each lot during the feeding period.

A protein concentrate was omitted from the rations, since an attempt to feed it during the first trial caused some scouring. Observation tests made on other steers during 1945, however, indicate that protein concentrates can be fed with soft, broken ear corn. The use of a protein concentrate usually increases the efficiency of a hard corn and alfalfa hay ration. If it can be fed without scouring the cattle, it might also increase the efficiency of a ration of soft corn and alfalfa hay.

The yearling steers and calves getting the soft corn made slightly faster gains than those fed hard corn (Table 2). But the differences in both cases were too

³Laboratory tests were conducted by the Station Plant Pathologists, Dr. W. F. Buchholz and Dr. C. M. Nagel.

⁴The sampling was conducted by Dr. A. N. Home.

TABLE 2. SOFT EAR CORN COMPARED WITH HARD EAR CORN FOR FATTENING YEARLING STEERS AND STEER CALVES 1942-43 AND 1944-45

All cattle were fed alfalfa hay and mineral	Yearlings (fed 159 days)		Calves (fed 239 days)	
	Hard ear corn	Soft ear corn	Hard ear corn	Soft ear corn
	(all weights and feeds in pounds)			
Number of steers finished	20	20	19	20
Initial weight per steer	733.1	732.2	404.7	400.2
Final weight per steer	1,076.0	1,084.2	867.7	872.0
Daily gain per steer	2.16	2.21	1.94	1.97
Feed for 100 pounds gain:				
Ear corn	1,004.4	1,387.2	770.2	1,347.0
Alfalfa hay	247.5	239.8	210.2	199.5
Mineral	3.5	2.8	3.2	3.0
Total dry matter in feed	1,021.6	1,019.7	815.6	917.6
Pork gains per steer	36.6	35.2	56.9	50.9
Market shrink per steer	41.8	42.0	30.1	31.8
Average dressing, percent	59.7	59.5	57.9	58.2
Average carcass grade	Top good	Top good	Low choice	Low choice
Initial cost per steer	\$97.15	\$97.02	\$49.57	\$49.02
Feed cost per steer*	45.09	36.19	47.32	46.19
Marketing cost per steer	3.10	3.14	3.01	3.03
Selling price per cwt.	15.55	15.45	14.95	14.75
Returns per steer†	15.48	24.67	25.32	25.69
Feed cost per 100 lbs. gain	13.15	10.28	10.22	9.79

*Feed prices: Hard ear corn, \$8.00 per bu. (\$1.43 per cwt.); soft ear corn, \$6.63 per cwt.; alfalfa hay, \$12.50 per ton; silo, \$9.00 per cwt.; ground limestone, \$1.00 per cwt.; bone meal, \$5.40 per cwt.

†Labor, overhead expenses and credit for manure and pork gains not included.

small to be of significance. There was a tendency for the cattle on soft corn to make faster gains during the first part of the feeding period. In the 1943 feeding trial the cattle fed soft corn excelled those fed hard corn in rate of gain and finish throughout the experiment. In 1945, however, the hard corn cattle excelled those fed soft corn by market time. In this trial the soft corn cattle were definitely more growthy and unfinished than the hard corn cattle. On the basis of the two years' work, the carcasses from both groups were very similar in grade.

Table 3 shows the amounts of soft ear corn required to equal 100 pounds of hard ear corn for the winter, spring, and summer feeding periods. The upper portion of the table is based on December weights and applies to the feeder who buys his soft corn in the early winter and feeds it as needed to yearling steers and calves. The middle portion of the table is based on weights as fed and applies to the producer who buys his soft corn seasonally as he feeds it. The lower portion, based on dry matter within the corn, indicates the efficiency of the soft corn on a moisture-free basis.

On the basis of early winter weights, it took decidedly more soft corn to equal 100 pounds of hard corn as the spring and summer months advanced. This appeared to be due to loss in moisture, loss in feed nutrients owing to digestion of



These samplings are taken from the two lots of corn used in the 1944-45 feeding trials. The soft corn, as pictured in the top row, had an average moisture content of 32 percent. It was fed field run. The hard corn, as illustrated in the bottom row, graded No. 3 and averaged 16.3 percent moisture

TABLE 3. AMOUNTS OF SOFT EAR CORN REQUIRED TO
EQUAL 100 POUNDS OF HARD EAR CORN

Class of livestock	Winter 12/13 to 3/15 (lbs.)	Spring 3/16 to 5/31 (lbs.)	Summer 6/1 to 9/25 (lbs.)
On Basis of December Weights When Stored in Piles			
Yearling steers	121	150	
Steer calves	130	161	230
On Basis of Feeding Weights			
Yearling steers	120	114	
Steer calves	129	123	146
On Basis of Dry Matter in Feeds Fed			
Yearling steers	97	101	
Steer calves	94	109	146

the soft corn by molds, and the loss in the efficiency of the remaining dry matter. From the figures in the upper portion of the table it can be calculated that it took 124 pounds of soft corn stored in the winter but fed in the spring to equal 100 pounds of soft corn stored and fed in the winter. If the corn was held longer and fed in the summer, it took 177 pounds to put on the same gains.

On the basis of the weights as fed, the decrease in the moisture of the corn during the spring months appeared to offset the deterioration in the efficiency of the dry matter. With the approach of summer, the feeding value of the corn as fed became increasingly less, and the further decrease in moisture content did not offset the dry matter deterioration. On the basis of the dry matter required per 100 pounds gain, that within the soft corn was slightly more efficient than that within hard corn, during the winter feeding period. As the season advanced, however, the dry matter content of the soft corn became less and less efficient.

In the two feeding trials (Table 2), 100 pounds of hard ear corn plus one pound of alfalfa hay when fed to the yearlings was equal to 138 pounds of soft corn, based on December purchase weights. Similarly, 100 pounds of hard ear corn plus one pound of alfalfa hay was equal to 175 pounds of soft corn when fed to calves. During the winter feeding period, however, 100 pounds of hard ear corn was equivalent to 121 pounds and 130 pounds of soft ear corn for fattening yearlings and calves respectively.

Pigs Made Efficient Gains on Soft Corn

Pigs again made good use of soft corn in 1945. Four lots of pigs were used to repeat the first phase of the work done in 1943. All of the feeds were self-fed with the exception of the ear corn and the protein supplement for Lot 4. In this case, the protein supplement was limited to the amount consumed by the pigs getting hard shelled corn. In this trial the pigs made slightly faster gains and required more feed for 100 pounds gain than those in the first year's trial, but, in general, the same relative differences prevailed. A summary of the two years' feeding trials is presented in Table 4.

These data show that the pigs fed hard corn made slightly faster gains than those fed soft corn, and required less corn for 100 pounds gain. The requirements for protein supplement, alfalfa and mineral were practically the same. When compared on a dry matter basis, however, there is very little difference in the amount of feed required for 100 pounds of gain. The pigs fed the soft corn showed a lower feed cost per 100 pounds gain (because of the lower price of the corn), and likewise a greater return per pig. When marketed, the hogs fed hard ear corn shrank 1.5 percent more than those fed soft ear corn, but dressed approximately 1 percent higher. The carcasses from the hogs in all four lots were graded good to choice. In these two feeding trials, 100 pounds of hard ear corn was worth 130 pounds of soft ear corn plus $\frac{1}{2}$ pound of protein supplement.

In the two trials discussed, the pigs were ready for market before the coming of warm weather. Two lots of pigs were fed in the spring of 1943 to compare hard shelled corn with soft corn that had been shelled and stored in a bin similar to that used for the hard corn. This soft corn was of better quality than the soft ear corn fed in the winter, containing fewer moldy kernels and about one percent less moisture. With the coming of warm weather in the spring, it heated in the

TABLE 4. SOFT CORN COMPARED WITH HARD CORN FOR FATTENING PIGS
1942-43 AND 1944-45

Lot No.	1	2	3	4
Protein supplement, alfalfa hay and mineral fed to all four lots	Hard shelled corn	Hard ear corn	Soft ear corn	Soft ear corn (limited protein)
	(all weights and feeds in pounds)			
Number of pigs finished	20	20	20	20
Number of days fed	81.5	86.0	96.5	96.5
Initial weight per head	125.7	123.6	124.0	124.1
Final weight per head	276.0	280.0	282.4	286.1
Daily gain per head	1.84	1.82	1.64	1.68
Feed for 100 lbs. gain:				
Corn	393.4	514.5	671.3	661.1
Protein supplement	58.0	52.3	54.8	61.0
Alfalfa	8.4	8.5	9.0	8.4
Mineral	1.2	1.3	1.4	1.2
Total dry matter for 100 lbs. gain	386.4	396.8	400.1	400.1
Feed cost per head*	\$12.66	\$12.16	\$ 9.77	\$10.22
Initial cost per head	19.35	19.06	19.12	19.13
Net selling price per head	40.36	41.12	40.07	40.63
Returns per head†	8.34	9.90	11.18	11.28

*Feed prices: Hard ear corn, \$8.00 per bu. (\$1.43 per cwt.); hard shelled corn, \$9.91 per bu. (\$1.62 per cwt.); soft ear corn, \$6.33 per cwt.; protein supplement, \$3.85 per cwt.; alfalfa hay, \$12.50 per ton; and mineral, \$1.94 per cwt.

†Labor, overhead expenses and credit for manure not included.

bin and developed more mold. In this case, 100 pounds of hard shelled corn was equivalent to 108 pounds of soft shelled corn plus 1 pound of protein supplement.

To get some information on the value of soft corn stored in outdoor piles and fed fattening pigs during spring and summer, an additional feeding trial was conducted in 1945. Four lots of pigs were fed exactly the same as during the winter trial. Both the soft and the hard corn came from the supplies used during the winter. The weights of the corn as fed were used without adjustments for seasonal deterioration. Table 5 presents the results in detail.

In the spring and summer months (as compared with the winter feeding), relatively greater amounts of both corn and protein supplement were required by the pigs fed soft corn than by those fed hard corn in order to produce 100 pounds of gain. The total amounts of dry matter required to produce 100 pounds of gain were greater for the pigs fed soft corn than for those fed hard corn. There was practically no difference in the shrink from feed lot to market for any of the lots. The slaughter data showed approximately 1½ percent higher dressing yield for the hogs fed hard corn. All of the carcasses graded good. In this feeding trial, 100 pounds of hard ear corn was worth 142 pounds of soft ear corn plus 11.5 pounds of protein supplement. These results indicate that if soft corn is to be utilized by fattening pigs, best results will be obtained by feeding it in winter unless it can be stored without increased spoilage.

TABLE 5. SOFT CORN COMPARED WITH HARD CORN FOR FATTENING PIGS
APRIL 13 TO JULY 15, 1945

Lot No.	1	2	3	4
Protein supplement, alfalfa hay and mineral fed to all four lots	Hard shelled corn	Hard ear corn	Soft ear corn	Soft ear corn (limited protein)
(all weights and feeds in pounds)				
Number of pigs finished	10	10	10	10
Number of days fed	77	77	92	93
Initial weight per head	107.8	109.5	109.4	108.6
Final weight per head	276.7	278.5	279.1	271.6
Daily gain per head	2.10	2.20	1.84	1.75
Feed for 100 lbs. gain:				
Corn	313.1	476.2	675.0	712.2
Protein supplement	70.5	61.0	115.6	90.4
Alfalfa hay	2.6	2.3	3.0	3.4
Mineral mixture8	.7	.8	1.2
Total dry matter for 100 lbs. gain ..	325.9	386.0	532.7	536.2
Feed cost per head*	\$14.07	\$13.49	\$12.54	\$10.94
Initial cost per head	17.79	18.07	18.05	17.92
Net selling price per head	39.39	39.39	38.90	37.49
Returns per head†	7.53	7.83	8.31	8.63

*Feed prices: Hard ear corn, 5.86 per bu. (\$1.23 per cwt.); hard shelled corn, \$1.05 per bu. (\$1.88 per cwt.); soft ear corn, 5.50 per cwt.; protein supplement, \$3.43 per cwt.; alfalfa hay, \$15.00 per ton; and minerals, \$1.94 per cwt.

†Labor, overhead expenses and credit for manure not included.

Lambs Remained Healthy on Soft, Moldy Corn

The lambs for the two soft corn feeding trials were placed on feed in early winter (December and January) and fed for an average 88-day period. The rations consisted of ear corn and alfalfa hay supplemented with minerals.

No difficulty was experienced in getting the lambs on full feed. All lambs remained healthy and vigorous throughout the fattening period, with the exception of those that died as a result of overeating. Two of the lambs fed soft corn and five of those fed hard corn died from this cause. A hemorrhage resulting from an accident caused the death of one of the lambs in the soft corn lot.

The gains made by both lots were very satisfactory and similar, with the hard corn group having an advantage of only .02 pound per day (Table 6). The lots were also very similar in selling price per hundredweight, shrink to market, and carcass grade. In none of these were the differences larger than those encountered when feeding two lots of lambs identical rations. Because of the price paid for the soft corn, the lambs on this ration returned \$1.19 per head more than those fed hard corn.

TABLE 6. SOFT EAR CORN COMPARED WITH HARD EAR CORN FOR
FATTENING LAMBS
1942-43 AND 1944-45

Fed 88 days	Lambs fed alfalfa hay and—	
	Hard corn	Soft corn
	(all weights and feeds in pounds)	
Number of lambs finished	35	37
Initial weight per lamb	69.4	69.7
Final weight per lamb	102.4	100.6
Daily gain per lamb37	.35
Feed for 100 lbs. gain:		
Corn	608.8	746.0
Alfalfa	375.8	433.3
Mineral	11.0	11.8
Market shrink per lamb	3.5	2.6
Initial cost per lamb	\$ 9.20	\$ 9.27
Feed cost per lamb*	3.12	2.33
Marketing cost per lamb30	.31
Death loss, cost per lamb	1.20	.57
Selling price per cwt.	16.25	16.25
Returns per lamb†	2.25	3.44

*Feed prices: Hard ear corn \$5.80 per bu., (\$1.43 per cwt.); soft ear corn, \$5.63 per cwt.; alfalfa hay, \$12.50 per ton; salt, \$9.00 per cwt.; ground limestone, \$1.00 per cwt.; bone meal, \$3.40 per cwt.
†Labor, overhead expenses and credit for manure not included.

In these trials 100 pounds of hard corn was equal to 123 pounds of soft corn plus 9 pounds of alfalfa hay. On a dry matter basis the lambs fed soft corn required 473 pounds of corn plus 392 pounds of alfalfa hay for 100 pounds gain, while those fed hard corn required 479 pounds of corn plus 340 pounds of alfalfa hay.

These trials were completed during the winter months before the soft corn had reached its worst stage of mold and decay. An observation test was made to determine the effects of feeding such corn to sheep during warm weather. On May 29, ten head of yearling sheep were shifted directly from a feed of corn, oats and alfalfa hay to one of soft, moldy corn and alfalfa hay. The feeding continued for 6 weeks. The sheep ate the soft corn readily and no digestive troubles were experienced during the entire period. At this Station the sheep have consumed the soft, moldy corn as readily as other farm animals and without any ill effects.