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1944 Cattle Feeding Tests

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Above are a few of the steers of Lot V, one of the four to get a full feed of corn during the 175 days on feed. Their margin topped all lots.

In our cattle feeding experiments this year, which ended the first of June, we followed up our tests of the past 2 years in which we were trying to find out whether it pays to chop hay for fattening steers and whether limited grain feeding with good quality steers would pay during this war period. There were other questions too that we wanted to answer if possible such as: In chopping hay for steers, should it be coarse or fine? How long a period should good quality yearling steers be fed?

The tests with six lots of eight steers each gave us these answers:

1. You can produce pretty acceptable beef with corn silage and a limited feeding of corn.
2. There is no advantage from the standpoint of gains to chop hay for fattening steers. We conclude that if you can put up your hay to advantage by chopping it, then go ahead and chop, but chopping hay won't increase its value for fattening cattle.
3. Cattle seem to prefer hay that is not chopped too fine.
4. This year with the prices we used, it paid to feed good quality steers for 6 months rather than to sell them after 4 or 5 months of feeding—the margin per steer was larger after 6 months of feeding. But a part of this larger margin was due to an increase of about $1.00 per hundred in the price of fat cattle.

The experiment was divided into two main parts—(1) whole hay compared with chopped hay and (2) a full feed of silage and shelled corn, as compared with a full feed of silage and limited feeding of shelled corn to 45 and 90 days of the 175 days of feeding.

Limiting Grain

Some people have suggested that with limited feed supplies and the unusual need for meat, it is not good procedure to put feed into feeder cattle. In other words, they would slaughter the feeder cattle direct. In order to get some information on the yields and grades of beef from feeder steers, we sent five representative steers to the Iowa Packing Co., Des Moines, and had them slaughtered just as the other steers were going on feed.

Of these five steers, four graded commercial and one utility. The dressing percentage ranged from just under 53 percent to not quite 55 percent. The steers sold for $10.70 per hundred. They averaged nearly 700 pounds on foot. The selling price was under their actual cost, so it was not profitable.

Lots I, II and III in our feeding tests were fed and handled exactly the same except for the shelled corn. Lot I was full-fed shelled corn for only the last 45 days on feed; Lot II was full-fed shelled corn for the last 90 days and Lot III was full-fed shelled corn from the start. In addition to corn, these three lots all were full-fed corn silage from the start, and had daily allowances per steer of 1 pound of alfalfa hay, 1 1/2 pounds of linseed meal, 1 ounce of mineral mixture and block salt self-fed.

For the first 90 days of the test, the two lots of steers which had silage alone gained an average of 2.21 and 2.06 pounds per day, while those full-fed shelled corn with silage from the start averaged 2.77 pounds per day. After 120 days of feeding, those limited in corn to 30 days and the steers that had received no corn averaged 2.16 and 2.02 pounds per steer daily; those on full feed of corn averaged 2.73.

At the end of 5 months—150 days—the limited grain steers averaged 2.05 and 2.02 and those on full feed 2.52 pounds per day. After 175 days, those full-fed corn 40 and 85 days averaged 1.96 pounds per steer daily and those...
full-fed corn for the entire period 2.36.

But margins may be of more interest than rate of gain. At the end of 4 months (120 days) of feeding, the Lot I steers which had received no shelled corn showed an estimated margin over feed cost, crediting feed saved by the hogs, of $9.93; those which had been full-fed corn for 30 days had an estimated margin of $7.94 and those full-fed corn from the beginning of the experiment $13.14. After 5 months on feed the estimated margins were $14.95 for Lot I (this lot had been on full feed of corn only 15 days); Lot II, $18.66 (full-fed corn 90 days); Lot III, $23.83 (full-fed corn for 6 months); and Lot III, $14.73.

When the steers were sold at the end of the 6 months' feeding period, the actual margins per steer over feed cost, crediting feed saved by the hogs, for the three lots were: Lot I, $16.40 (this lot had a full feed of corn for 45 days); Lot II, $18.66 (full-fed corn 90 days); Lot III, $23.83 (full-fed corn for 6 months).

Steers Too Good?

Some of the feeders have expressed the belief, and we agree, that probably limited grain feeding might prove more profitable with cheaper cattle—that the steers we used this year were of too good quality to make limited grain feeding profitable.

One of the possibilities we are considering for our tests of the coming year is to compare cattle of different quality and price on limited grain rations.

With the outlook for a smaller corn crop and possibly some soft corn, the work of this year should point the way to use this corn profitably. The silage-fed cattle all showed a profit, and even those full-fed corn only 45 days of the 6 months when sold graded 3 good and 5 choice; those full-fed corn 90 days graded 2 good and 6 choice, while all of the steers full-fed corn from the beginning graded choice, or double A.

These results indicate that corn silage with only a small amount of corn, in addition, will produce pretty acceptable beef.

Chopped Hay Tests

This is the third year that comparisons have been made between steers on regular or whole alfalfa hay and chopped hay. The first year the steers on chopped hay showed the larger margin. The second year the results were reversed and those fed the long hay showed the larger margin. This year, there was practically no difference between the steers on chopped and regular hay. Our conclusion is that there is no advantage from the standpoint of the steers in chopping hay.

| DAILY GAIN, FEED COST, SELLING PRICE, GRADE OF STEERS 1943-44 FEEDING EXPERIMENT |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Lot I  | Lot II | Lot III | Lot IV | Lot V  | Lot VI |
| Sh. corn  | Sh. corn  | Sh. corn  | Sh. corn  | Sh. corn  | Sh. corn  |
| 40 days  | 85 days  | 85 days  | 90 days  | 90 days  | 90 days  |
| Av. daily gain | 1.96 | 1.96 | 2.36 | 2.35 | 2.40 | 2.35 |
| Feed cost 100 lbs. gain, crediting feed saved by hogs | $12.87 | $13.91 | $13.55 | $14.20 | $13.25 | $13.51 |
| Selling price, Des Moines | $15.25 | $15.65 | $15.90 | $16.40 | $16.25 | $16.10 |
| Margin per steer over feed cost, crediting feed saved by hogs | $18.40 | $18.66 | $23.83 | $26.15 | $31.38 | $25.42 |
| Dressing percentage | 60.6 | 61.1 | 63.1 | 63.7 | 62.3 | 63.3 |
| Grade of steers | 3 good | 2 good | 7 choice* | 8 choice | 8 choice | 8 choice |
| 5 choice | 6 choice |

*One steer was taken out of Lot III before the end of the experiment.

The steers of Lot I (above) received corn only 45 days of the 175 they were on feed, but with silage, full-fed, they made satisfactory beef.

It may be advantageous from the standpoint of putting up the hay to chop it. If so, then it will be satisfactory for fattening steers. In our trials we have observed that the steers seem to prefer hay that is not chopped too fine. This year the coarser-chopped hay was that which was chopped in the field with a forage harvester. One lot of steers was fed on this and a similar lot got hay chopped and blown into the barn with an ensilage cutter having a hay cutter attachment.

If hay is cut with an ensilage cutter it will not be too fine. If it is ground too fine, it won't be satisfactory. Steers do not like finely ground hay.

There were three lots this year which got no silage but hay, a full feed of corn for the entire 6 months, 1 pound of linseed meal per steer daily, mineral mixture at the rate of 0.75 ounce per steer daily, block salt self-fed. Lot IV had whole hay, Lot V hay chopped with forage harvester in the field and Lot VI hay chopped at the barn with ensilage cutter. These three lots showed the largest margins per steer over feed cost of the six in the experiment.

The accompanying table shows some of the main results of the cattle feeding experiments of the past year.

The California Experiment Station has recently reported that they have had some trouble with cows bloating on chopped alfalfa hay, but no bloating on long hay.