

Steer Feeding at the Experimental Farm, Brandon

In the fall of 1907 some work was undertaken on the Experimental Farm in the fattening of steers outside as compared with inside. Thirteen head of steers were fed, five in the stable and eight outside. The cattle were coming three years old, averaging in weight slightly over 1100 pounds when feeding started. There was no artificial shelter provided for those fed outside, but good natural shelter was abundant in the form of oak and poplar scrub and coulees, and served largely to protect them from the wind. The feed for those outside during most of the period consisted of oat straw and chopped grain, — oats and barley. For a short time hay was substituted for the straw. The grain ration was limited throughout, the amount varying from four to eleven pounds per head per day, the latter amount being fed for about six weeks before the cattle were sold on April 20th. Those that were stabled got a somewhat different ration consisting of silage, cut straw, grain and a few roots — a ration that has been fed here for some years with good results.

The steers cost $3\frac{1}{2}$ cents and were sold April 20th for 4½ cents with 4% shrinkage. During the feeding period—138 days—those in the stable made an average gain per head of 251 pounds; those outside gained in the same time 234 pounds per head. The increase in value per head of those stabled was \$21.12, those outside \$19.65. After placing market prices on the feed consumed, the net profit of those fed without shelter was \$7.05, and on the others \$5.52. The winter of 1907-08, it will be remembered, was unusually mild and free from severe storms, and the good results secured outside may be partly attributable to this.

Last fall provision was made to repeat the experiment, as definite conclusions cannot be drawn from the results of one year's trials. Increased accommodation permitted a larger number of cattle being handled and forty head were secured. Difficulty was encountered in getting this number of sufficient size, and those which were obtained were not so uniform in size or quality as was desirable. They averaged over 150 pounds lighter per head than those used the year previous, were in lower flesh, and a number were of poor conformation. Three divisions

were made instead of two as in the year previous. Twenty head were allowed to run outside under the same conditions as were provided before sixteen were tied in a comfortable stable, and four ran loose in a box stall in the same stable. The outside and tied lots received practically the same feed and attention as was accorded those under the same conditions the year previous, while those in the box were fed exactly the same as those running outside. The four steers running loose inside averaged considerably heavier when weighed in than the other lots, and two of them were unusually good animals. This should be borne in mind when comparing the results of the different lots.

The steers were put on feed December 7th. The roughage for those fed inside consisted of silage and cut straw. A few roots were fed also. The grain ration to start consisted of two pounds of bran and two pounds of oat and barley chop. This was gradually increased until twelve pounds of grain per day was being fed by the first of April. The other two lots had oat straw for roughage until the middle of March when prairie hay was substituted. They were fed practically the same grain as those tied, but were getting from two to three pounds more per day during January and February.

In order to get some information as to the time when the greatest gains were made, and the effect that various classes of weather had on rate of gain, a set of scales were installed in the outside feed lot, and the steers were weighed periodically during the winter.

The three lots, with the exception of five animals, were sold for delivery May 10th at 5 cents with 5% shrinkage. One steer of those tied and four of those outside were sold for 4½ cents with 5% shrinkage, on account of being smaller and in poorer condition.

The following table will give in concise form the results secured from the winter's feeding. In figuring the profit, the following prices were charged for feed.

Grain	\$20.00	per ton
Bran	18.00	" "
Ground Flax	30.00	" "
Straw	1.00	" "
Hay	4.00	" "
Alfalfa	6.00	" "
Ensilage	2.00	" "
Oat Sheaves	3.00	" "

An examination of these figures will show results markedly different from those of last year. The total gains and the gains per day are noticeably lower, and the cost of 100 pounds gain considerably higher, but more particularly so with those fed outside. To consider first the outside lot, we have first to remember that the winter was much colder than that of 1907-08, and further that the steers were smaller and in lower flesh to start. During January and February, which were both cold months, the cattle did little more than hold their weights. The periodic weighings showed that the average weight on February 13th was only eight pounds more per head than on December 12th. In the same time individual animals gained as much as 60 pounds, so that the smaller ones must really have shrunk in weight. It was very noticeable that the smaller animals suffered more during the extremely cold weather than the big steers, and during the entire feeding period made much smaller gains. Another factor which was no doubt detrimental to rapid gains during the extremely cold weather was the difficulty of keeping the water open.

The daily gain per head of those tied in the stable is also rather small. This is largely due to the steers not being of the best type of feeders, and too far from maturity to lay on flesh rapidly.

Those fed loose on the same feed as the outside lot undoubtedly make the best showing. As mentioned before this was the best lot to begin with, and their better gains are partly attributable to this. The shelter and the abundance of water provided at all times must also account for some of it. The fact that four of those wintered outside brought half a cent less than the others, shows clearly that they were not so uniform as they should have been.

With both lots fed inside there were several cases of steers going off their feed. There were no serious consequences except that several days gain was undoubtedly lost in each case. None of those outside missed a meal during the period but always had a relish for their feed. Had the stable not been well ventilated there would undoubtedly have been more trouble than we had.

In the table of figures given above, no allowance is made for the difference in the amount of labor required, or the interest on investment. Much more labor is involved with the feeding done inside than when it is done outside, and more when the animals are tied than when they are loose. There is also, of course, much less capital tied up in equipment when feeding is done outside.

In working out the net profit per steer, a definite price of \$1 per ton is placed on all straw fed. Since straw is largely considered a waste product, and burnt to get it disposed of, it may be interesting to figure the net profit per head without placing any value on the straw. Giving the same valuation to the other feeds, we find the profit stands as follows :—

Outside	(Inside (loose)	Inside (tied)
\$1.77	\$10.49	\$6.54

But even these figures while more nearly correct than the others from the point of view of the average farmer, do not show clearly whether or not there is money to be made or lost by feeding grain to cattle rather than selling it. If the prices per ton secured by feeding the grain are less than those that could be got on the market, the feeding operations cannot have been carried on at a profit. Placing the same values as given above on the coarse feeds, and valuing the bran at the actual cost, we find that for the grain fed the following prices were secured with the various lots:—

	Outside	Inside (loose)	Inside (tied)
Per ton	\$20.78	\$36.73	\$31.51
Per bus., oats . .	.35	.62	.53
Per bus., barley .	.49	.88	.75

In spite of the high prices that have been ruling for grain on the market, we find that these compare very favorably with market prices. While the labor is generally considered in experiments of this kind, to be balanced by the manure produced, there is between the prices secured for the grain and that ruling on the market, a margin more than sufficient to make up any difference that there may be under the average conditions in this country.

Since there is such a marked difference between the results secured in the two years that the experiment has been under way, it is not possible to draw any definite conclusions. It would appear, however, that steers weighing from 1100 to 1200 pounds may be handled to much better advantage outside than a smaller class and that

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Letters Upon Farming

Our Scott

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It is difficult in these days of duty in respect of correspondence to have sometimes become. This letter is usually written in the afternoon, and during the day attending a funeral on the subject. Death has been very busy lately. We have lost two of our friends, Hutcheson, Beechwood, and Aldersyde, Uddingston, the ablest platform speaker in the land. He was a breezy, good-natured, and sounded like a circular saw. He was of dry, caustic humour, but he could be found, and he was when rising impromptu. He studied addresses were good, but he excelled in debate. He was a guerilla warrior he was in the chair. No one could meet him with a stern regard, and he pushed through a business in a very short time. He was extensively in the Carse, and out and out commercial. He was guiltless of any knowledge of any kind.

James Hamilton was a type. He was calm, reserved. He was one of the shrewdest men in Glasgow. He was one of the finest who had businesses in the city. He knew what was right in dealing and handled great quantities of foreign butter, cheese and a man of various public concerns, production and sale of products extensively and he had a keen realizing where additional income could be obtained and constantly increased frequently by carefully selected lectures read at what were called Institutes, that home of the best and that only. He was harness horses, and was a hard man to beat in a race. He had an active interest in the Glasgow Agricultural Society. He died at an early age of 57.

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