

DRIED SUGAR-BEET PULP FOR STEER FATTENING.

In a season like the present, when stockmen must study economy in the composition and feeding of cattle rations, the results of careful investigative work in this direction are welcome. By reason of the presence of two large beet-sugar factories in Ontario, special interest is taken by farmers in the use and value of the by-product, pulp. The Michigan Agricultural Experiment Station has been at work on the problem of the value of dried pulp in fattening steers, and R. S. Shaw and H. W. Norton, Jr., have issued a joint bulletin thereon. They state that, with the development of the beet-sugar industry in this State, dried beet pulp has been placed on the market in large quantities and recommended for feeding purposes. Much of it has been used by stockmen and feeders throughout the State, and many questions have been asked regarding its feeding value. Dried beet-pulp is a by-product of the beet-sugar factory, and consists of the refuse pulp which has been dried sufficiently to expel the greater part of the moisture content, so that it can be placed on the market and handled with other feeds. Its analysis, as compared with corn meal, given in Michigan Bulletin 234, is as follows:

Dry matter and digestible material in one pound:

	Dry Matter.	Protein.	Carbohydrates and Fat.	Nutritive Ratio.
Dried beet pulp.....	.901	.075	.614	8.1
Corn meal894	.078	.772	9.8

The protein content is very nearly the same in the two, but the carbohydrates and fat, especially the latter, are considerably higher in corn meal. It would, however, be classed with corn meal as a fattening food, according to chemical composition. Several tests have, therefore, been carried on at this station for the purpose of securing information relative to its value for various feeding purposes. Bulletin 220, of this station, treats of the value of dried pulp for fattening sheep. In the tests reported, both plain dried and dried molasses pulp were used against corn, and the conclusions reached were:

1. Both dried beet pulp and dried molasses beet pulp are possessed of feeding values comparing very favorably with corn.

2. Grain mixtures containing dried beet pulp produce mutton at a less cost than similar amounts of grain mixtures alone.

In the test reported herein, comparisons have been made of the feeding values of dried beet pulp and corn meal for fattening steers. Three trials are reported. In the first, during the winter of 1904 and 1905, only two lots of steers were used, one lot receiving beet pulp in the grain ration, the other receiving corn meal. In each of the two later tests, January to May, 1906, and August to December, 1906, a third lot was entered, and received a combination grain ration, consisting of equal parts, by weight, of the grain mixtures fed to the other two lots.

The table of values used in all three trials was, corn meal, \$20 per ton; dried beet pulp, \$15 per ton; oil cake, \$28 per ton; silage, \$2.50 per ton; and clover hay, \$5 per ton. In the first test, covering 84 days, 9 steers were used. They were stall fed in two lots, and turned out to water. The rations were as follows: Lot 1 consumed through the feeding period an average per day as follows: 7.86 pounds corn meal, 1.56 pounds oil cake, and 9.68 pounds clover hay. Lot 2 consumed per head per day, 8 pounds dried pulp, 1.58 oil cake, and 9.67 clover hay. The average cost per head per day of the first lot was 12.46 cents, and of the second 10.63 cents.

SUMMARY OF RESULTS.

In making averages, only the corn-meal lots and beet-pulp lots are considered, as trial No. 1 consisted of but these two.

AVERAGE GAIN PER HEAD DAILY.

Feeding Trials—	Corn Meal.	Beet-pulp Lot.
Corn-meal Lot.	Beet-pulp Lot.	
Av. daily gains.	Av. daily gains.	Av. daily gains.
No. 1.....	1.053 lbs.	1.184 lbs.
No. 2.....	1.307 lbs.	1.469 lbs.
No. 3.....	2.039 lbs.	1.670 lbs.
Average.....	1.466 lbs.	1.441 lbs.

In trials 1 and 2, the rations containing pulp produced the greatest gain, but in the last trial this was reversed. The corn-meal lot gained the most, next the corn-meal-beet-pulp lot, and last the straight beet-pulp ration. In the two earlier tests, the animals used were in a growthy condition, and were poor in flesh. The steers in the last trial were in very good condition when the test began, carried a fairly thick covering of flesh, and were ready to be fed a finishing ration. As a result, the corn-meal lot showed up best in gains, while in the earlier tests, where the steers were less inclined to fatten readily and finish when put in the test, the pulp lots made the greatest gains. This would seem to substantiate the previous statement that the gain produced by feed-

ing beet pulp is in the form of growth and development, rather than in the form of fat.

AVERAGE COST OF DAILY RATION.

Feeding Trial.	Corn-meal Lot.	Corn-meal, Beet-pulp Lot.	Beet-pulp Lot.
No. 1.....	12.4 cts.		10.6 cts.
No. 2.....	10.3 cts.	10.1 cts.	8.7 cts.
No. 3.....	14.1 cts.	12.5 cts.	11.0 cts.
Averages.....	12.26 cts.		10.1 cts.

The daily ration was cheaper in each case for the beet-pulp lots than for the corn-meal, the average being 12.26 cents per head daily for the corn, against 10.1 cents daily for the pulp, a difference of 2.16 cents per day in favor of the latter.

AVERAGE COST PER CWT GAIN.

Feeding Trial.	Corn-meal Lot.	Corn-meal, Beet-pulp Lot.	Beet-pulp Lot.
No. 1.....	\$11.82		\$8.97
No. 2.....	7.89	\$ 7.17	5.96
No. 3.....	6.90	7.30	6.59
Averages	8.87		7.17

In every case the pulp-fed steers gained at a less cost than the corn-meal steers, the average being \$8.87 per cwt. gain when fed the corn-meal ration, as against \$7.17 per cwt. gain when fed the beet-pulp ration, a margin of \$1.70 per cwt. in favor of the beet pulp for cheapness of gain.

The conclusions to be drawn from these three feeding trials, in comparison of dried-beet pulp and corn meal for fattening steers, are:

1. Beet pulp produced gain cheaper than corn meal. The average cost per cwt. gain for the steers fed corn meal was \$8.87, and for beet pulp was \$7.17, \$1.70 per cwt. cheaper with the dried beet-pulp ration.

2. The absolute gains produced by feeding beet pulp were practically the same as from feeding corn meal.



Oxford Down Shearling Ram.

First at Bath & West Show, 1907. Shown by Hon. A. Brassey.

3. The gains of the pulp-fed steers were in the nature of growth and development; the corn meal produced fat and finish. As a result, at the end of the feeding period, the corn-meal steers were in better condition for market than the others.

4. For growing animals, beet pulp produced the greatest gains. For animals in a condition for finishing, corn meal gave the most rapid gains.

From this, it would be safe to conclude that in the earlier part of the feeding period beet pulp could be fed in a larger quantity to advantage, because of its cheapness and at the same time ability to produce gain rapidly. During the finishing period, it should, however, be replaced, at least in a large measure, by corn meal, which possesses more value for finishing purposes. The corn meal is a much more concentrated feed, hence its especial value for forcing at the close of the feeding period, when beet pulp could not be used on account of the bulky character, rendering it impossible to feed sufficient quantity for the best results. These trials show that a thousand-pound steer will not consume over 10 pounds of dried beet pulp in a day.

The evidence of a rapidly-growing demand for meat and milk, and the testimony that British articles still command the best price and are in greatest favor, ought to encourage home producers, who should do their utmost to have the finest quality, which can only be done by careful selection in breeding, and by only using high-class animals of the finest type and quality. So long as this is done the foreigner must be content to allow the home producer to possess and retain the best position in the markets, though he may send an enormous quantity of the various articles.—[Live-stock Journal (British).]

INCREASED CONSUMPTION OF MEAT.

In his report, accompanying the British agricultural statistics for 1906, R. H. Row points out the important and, to Canadian stockmen, encouraging fact, that the consumption of imported dead meat per head of the population, is twice as great now as twenty years ago. This is especially significant in view of the fact that there is no evidence of any diminution in the home supplies of meat. The consumption of imported breadstuffs has increased in a much less degree, notwithstanding the reduction of home supplies. The figures, it is pointed out, appear to suggest that the proportion of meat to bread in the national dietary has substantially increased, or, in other words, that the average standard of living has risen during this period. The increase by 60 per cent. in the average consumption of butter and margarine in the twenty years may perhaps be regarded as another indication in the same direction, although in this case it is possible that the home production has not largely progressed, owing to the greatly increased sale of milk. It is reckoned that during the past twenty years the annual consumption of milk has increased by something like a hundred million gallons. Another interesting point brought out is that, while the imports of meat from foreign countries have increased in the twenty years by 100 per cent., those from the colonies have increased by 700 per cent. As regards prices, wheat was lower in 1904-06, as compared with 1880-82, by 36 per cent., barley by 27 per cent., oats by 22 per cent., beef by 26 per cent., mutton by 16 per cent., and wool by 4 per cent.

THE FARM.

DATE OF THANKSGIVING DAY.

Editor "The Farmer's Advocate":

I understand the Governor-General has proclaimed the last Thursday in October as the date of our national thanksgiving this year. Several reasons might be given why any day in October is too early for the fruit-growers and farmers of Canada to spend as a thanksgiving for the blessings and bounties of the year:

1. In a great many cases the crops are not all then harvested.
2. With very few exceptions the work is pressing as urgently as at any other time of year.
3. Fully seventy-five per cent. of our rural population pay no heed to thanksgiving in any shape or form.
4. The small minority who do observe it at all do so by hurrying from their work into their best clothes and to church, and as soon as service is over hurrying into their working clothes and to work as quickly as possible, and that ends thanksgiving for them.
5. The day cannot be called a national thanksgiving when the bulk of the people pay so little regard to it.
6. If the date was fixed on, say, the third Thursday in November, instead of being as it now is—a source of irritation to the farming community—they, as a general thing, would welcome thanksgiving and observe it gladly and heartily.

How can the change of date, to one more suitable to the people in the country, be brought about? Judging from the past the farmers are helpless, and, what is worse, are to a large extent indifferent about the matter. How would it do, in view of the present situation, for the farmers and fruit-growers of our wide Dominion to pay no attention to the day fixed by the Government for thanksgiving, and agree on a date to suit themselves? Possibly the day our American cousins across the border observe as thanksgiving would be as suitable as any. I would like to see this subject discussed in the columns of your most valuable paper. Middlesex Co., Ont. ADAM BATY.

INTEREST THE BOY ON THE FARM.

We are living in a new century. Old things have passed away; old methods have become obsolete, and all things have become new. Mind now, as never before, governs matter. The idea that anything is good enough for the farm won't do in these times. If we are to succeed on the farm, we must wake up; adopt new and better methods; use more brains. Among other things provide the boy with a workshop and plenty of good tools. Don't put him off with a bucksaw and sawbuck. Boys don't usually take well to that tool. Teach him how to keep the tools in order, and encourage him to use them. This will wile away many an hour, develop his ingenuity and inventive faculties, and make him self-reliant on the farm. Don't laugh at his crudeness or ridicule his mistakes. Try to feel as if a boy still, only act as an older brother, to counsel with and encourage him in well-doing.

As soon as old enough to spend money he will be old enough to have money of his own. He should be taught that money simply represents the value of labor; that labor is a necessity, and not a curse; that the busy man is the contented and happy man, and that idleness is a curse.—[J. S. Woodward, before the New York Horticultural Society.]