

Feeding Live Stock -- Experience at the Ontario Agricultural College.

This important subject has not received the close consideration it deserves from many farmers. To feed stock successfully requires intelligence and good judgment in adapting the food to the kind of animals, and to the different stages of development. Young cattle should be fed bulky and easily-digested food; food suited to the production of bone and flesh, such as clover, either cured or green; roots, bran, crushed oats, etc. Young stock, fed on such food regularly and moderately, develop into strong, healthy animals. A diet for young animals containing an excess of rich, concentrated food tends too much to the production of fat, renders an animal liable to disease, and is likely to check or stunt it in its growth. Animals should be fed according to the object desired. For breeding purposes, it is important that both male and female be fed on food that will produce bone, muscle, and flesh, instead of fat. The live stock of the Ontario Agricultural College were fed during the past winter as follows:—

Cattle.—On the 6th of Nov., 1894, 16 steers rising three years old were purchased by the Farm Superintendent, Mr. Rennie, in the Guelph market, at 3½ cents per pound, the average weight per animal being 1,157 pounds. They were fed largely on rape until Christmas, receiving in addition, night and morning, a mixture of cut hay, chaff, pulped roots, and ensilage, about 25 lbs. per day; also 2 lbs. of crushed barley and oats, with 1 lb. of bran per day; the cost of feed per day for each animal being about 7 cents, including the rape. During January, February and March they received no hay. The food fed to them was a mixture of chaff, ensilage, pulped roots, 50 lbs. per day, fed in three meals, at 5 a. m., 12 noon, and 6 p. m.; the cost for each animal being 8 cents per day, including 4 lbs. grain and bran. With these rations from the 6th Nov. till the end of March, 144 days, they gained an average of 265 lbs. per animal, or 1.84 lbs. per day. Allowing 40 lbs. each for shrinkage, the net gain was 1.56 lbs. each per day for 144 days.

For April the average gain was 50½ lbs. per animal, or, say, 1½ lbs. per day. Cut hay and clover were added to the second mixture mentioned above.

During May the increase was only 26 lbs. per animal, say five-sixths lb. per day, while the food was 4 lbs. pea-meal and 2 lbs. bran, with cut hay, chaff, ensilage, and pulped roots mixed together, 50 lbs. per day to each animal; the cost of this food being about 10 cents, each animal, per day.

From the 1st of June the food was cut clover and ensilage, mixed, 45 lbs. each per day, with ground grain (barley, rye, wheat and bran, 7 lbs.), the cost being 12 cents for each animal per day. The average gain in weight for each animal was 1 lb. per day.

In these estimates, clover hay is valued at \$7.00 per ton, chaff nothing, ensilage \$2.00, and roots \$2.50 per ton, mixed grain 1 cent per lb., and bran \$12.00 per ton.

The milch cows were fed the same as the steers in winter, except that they received an addition of 20 lbs. of mangels per day when giving milk.

It will be observed that the greatest gain for the food consumed was in the first five months, while the steers were fed on the coarse, bulky, and easily digested food. The last three months they were fed at a loss, while they were being fed on the stronger and more concentrated food.

The steers were sold to Messrs. J. A. Leaman & Co., of Halifax, Nova Scotia, at 5½ cents per lb. live weight, and shipped to them on July 26th.

RESULTS.

November 6th, 16 steers averaged 1,157 lbs., total 18,512 lbs., at 3½ cents	\$ 647 92
July 26th, 16 steers averaged 1,555 5/8 lbs., total 24,890 lbs., at 5½ cents	1,368 95
Gross gain	\$721.03
Food Consumed.	
November 6th to the end of December, 55 days, at seven cents per animal	3 85
January, February and March, 39 days at six cents per day per animal	7 12
April and May, 61 days at 10 cents per day per animal	6 10
June 1st to July 25th, 55 days at 12c.	6 60
Total cost of food for each animal	\$ 23 67
Total cost of food for 16 animals	378 72
Total gain for 16 animals	\$ 721 03
Cost for food	378 72
Net gain for 16 steers	\$ 342 31
Net gain for each animal	\$ 21 39

The manure is taken as equal to the cost of the labor for feeding, etc. Had the stock been sold in May, as is the custom, there would have been a much larger profit, as will be seen from the above figures. They were kept until July, that the large number of farmers who visit the College during June and July might see the result of this method of feeding.

Pigs.—The principles of feeding pigs are similar to those applied to other live stock, viz.: Animals kept for breeding purposes should be fed on food that will form bone, muscle, and flesh, instead of fat. The brood sows at the College Farm are fed twice a day, on boiled roots, either turnips, mangolds, sugar-beets or potatoes, mixed with bran and middlings. The young pigs are fed the same kind of food three times a day. As they have no milk for the young pigs, for three or four weeks after weaning flax seed was mixed in their food as a substitute for milk, about one-half pound per day for each litter of 8 or 10 pigs. The cost of the food at the age of four to five months is 2½ cents per day for each

animal; and the increase in weight is over 1 lb. per day. After five months, until sold, pea-meal was substituted for middlings.

The following will show the results from four lots of cross-bred pigs, that were sold to Messrs. J. A. Leaman & Co., and shipped with the steers on July 26th:

February 13th, 7 animals from Tamworth sire and Berkshire dam, average weight at 4 months	117 pounds.
March 13th, 7 animals from Tamworth sire and Berkshire dam, average weight at 5 months	154 "
April 13th, 7 animals from Tamworth sire and Berkshire dam, average weight at 6 months	204 "
May 13th, 7 animals from Tamworth sire and Berkshire dam, average weight at 7 months	255 "
June 13th, 7 animals from Tamworth sire and Berkshire dam, average weight at 8 months	301 "
February 25th, 5 animals from Tamworth sire and Chester White dam, average weight at 4 months	96 "
March 25th, 5 animals from Tamworth sire and Chester White dam, average weight at 5 months	131 "
April 25th, 5 animals from Tamworth sire and Chester White dam, average weight at 6 months	167 "
May 25th, 5 animals from Tamworth sire and Chester White dam, average weight at 7 months	226 "
June 25th, 5 animals from Tamworth sire and Chester White dam, average weight at 8 months	267 "
February 28th, 8 animals from Yorkshire sire and Poland-China dam, average weight at 4 months	102 "
March 28th, 8 animals from Yorkshire sire and Poland-China dam, average weight at 5 months	137 "
April 28th, 8 animals from Yorkshire sire and Poland-China dam, average weight at 6 months	186 "
May 28th, 8 animals from Yorkshire sire and Poland-China dam, average weight at 7 months	226 "
June 28th, 8 animals from Yorkshire sire and Poland-China dam, average weight at 8 months	256 "
April 27th, 4 animals from Berkshire sire and Yorkshire dam, average weight at 4 months	99 "
May 27, 4 animals from Berkshire sire and Yorkshire dam, average weight at 5 months	138 "
June 27th, 4 animals from Berkshire sire and Yorkshire dam, average weight at 6 months	177 "

There was little difference in the quantity of food consumed by the different crosses; and the food was limited to what they ate within half an hour of feeding. The Chester White dam suffered from fever for about a week after farrowing, so that her pigs were badly stunted at the start, from which they did not recover until between four and five months old. The pigs were inspected by two of the most prominent pork-packers in this Province, and the Tamworth crosses were pronounced the most suitable for their purpose.

In order to have roots to boil for the pigs during the year, about two acres of sugar-beets are grown. They will keep until the first of August, when the new crop of mangels is ready to feed. For a time both tops and roots are boiled. By this system of feeding, it is estimated, the best quality of pork can be produced for two cents per pound live weight.

The Cattle Quarantine.

[From an address by Hon. John Dryden, Provincial Minister of Agriculture.]

In an able address before the reorganized Dominion Cattle Breeders' Association, Hon. John Dryden, Minister of Agriculture for Ontario, after pointing out the growing importance of Canadian live stock husbandry, as shown by our increasing exports, and the need for a strongly-officered organization, added:—

"It is not enough, however, to have an important industry, which is sought to be represented in this way. Those who are engaged in it must express a willingness and a heartiness in co-operation together for the common good. There are some things in connection with cattle-raising which I can accomplish perfectly all alone; but there are other things in connection with the industry which cannot be brought to pass without the union of those interested. It is evident that if the cattle industry should be laboring under any obstacle which can only be removed by recourse to those in authority in our country, a single individual presenting the case would have but little weight. But when a strong association, representing vast interests, unitedly petitions the authorities and properly presents their case, even the dullest politician comes to see that something must be done by way of relief. I have a case in my mind at present. Those of us who are engaged in breeding thoroughbred cattle know the difficult situation at present. Formerly we had a large trade covering various States of the American Union. Our cattle, because they were imported into that country for breeding purposes, were allowed to enter free of duty. They are still allowed to enter duty free, and yet the trade is practically prohibited. It has been brought about in this way. Formerly Canada enjoyed an advantage over the Americans, because our cattle had access to the inland markets of Great Britain, while those of the United States had to be slaughtered at the port of entry. In order to hold our position in this respect, a quarantine was placed on American cattle coming into Canada. At that time there was danger of certain diseases, which then existed, being brought into this country, and it was an essential thing to prove that our herds could show a clean bill of health. Notwithstanding this, an embargo has been placed upon our cattle similar to the Americans, and it has been over and over again declared by the British authorities that we have sent from this country pleuro-pneumonia—a disease which no man, expert or otherwise, can find in the Dominion. This statement serves as an excuse for the British authorities to maintain the embargo. We have hoped to see it removed. The case has been presented to three different Governments, but the answer has always been the same;

and our conclusion now is that the majority of those whom the Government represented do not wish it to be removed; and it is likely, therefore, to remain. If this be true, why should this quarantine be kept up? The quarantine which the Americans have placed on our cattle is not to keep disease from entering the United States, but it is placed there because we have placed our quarantine against them. At present there is no cattle disease in Canada which can be carried into the United States, nor do I know of any disease in the United States which could be brought into Canada. You cannot keep up the best herds of the country unless the proprietors of these herds can have a very extended market. It will be impossible to maintain them in their present flourishing state if the market be limited to our own Province or Dominion. To allow these herds to deteriorate in quality and decrease in influence will in the end react upon the ordinary cattle of the country. It is, therefore, of the utmost importance that they should be maintained. Now, this is a matter that cannot be handled by any single individual. But if the cattle breeders are of one mind, which I think they are, then the presentation of the case from a strong association, representing the best of our farmers interested in this great industry, would be necessary in order to secure any relief in this regard."

An Embargo on Sheep.

As stated in the ADVOCATE some months ago, the British authorities have been strongly urged by those representing the breeding interests there to pass an Act of Parliament fixing slaughter of cattle on landing as a settled policy. A recent cable dispatch states that this is now to be done, and also that sheep are to be included. For months past references have been appearing in Old Country journals showing that they regard very seriously the competition from America. Our Montreal market report in this issue states that Canadian shipments of sheep have this season run up to over 180,000, an increase of 51,000 above last year. The direct basis of the clamor for a sheep embargo is that scab (a disorder with which British flocks have been overrun for years) is said to have been discovered in several shipments. A sheep embargo would compel the finishing of all sheep here, so that they would be ready for the butcher before shipment from Canada, as is now the case with cattle. We understand that steps have been taken at British ports of landing for largely increased slaughtering facilities, which adds color to the news that a permanent live stock embargo is on the tapis. The complaints of the British farmer have been many and loud, and under cover of the crusade against animal diseases (with which we must admit Britain has been sorely afflicted) they will accord whatever advantage may come from shutting out all but finished stock, thus getting rid of the competition of an inrush of cheap animals for feeding purposes, besides, as they put it, closing one possible avenue against disease.

FARM.

Potato-Cake for Cattle.

A recent number of "Le Bulletin des Halles" contains an article by MM. Nivere and Hubert, the directors of the Agricultural Laboratory of Beziers, on the manufacture of potato-cake. These authorities state that they have made numerous experiments in the transformation of potatoes into the form of cake with the most successful results. The method is to grate the potatoes and to press the pulp by means of a press similar to that used for beetroot. Potato-cakes prepared in this manner contained, when dry, about 95 to 97 per cent. of solid matter. They will keep for a considerable period, and can be very advantageously used for cattle. With the addition of meat or fish-meal they are said to form an extremely nutritive and digestible feeding stuff for fattening stock. The liquid which is extracted from the potatoes by the press contains certain nutritive matter in solution, and need not be entirely lost, as it would be possible to utilize it to some extent in the feeding of stock. The great advantage of the potato-cake lies, it is maintained, in the concentration of the nutritive qualities of the potato in a shape easy for transport, and capable of being preserved for an indefinite period.

A Manitoba correspondent of the FARMER'S ADVOCATE has suggested that oats and barley might with advantage, in shipping, etc., be pressed into solid cakes, like cakes from the linseed mills, or larger.

Agriculturists in Session.

The annual meeting of the Ontario Experimental Union is to be held at the Agricultural College, Guelph, on the 12th and 13th of December, 1895, for which an excellent programme is being arranged. J. A. Craig, Professor of Animal Husbandry, Madison, Wis.; John Craig, Horticulturist, Dominion Experimental Farm, Ottawa; Miss J. Livingston, Superintendent School of Cookery, Ottawa; and others, are expected to be present to deliver addresses. This important meeting, coming as it does at the close of the annual Fat Stock Show, and also the annual meetings of the Dominion Sheep and Swine Breeders' Associations and the Guelph Poultry Association, should bring together a much larger concourse of visitors than usually attends the "Union."