

apparent if the practice is once tried of supplying them with clean, fresh water, even if they have an abundance of roots. The better results that follow the latter observance will be easily seen in the more satisfactory progress of the flock. Clover hay is by far the best fodder to feed, and next to it comes meadow hay of mixed grasses, cut early in the season. Roots, meaning thereby turnips and mangels, also make excellent food. During the first of the season twenty-five pounds per head each day may be fed with advantage, but as the ewes approach lambing time that quantity should be lessened, for cold, watery roots are not to be recommended for feeding ewes in pregnancy. For feeding early in the season swedes are perhaps the best, but later on towards spring mangels should be substituted for them. When first stored mangels are too watery and acid in taste to feed, but as the season advances they acquire a sweet flavour which adds much to their palatability and feeding value. Turnips, on the other hand, decrease in nutritive value as their age increases. The best grain to feed is a mixture of peas and oats. The feeding of cake is not, as a rule, advisable, for besides being expensive if fed in any quantities, it has a tendency to heat the animals to which it is fed. This, however, does not apply to linseed, which is perhaps especially valuable, owing to its laxative qualities, and the effect of feeding a half pound or less each day becomes apparent in the softness, lustre, and strength of the wool. The quantity of grain to feed will vary from one to two pounds as the judgment of the shepherd may dictate. The aim should be to bring the ewes through the season in healthy, vigorous condition, so that when they lamb they will supply a good mess of rich milk. It is very desirable that uniform conditions should prevail, both in feeding and management, throughout the season, for if the least check is given, it at once injuriously affects the growth and strength of the wool fibre. It should be always in mind that no other domesticated animal responds more readily to good attentive treatment than sheep, and inversely that no other animal of the farm will more quickly show the effects of negligence.

The Hope of the Farmer in Canada.

The American tariff recently imposed by the passage of the McKinley Bill will undoubtedly seriously affect the interests of the farmers in Canada. Practically, barley growing will be brought to an end on the old lines, that is, for purposes of export to the United States. The export of horses, cattle, and sheep, to the same country is also most seriously affected.

Our farmers, however, should not sit down and fold their hands in despair. While it is to be regretted exceedingly that we cannot have access to this southern market, our position is not without hope. We still have a market left us, and it is a good one so far as cattle, sheep, and swine are concerned, but it is not so good for horses. We refer to the market of Great Britain. We do not lament so much as many are doing over the loss of the American market for our barley. True, it will affect a large section of our farmers seriously for a time, but it will be only for a time, as the soil which grows barley well will also grow such other grains successfully as are required in the production of meat. The altered tariff will have the further effect of checking that removal of the sources of fertility from our soils which has depleted them to such an extent.

The hope of the Canadian farmer at the present time, and more especially of the Ontario farmer, lies in the production of meat and milk. To state the

case more fully, it lies in the production of beef, mutton, pork, cheese, and butter. The market for these at the present time is without limit if we only produce them of the right quality, and to do this is easily within our power. In the experiments carried on last winter at the Ontario Agricultural College, Guelph, the direct cash profits in producing beef were 93½ per cent. in 119 days; those arising from making pork, 27 per cent. in 77 days, and for feeding lambs the profits were even larger. Those are large profits, and we have no reason to doubt the accuracy of the figures published in the bulletins relating to these tests.

The market for beef of the right class is always open, and is always fully equal to the supplies. The trade in store cattle to Great Britain is rapidly increasing, but this fact affords us no comfort, as we are satisfied that we should have no trade in store cattle with any country. It is altogether to our interest to finish them here. If the British farmer can afford to buy our store cattle and also the grain used in fattening them, we can better afford to fatten our cattle on grain which we raise on our farms, and sell the cattle in the finished state. If we can make 93½ per cent. on our investment in 119 days, or even one-half that amount, we can well afford to do this.

The field that is open for the export of sheep and lambs is without any limit. The new tariff has not to as great a degree as formerly, affected the trade in lambs, at least it has not affected it adversely where the lambs are good. If Ontario had owned five times as many lambs last year, we have good reason to believe there would have been a ready market for them in the United States. Then the field in Britain is wide open to us; it is calling for sheep of the right class. We might and should send to that market 500,000 a year instead of the few thousands which we now send over.

The profit on making pork in the test referred to, was a most handsome one. Twenty-seven per cent. in seventy-seven days should satisfy any one. The average farmer could not make so much, as he would not have the same feeding facilities, but if he made one-fourth of this amount he would still be abundantly repaid for his labor. Now the market for our pork is like that for beef and mutton, it is without any limit. Great Britain will not only take all our pork and more than we can raise, but she will give us a better price than the Americans can get for theirs.

The demand for Canadian cheese is as brisk as ever in Britain, and if as much again could be sent over it would find ready sale. The same market for butter is open to us when we produce butter of a right quality. So that development in this direction is in no way circumscribed.

The future, then, is still full of hope to the Canadian farmer. In the very lines of agricultural productions for which our country is best adapted the markets are still open, and they are likely to remain so. From the date of the issue of the very first number of the JOURNAL, viz., August, 1882, we have urged upon our farmers the necessity of giving every attention to the production of meat and milk in best form. Those of them who have heeded our advice are not seriously injured by the new tariff, while those of them who adhered to old-time grain-growing and grain-selling methods now find themselves most seriously crippled.

FROM Wm. Grogan, Man.:—"I have taken your JOURNAL for five years, and I would not be without it if it should cost \$5.00 per year."

JOHN ARNOLD, Easton's Corners, writes:—"I am well pleased with THE JOURNAL. If every farmer would take it it would improve their calling greatly. I get a vast amount of benefit from it."

Provincial Fat Stock Show.

The seventh annual Ontario Provincial Fat Stock Show is to be held in the city of Guelph on Dec. 10th and 11th, under the auspices of the Agricultural and Arts Association of Ontario and the Guelph Fat Stock Club. The combined management is officered as follows: President, J. C. Snell, Edmonton; 1st vice-president, Walter West, Guelph; treasurer, J. W. Easton, Guelph; secretary, Henry Wade, Toronto; general superintendent, H. Wright, Guelph. The premium list has been issued. All entries must be in on or before first of December. The fees to be charged for entry are as follows: For each head of cattle, two dollars; for each sheep or hog, one dollar; for each live or dead fowl or chicken, twenty-five cents. There are some good prizes offered, including a silver cup for best steer any age or breed, and a special for the best fat animal, known as the McAteer Cup, which has to be won twice by one breeder with a different animal. Mr. Thomas Ballantyne, it will be remembered, won it last year. There are ten classes in all, of which the largest prizes go to the class of pure bred cattle of any age, and the grades or crosses of any breeds. Good prizes are also offered for sheep, pigs, and poultry. A card addressed to the secretary, Henry Wade, of Toronto, will secure for any one a premium list.

Facts About Pig Feeding.

The Vermont Experimental Station conducted a series of experiments in pig feeding, having in view the evolving of conclusions in regard to the profitable utilization of skim-milk, economy in feeding and differences in the breeds of pigs. Two pigs of each of the three breeds, Berkshires, Chester White, and Yorkshires, five weeks old, were experimented with. The time was divided into four periods. For the first they received 2½ to 6 quarts of skim-milk; for the second, 6 quarts skim-milk, cornmeal 4 to 16 ounces, and wheat bran 4 to 22 ounces; for the third, 6 quarts skim-milk, 4 to 26 ounces corn meal, and wheat bran 20 to 26 ounces; for the fourth 6 quarts skim-milk, 40 to 54 ounces corn meal, and 20 to 28 ounces of wheat bran. The Chester Whites gained in live weight about one-fifth faster, and required one-seventh less food to produce a pound increase in live weight than the others. The Chester Whites produced their growth at a cost in food consumed of 3c. per pound, while the other breeds ate 3½c. worth of feed for each pound of growth.

The six pigs together gained 1088.5 pounds in live weight, or an average per pig of 1.07 pounds per day. They consumed 5582 quarts of skim-milk, 1223.8 pounds of corn meal, and 884.4 pounds wheat bran, or an average of 2.79 lbs. of dry matter to each pound of gain in live weight. The corn meal used was bought at \$18 per ton, and the bran for \$16 per ton. The skim-milk was considered worth 15c. per 100 pounds or 1½c. per gallon. The pigs sold for 5½c. per pound dressed weight (a lower price than the average), and shrank 18% in dressing, making the selling price equal to 4.32 cents per pound, live weight. The whole selling price was \$47.07, and the value of the feed consumed \$36.25, leaving a profit of \$10.85. The total fertilizing value of the manure was estimated as worth \$22.66. The value of the food consumed for each pound of increase in dressed weight was 4.06 cents, and the fertilizing value of this food 2.54 cents, leaving the net cost of a pound of dressed pork 1.52. Since the pork sold for 5.25c. a pound, there was on this basis a net gain of 3.72 cents per pound. At an average live weight of 155 pounds, the pigs were still yielding a profit above the cost of their feed. This profit ceased when they weighed 208 pounds. The average amount realized from 100 pounds of skim-milk was 24 cents. Amongst other conclusions the following are chosen for definiteness and value: pig feeding is profitable even at the low price of 5½ cents per pound dressed weight, provided the pig is sold at an early age, i.e., by the time it reaches a live weight of 180 pounds or soon after; grain can be fed to young pigs with profit; in feeding it to pigs weighing over 200 pounds there is a loss; the old saying, "grow the pig and then fat him,"