

sow peas on land that will not produce a crop of some other grain; the result is that his crop fails, is choked out with thistles and weeds—so much for practice without theory. That farmer blames the land for being no good for peas, or he will say the seed was no good. What I recommend is to seed down land before it gets too poor to produce a crop, and you will always get a crop of peas or any other crop of grain.

There are other varieties of peas that require strong lands and good cultivation. Peas which produce medium or short straw require more attention than the long straw sorts. They consist of all the extra early sorts, and may include the Gems and Advancers, which require clean and rich lands, sod lands, or a good summer fallow being suitable for either of the early sorts.

There are the dwarf peas, that require hoeing. These also require to be sown on clean lands, about twenty inches apart, and drilled in rows so that a cultivator can be worked among them. This cultivation must be done before the peas blossom, in fact when the plants are about one inch high the farmer can go through and over the crop with a light harrow, but after they get up three inches high do not attempt to harrow them. Any peas cultivated after the blossom appears will be injured. A dwarf pea sown and not cultivated will not repay labour and seed. Here theory steps in, and practice makes perfect.

After giving the reader a few starting points to begin with he naturally desires more knowledge, he then wants to know how he shall prepare his land to get the best crop. We will say, in the first place, plough your land into narrow ridges for peas, about 18 feet wide, that is three widths of a grain drill; never take any heed about wanting to sow seed in the furrow between the lands. Plough the land up in good shape, no half-way ploughing, and when ready to harrow down, work it fine so that no grass may grow up between the furrows, as this will damage a crop of peas. When your land has been fall ploughed, better gang plough the land the same way it was ploughed last fall, and harrow fine to receive the seed. Never fill up the water furrow; keep all water furrows open, as the pea will not grow in wet soil and produce a crop.

Now the question naturally arises, when is the proper time to sow peas? I will say as early in April as you can get your land ready and have it dry. Do not sow in the mud; they will rot before they will grow. But suppose you cannot get onto your pea lands as early as I have noted, then do so as early as possible. There is another drawback in obtaining a good sample. When the peas are ripe the farmer takes no notice of the fact until he has his other crops harvested, then he goes in with a horse rake, pulls the peas and draws them in the same day. This is a great mistake. The pea must be cut when fairly ripe and turned over often enough to prevent damage by wet or sunshine, and draw in when dry, and you will always stand a chance to get the highest price going. I think there is something I have passed over, but will refer to now. The farmers will see that there are bugs in their seed peas; to get rid of them is no small trouble. I would say sow no peas unless you can grow a crop free from bugs; if your neighbor's seed contains bugs, induce him to kill them also. Years of experience has taught me that the following is the best method. To destroy these insects, get a fine nozzle for your water can, take one gallon of coal oil, put your peas into a bin one bag at a time, sprinkle a little oil on the peas, then rake or shovel them over, put in another bag, stir them well, thoroughly mixing them, add a little more oil; if the peas do not show it on them, continue until all are oiled. One gallon will kill all the bugs in forty bushels of peas. Better do this as soon as you see there are bugs among the seed. This will not injure the seed. Have your peas threshed so as not to damage them. The trade will pay more money for peas well threshed and cleaned.

Having now placed before the reader a few hints on the cultivation of peas, I will at some other time tell him how to look after other crops, and thereby aid him along the rugged way. There are many sections of Canada where the pea bug has not yet made its appearance, yet it is liable to be introduced at any time; it is a destructive pest and should be closely watched for.

Our Market for Food Products is in England.

The following is a summary of the address delivered by Prof. Robertson on "The Possibilities of Selling Canadian Farm Products at a Profit in the English Market," which was delivered before the Central Farmers' Institute meeting held in Toronto on 3rd February. He said:

"The farmers of Ontario and of Canada stand head and shoulders above the working farmers in any other country in the world in point of intelligence and enterprise. England may be the ideal farming country in the world; but it must be remembered that the specially educated classes, the university men, the men trained in the sciences and arts, the aristocracy, directed the operations of farming through their tenants. One class with the minds to plan for and direct the other class in their work was the condition in many of the lands of Europe. Here a happier state of things prevailed, where the farmer by the exercise of his own intelligent judgment directed the outcome of his own labor. The Canadian farmer has the privilege of thinking towards expression for himself, and the quality of his thought determines the outcome of his labor. Upon the welfare of the farmers depends the prosperity of the Dominion which we love so well. In Canada agriculture is an interest of first importance, and all others—manufacturing, commercial and professional—are sensitive to the condition of the farmer. When times are prosperous with him, there are good times for all classes. Frequently it has been my privilege to meet representative gatherings of farmers to discuss with them some aspect of their own business. It has not required any conscious effort on my part to refrain from dealing with the question of markets—near or far off. In my humble judgment the market end of the farmer's business has received undue attention from public speakers on agriculture, and other leaders of thought. The farmer's eyes have been pointed all too often and much too earnestly to the selling end of his business, instead of to the producing end and aspect of it. That mischievous course has resulted in leaving on the minds of many farmers an impression that a market—the market—has some sort of personal self-contained existence—in fact, is somewhat like a deity or a devil to be heeded, and may come with deliverance or dire destruction at mere caprice. Some of them have been further misguided into imagining that the market can be charmed into sweet serving at the word and wand of politicians or be chased away beyond touching, tasing, handling or even seeing by their edict of hostility. Politicians have some influence on the markets,—and on the moon." (Hear, hear.)

The speaker then passed on to define the nature and function of markets and the effect of competitions. He said:

A THREE-FOLD COMPETITION existed in three markets:—(1) a competition between buyers which tended to raise the prices; (2) a competition between sellers for a purchaser, which tended to reduce prices; and (3) a competition between commodities and qualities of the same commodity for the preferences of the buyer. The law of supply and demand he stated to be only the consequence of the general consensus of opinion or judgment of all buyers and sellers as to the relative values at a given time. If one farmer sells to another, who already has as much as he can use of the same commodity, the second man buys to resell. He will want a profit for doing so, and if the original owner can market his products direct to the ultimate user or consumer so much the better. Nations acting in their national capacity are to be considered as aggregations of individuals—subject to similar obligations in their spheres, and moved by like forces and motives, as the individual citizens are in theirs. They need customers who want to use, as ultimate consumers, the surplus of goods which they have to sell. In a market we should look for and expect certain qualities:—

1. Accessibility to customers, without expensive toils of any sort.
2. Permanency of adequate demand. (Commerce is shy of uncertain markets; like most girls she needs a little coaxing.)
3. A fair chance in competition.
4. Discrimination as to the quality and value of qualities in goods.

On the sellers' part, it is essential that the requirements of the accessible and available market be studied and catered for. "Seek the market, suit it, then keep it." Some time is required to create a demand in a new market. It takes time to overcome prejudices, and win a preference.

THE ENGLISH MARKET

For our food products seems to meet all the requirements. It has been made easy of access by the enlarged and improved carrying facilities of railways and steamships. Its permanency is guaranteed by reason of its large manufacturing population on a small agricultural area. It offers

a fair chance to all; and while it discriminates keenly, it pays the very highest price for the best articles. England has been called "a nation of shopkeepers"—that ensures competition. She is a nation of food consumers, who want and must have just such things as we have to sell. We are a nation of farmers and need just such a customer.

THE HOME MARKET

After reverting again to the home end of the farmer's business, Prof. Robertson proceeded to comment on the value of the home market to the farmer. Since 1871 the urban population of Canada had increased by 384,146. That additional town and city population consumes annually food products from Canadian farms to the value of over \$21,000,000 at wholesale farmer's prices. The value of the total exports of farm products—leaving out horses and hay—to Great Britain and the United States during the year ending June 30, 1891, was \$35,955,986. The value of such exports to the United States alone in the same year was \$10,017,390. That shows that the increase of the population in our own towns and cities in 10 years

TAKES MORE THAN TWICE AS MUCH

of our farm products as we export to the whole of the United States. There is no real antagonism of interests between the dwellers in towns and those who live in the country. They are mutually customers of each other, and their interests are harmonious if not identical. All efforts to create antagonism between the agricultural and manufacturing and commercial interests should be refrained from.

KIND OF FARM PRODUCTS TO SELL.

From a chart which illustrated the ingredients which the various farm products take out of the soil, the speaker went on to show that the sale of primitive products, like grain or hay, exhausted the fertility of the soil much quicker than the sale of animals and their products. He quoted a recent official publication from the Department of Agriculture at Washington, wherein the farmers of the United States are recommended to seek foreign market with animal products rather than with grain. The United States are thus becoming our keen competitors in European markets.

In the exportation of animals and their products in past years, it appears that the tendency has been towards an enlargement of our trade with Great Britain. The following table shows the exports of animals and their products:—

	To Great Britain.	To United States.
1880	\$11,101,223	\$6,016,988
1890	18,573,722	5,966,474
1891	19,840,492	3,148,463

CATTLE.

Of live cattle Great Britain imported in year ending December, 1891, animals to the number of 507,407, valued at \$11,763,659. Of those, Canada sent 108,259 animals, valued at \$8,623,322. Here is a market that could take three times as many cattle from us. The total freight charges from Toronto are reported to be about \$28 per head on steers. The average value, landed in England, of oxen, and cows from Canada, was \$81.40 each. That leaves about \$53 per head to the producer. If he cannot produce at that price at profit on hay, roots and meal, he can do so on corn, ensilage and meal. In feeding experiments at the experimental farm at Ottawa last winter, a lot of steers on hay, roots and meal, cost nearly 19 cents per head per day for feed. A similar lot were fed on corn ensilage and meal at a cost of 11½ cents per head daily. The latter lot gained 35 lbs. each more weight in the same period of five months. Thus the cost may be reduced, and the profit from the English market or elsewhere enlarged. We have an advantage with our cattle in the English market, in that they may be sent alive to the interior of Great Britain. That privilege is variously estimated as being worth to us from \$2.50 to \$5.00 per head. We should not send lean stockers to England to be fattened there. It is better to fatten them here, get the higher price per head and the increased fertility to the fields from the manure. We should cultivate a dressed beef trade. Presently the local butchers and retail meat dealers in England are against it, but it would be to the ultimate gain of the farmers of Canada to send dressed, and thus avoid the loss of weight and the jaded and bruised quality of flesh that often results from long transportation of animals alive.

BEEF.

Of beef Great Britain imported in the year ending December, 1891, to the value of \$21,866,610. During the year ending June 30, 1891, Canada furnished to Great Britain only \$740 worth.

[TO BE CONTINUED.]

An elm 60 ft. high, with trunk of 5 ft. circumference near the base, was lately transplanted from Montrose woods a mile and half to a gentleman's place in South Orange, N. J. The ball of earth excavated with the roots measured 10x3 ft., this and the tree weighed 6,000 lb., and the moving was done on a simple machine that "looks like a four-wheeled lumber wagon." It is believed that the process of careful transfer to favorable conditions "actually adds twenty to thirty years of life to a tree; and it may, if desirable, be as successfully carried twenty-five miles as a shorter distance."