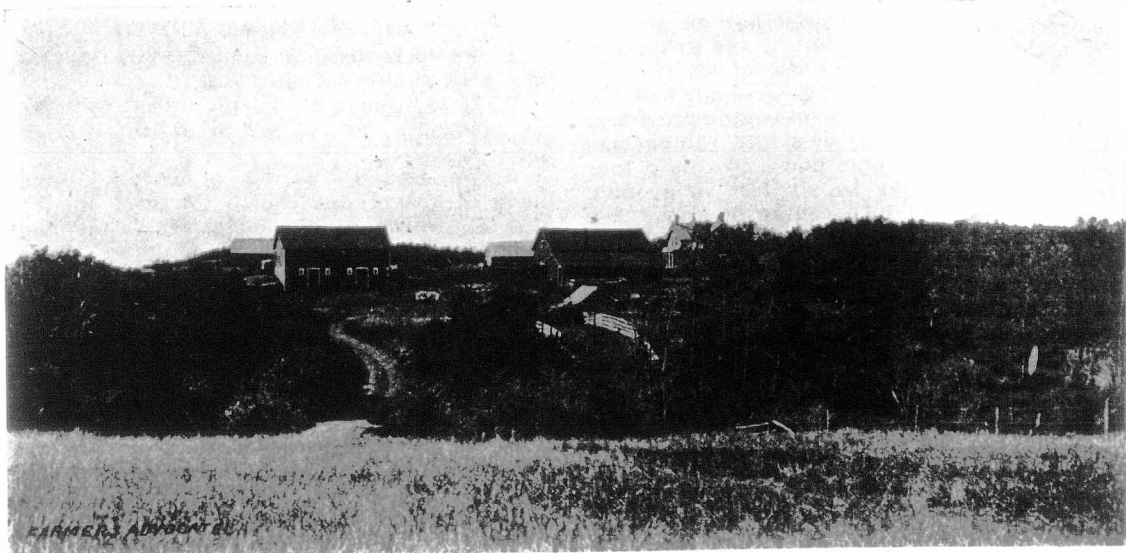




A COMFORTABLE HOMESTEAD, A. W. KENT'S, RALPHTON, MAN.

Cold Storage as an Investment.

While primarily we do not live to eat, we must eat to live; and a country gains its highest dignity in production where it cannot only feed its own population, but export all its surplus produce, at reasonably remunerative prices, to feed other nations. This is the justifiably proud position of Canada to-day. Less than a decade ago the Province of Nova Scotia paid annually \$100,000 to Ontario for butter and cheese; to-day, Nova Scotia does not import any cheese, and only a small quantity of butter during the winter, when the dairies are not working up to their full capacity. The dairymen of the Maritime Provinces are not only supplying their own markets, but are taking a share in the great foreign markets, as Ontario and Quebec have long been doing. The latest report of the Dominion Minister of Agriculture demonstrates that during the past six years Canada has exported \$332,036,319 worth of such farm produce as wheat, flour, oats, oatmeal, peas, cattle, cheese, butter, pork, bacon, hams, and eggs. We give the value of each product in 1896 and in 1901:

	1896.	1901.
Wheat.....	\$ 5,771,521	\$ 6,871,939
Flour.....	718,433	4,015,226
Oats.....	273,861	2,490,521
Oatmeal.....	364,655	467,807
Peas.....	1,299,491	2,674,712
Cattle.....	7,082,542	9,064,562
Cheese.....	13,956,574	20,690,951
Butter.....	1,052,089	3,295,663
Pork, bacon, hams...	4,446,884	11,829,820
Eggs.....	807,086	1,691,640

Farmers in this Dominion have now the tide of prosperity with them, and even the South African war, by its constant demands for food and forage, has contributed to expansion, for up to a recent date the Imperial War Office had expended on this account over seven millions of dollars through our Department of Agriculture, and this is exclusive of horses which have been bought direct by an Imperial officer, and does not include wagons or saddlery.

Improved cold storage on ocean liners has increased the export of butter from the port of Montreal alone during the past three years by upwards of one hundred per cent. in quantity, with an increase in profit, owing to the superiority of the quality of the product now landed in Britain as compared with that under the older and less perfect cold-storage system, and before the improved creamery system became general.

Too much emphasis cannot be laid upon the necessity for owners of creameries to provide cold-storage accommodation at them, to protect the butter in cold storage from the day after it is made; and the Minister of Agriculture has induced the Government to grant a bonus of \$50 per creamery for every creamery at which the owner will provide and keep in use a refrigerator room according to plans and regulations which will be forwarded on application to the Department. This system of bonusing, commenced in 1897, has been taken advantage of by the owners of about 500 creameries; and, to the owners or lessees of creameries who have not hitherto obtained the bonus of \$50, the Government will grant a bonus of that amount per creamery, if and when its owner provides and keeps in use a refrigerator room according to the plans and regulations during the current year, and the further bonuses of \$25 each for 1903 and 1904, if and when the refrigerator room has been kept in use according to the regulations during these two seasons. Thus the owner of a creamery who provides the necessary refrigerator room and keeps it in use during the three years may receive altogether a bonus of \$100.

The cold-storage system has done much to expand Canadian commerce in food products. By preventing losses by deterioration in quality, it has increased the profits of the dealers and augmented the wealth of the country. Cold storage

in every phase has been tried and found effective. As at first the volume of trade might not have been sufficient to induce business men to put up cold-storage warehouses for the accommodation of products intended for export, a grant was offered by the Government to those who would provide cold-storage buildings at central points, such grant being in the nature of a guarantee that the earnings from the cold-storage business at these points would yield at least five per cent. on the cost of buildings and plant. Obviously, the rates to be charged were to be satisfactory to the Department of Agriculture, and the grants were not to be called upon except to make up any deficiency between the net earnings and the sum of five per cent. on the cost as mentioned. Advantage was taken of this offer at Quebec only. That capital put into cold-storage warehouses will prove a sound remunerative financial investment is not now open to doubt, for this system has passed far beyond the experimental stage, and without the realm of probable failure. In Great Britain, private enterprise has not been wanting in providing cold-storage warehouses for at least the last ten years, and substantial dividends have been declared upon working results. Here in Canada, with the greater need and the lesser working cost, such warehouses ought to form an attractive source for capital investment.

Destroying Pasture Weeds.

Eradication of weeds already present in pastures depends on the particular case. Annual weeds can be killed out by mowing before seeding. This may have to be repeated several times during the growing season, as many of them will send up new sprouts. In the case of biennials or perennials with taproots, cutting the latter under ground and beneath the "crown" is effective. Perennials like the bindweed, which spread by underground stems, are extremely difficult to deal with, because every bud on such a stem is capable of growing into a new plant. Plowing under simply spreads the plant by cutting the propagating stems and scattering the pieces. No very satisfactory way of eradicating weeds of this kind can be given that will apply for all cases and conditions. A straw mulch, by excluding the light, will sometimes kill them. Common salt applied to the soil is effective, and arsenite of soda, one pound dissolved in eight quarts of cold water, is recommended. This can be obtained of wholesale druggists at ten cents per pound. Of course, any chemicals that will kill weeds will kill all the other vegetation for several months. Chemical methods of weed-extermination, then, should be used only as a last resort and under expert advice.

H. F. ROBERTS.

Kansas Experiment Station.

How to Maintain Soil Fertility.

"We all know that it is very desirable to have a fertile soil in which to grow crops," says F. P. Peck, of Michigan, "for success in farming depends largely on the fertility of the land. Every one knows of many once-fertile farms which are not now producing half what they should—scarcely enough to pay for the labor necessary to produce a crop. It is more profitable to farm so as to maintain or improve the soil than it is to rob the soil of its fertility and in the end bring ruin to the owner of the farm."

How is this to be done? I believe our greatest loss of fertility is the loss of humus. A soil without humus will not carry a crop successfully through a drouth. A clay soil devoid of humus will be lumpy and hard, and will not retain moisture for very long. We all know the effect on the crop, and the great amount of labor required to prepare such a piece of ground for a crop. Hence our aim should be to farm so as to produce and leave as much humus in the ground as possible. This is best accomplished by a rotation of crops, and one crop in the rotation should be clover, which is our greatest soil renovator. We should aim to feed everything, or nearly everything, produced on the farm, and if we add a little bran or concentrated feed to the ration of each animal, and carefully save and apply all the manure, it is easy to see that we shall maintain and probably add to the fertility of the soil.

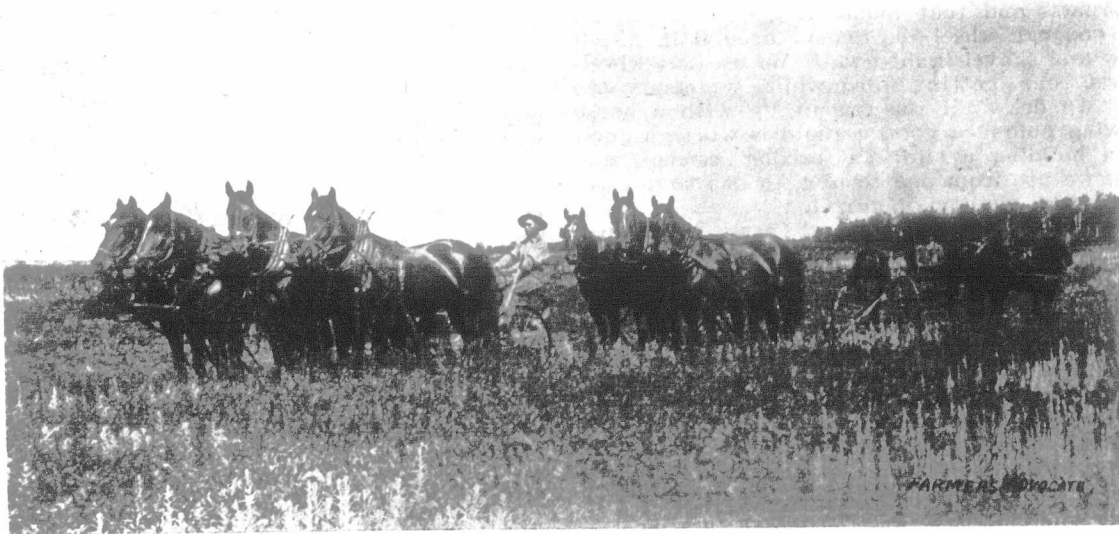
Many advocate the plowing under of green crops, but, unless a farm is very much run down, I would not practice this, unless it be to bury a second crop of clover, or a cover crop sowed to protect the ground during the winter. A cover crop should always be sowed whenever a piece of ground remains idle during the fall and winter. Many times we have a piece of stubble which we intend to plant to corn or potatoes. On this we can grow a crop of rye or peas and barley, either of which will make a large growth, and can be plowed under in time to plant to corn. This adds largely to the humus of the soil, and will tend to carry the crop through a drouth without injury.

As I said, it should be our aim to feed all, or nearly all, we raise on our farms, for the purpose of keeping up the fertility of the farm, and I believe it to be more profitable to sell our produce in the form of butter, beef, pork, etc., than to sell it in the rough. I believe our produce fed to good stock will bring us more than twice what it will sell for on the market. For example, I can feed a cow for 12½ cents per day, and have her bring in 25 cents per day or more for butter alone, and I believe the same to be true with all other kinds of stock.

Many advocate the use of commercial fertilizer. Of course, the basis of all our fertility is the amount of nitrogen, potash and phosphoric acid a soil contains. When we consider that an ordinary crop of wheat of 25 bushels per acre removes about \$8.75 worth of these elements from the soil, and a crop of corn nearly as much, we can readily see that when a soil is exhausted of these elements; it is quite expensive to replace them by using commercial fertilizers. Now, if we feed our crops on the farm, we can return about 80 per cent. of these elements to the soil in the manure, and at the same time get probably twice the market value of our produce. We can readily see that it is more profitable to farm so as to improve our soil than to sell our crops on the market and at the same time be losing heavily in the fertility of the soil.

I would not advocate the feeding of wheat, but would sell it and purchase bran or cottonseed meal, which is worth more for feed than wheat, and has double the manurial value. If I sold much wheat, I would use commercial fertilizers freely, for it is impossible to keep up the farm and sell grain without their use. If we grow all the forage crops we can and feed them on the farm, carefully save and return the manure, we need have but little fear.

F. W. HODSON,
Live Stock Commissioner.



PLOWING ON THE FARM OF A. W. KENT, RALPHTON, MAN.