

content will be below normal, and may be reduced to a content similar to that which it had when the improvement in quality was commenced, about a century ago. In our trials with high-grade beet seed we have found the sugar content of the beets reduced from over 15 per cent., when the crop was given proper attention, to below 9 per cent., when the beets were grown on weedy land under wrong cultural methods, and weeds were left to grow up with the beets.

The beets are thinned when three or four leaves are formed; the thinning is done by punching the beets, i.e., cutting out with a sharp hoe all the plants at regular intervals in the row so as to leave small blocks of beets one to two inches long, which are next thinned, leaving one strong beet plant every 8 to 9 inches in the row. If the rows are 24 inches apart, the beets in the row should be somewhat closer than this.

The cultivation of the field is continued until the beets nearly fill the space between the rows, when the field is "laid by" until harvesting time, except for going over it once or twice hand-pulling single weeds that may have escaped attention. In our State the best fields are generally laid by during the middle of July or before, leaving the beets nearly three full months after this period in which to grow and mature. Harvesting may begin when the leaves assume a uniform yellowish color. The best harvesting time varies with the character of the season; ordinarily the beets are sufficiently mature by the half of September in the southern part of the State to be acceptable at the factory, but the yield of beets and per cent. of sugar will be improved considerably, under favorable weather conditions, from this time on until frost sets in. It is, in general, safest to plan to have the harvesting finished toward the end of October or before. The beets may be thrown into piles in the field as topped, and covered with leaves or dirt for protection against frost. If delivery is delayed until after November 1st (when the factories pay 25 cents extra per ton of beets), they should be thrown in large piles and protected by a three to four inch layer of dirt. They will keep safely in this way for a limited period of time until the worst rush at the factory is over, when fall plowing and other fall farm work is out of the way, or when cars can be readily had for delivery by rail. If the farmer lives too far away from the factory to haul the beets by wagon.

The expense of growing an acre of beets is supposed by many farmers to be very heavy, on account of the large amount of hand labor that beets ordinarily require, and this keeps them from taking up sugar-beet culture.

Spring Conditions in B. C.

Mr. Thomas Cunningham, the Provincial Fruit Inspector, has just returned from an inspection trip along the Fraser River Valley, and has some interesting things to say about that fertile region. According to his observations, extending over a number of years, never before has he seen the Fraser Valley look better than it does this year. The grass is most luxuriant, and the cattle are in the pink of condition; giving evidence of improved care and feeding. The heavy shipments of cream and milk from different points show that dairying is in a prosperous condition.

Nicomen Island, which was almost abandoned a few years ago, is now well occupied with prosperous dairy farmers, who are receiving very satisfactory returns in cash every month of the year. This is a great improvement on the old practice of selling hay once a year by poor fellows who had been buying their supplies on credit, and seldom realized enough by their annual sales of hay to square their accounts. The dairy business has changed all this. Farmers have now ready cash to put down for any supplies they may need, and their land, instead of being exhausted by continual cropping, is being enriched by their well-fed cattle. This is true of every section of the Fraser Valley where farmers have engaged in dairying, for which the land and climatic conditions are more favorable than in any other part of Canada.

The Agassiz Valley, which has long been neglected, is now sharing the general prosperity, and farms that have been held at prices far below their intrinsic value are being bought up. The area devoted to hop-growing is also being increased, but after all it is the dairyman who is really building up the country on safe lines.

The City of Vancouver is growing so rapidly that it will require every acre of land in the Fraser Valley to keep the local market supplied with milk and butter, and the by-products of the farm, such as bacon and hams. All these are cash articles, which are necessary to life, so that the Fraser Valley farmer has a safe and sure business for all time.

In this connection, it is interesting to note that a bargain has just been concluded between the Maple Ridge Creamery Association and the Valley Dairy Company in Vancouver, whereby the former has agreed to hand over all its produce at market prices. The creamery will send twice a day to Vancouver 1,000 gallons of milk and 100 gallons of cream. The cold-storage creamery of the Association is kept at Port Hammond, which, being situated both on the C. P. R. and the Fraser River, is a most convenient point for collecting. The Valley Dairy Company also keeps a small steamer of its own on the Fraser River,

which will move about from point to point and gather the milk from the farmers at the most convenient hours.

From present appearances no harm has been done the fruit crops in the Valley by pests, and as the season has been unusually dry pollination has been perfect this year. A bumper crop of fruit may be expected, and unless all signs fail, we shall not suffer as much as usual from fungoid disease.

It is not often we need rain in May, as we generally have too much; but the spring has been very dry, and at present a heavy shower would do a great deal of good.

J. M.

May 18th, 1905.

Economy of the Hay Loader.

The problem of increasing the productiveness of farm labor is being solved by the adoption of more machinery to expedite the work, especially in the busy seasons. This is notably the case in the hayfield, since the area of meadow on many farms has been increased (relatively to the amount of regular help employed), it being often very difficult to hire an extra man to help out in a rush; consequently, the method of haymaking formerly recommended, viz., raking when thoroughly wilted, and putting up in small coils to stand a couple of days before hauling in, is being discarded by many in handling their timothy, and in some cases their clover. As many of our readers are aware, the method of loading hay automatically is to attach the loader to the rear of the wagon and drive up and down the windrows, the hay being picked up by a revolving spiked cylinder, not unlike that of a manure spreader, carried up by a revolving carrier, and dumped into the back of the rack, at a rate corresponding to the speed of the team and the heaviness of the windrow. There are special side-delivery rakes manufactured for the purpose of putting the hay into rows for the loader, which greatly facil-



An English Haymaking Scene.

itate the operation. At the Ontario Agricultural College farm they use the side-delivery hay rake and hay loader, believing the saving in labor affected by these implements more than compensates for any slight superiority in the quality of the hay which might be obtained by the old method of putting in cocks.

Regarding this matter of quality, there are two or three points to be considered "on the side." One is that the greater the despatch with which the grass is handled after being cut the less the chance of damage from rain and dew. Another point is that where there are facilities for hustling the haying along a larger proportion of the crop may be cut and cured at the proper stage of maturity; so that, everything considered, it is an open question whether the man having a large area to make with a limited force of hands will not secure a better average quality of feed by dispensing with the curing-in-cock process. Certainly he would be enabled to lessen the cost considerably, and by keeping the work pretty well within his own family, render himself comparatively independent of the vicissitudes of hired labor. No doubt in the latter part of the haying season, when the work is rushing, there is much to be said in favor of the loader. The disadvantage of the loader in harvesting clover is that the hay must be allowed to dry out very thoroughly in the swath and windrow, and when handled thus loosely in this dry condition considerable loss of leaves and finer parts is liable to occur. Again, if put into the mow a little too green, without having "sweat" in the coil, there is danger of damage by heating and musting. The grasses, however, such as timothy, are less liable to loss of leaves in handling or by heating in the mow, and for the harvesting of them the hay loader has come to stay, and its use with clover is admittedly on the increase.

This is an age of progress; antiquated methods must go. We have long thought that one of the chief causes of the depression in British agriculture was the extreme conservatism of the British farmers, which prevents them from availing themselves readily of the contrivances which are effecting such radical economies in the methods

of their foreign and colonial competitors. The accompanying illustration of an English haying scene, depicts the Old Country custom of having many men to do little work. When the English husbandman perceives the extravagance of allowing four men to fritter away their time loading a one-horse cart-rack with hay, and adopts instead the Canadian plan, of one man and a boy to load a two-horse rack, by means of the hay loader, unloading it by slings or horse fork, then, and not till then, will we begin to hope that the British may be able to produce agricultural products at a substantial profit in competition with the world. For Canadian farmers the lesson is plain. We have long since abandoned the cart, but not all our practices are yet models of enterprise, and in the matter of hay-making we may well ask ourselves the question, which shall it be for 1905, pitchfork or hay loader?

Windmills on the Farm.

The farmers of this country are rapidly awakening to the fact that cheap power and improved machinery are one of the conditions of success on the farm, as in nearly every other industry.

And why not? Farming is the greatest industry of this country (let the farmer fall and we all fall), and ought to be conducted on the most improved and up-to-date methods. The more cheaply the farmer can do his work the better he can compete with wheat-growers in other countries, and the more money he will make for himself. Why should a farmer haul his grain several miles back and forth to get it crushed, when with a moderate outlay he can do it in his own granary, besides securing the convenience of having a power at home to run any machine he may wish to attach to it?

That the windmill is the cheapest power no one will deny. The people of Holland were about the first to harness the wind and make it do the work that others were doing by hand, and the first windmill we know

about was made with four long arms, or sails, and many of them are still to be seen doing their work in England and other countries.

The windmill as a power has been developed to its present state of efficiency by the untiring energy and inventive genius of the American people. They have made, and are making to-day, more windmills and better windmills for less money than any other people in the world, and to them justly belongs the credit of being the best windmill men on earth. The question

may be properly asked, what should a windmill do, and what size should one buy? If it is for pumping water only, a six, eight or ten foot mill is sufficient, the size to use varying according to the depth of the well and the amount of water to be pumped. An eight-foot mill, with a thirty or forty foot steel tower, is a very satisfactory pumping outfit for ordinary purposes.

For power purposes sufficient to do a farmer's ordinary work, such as sawing wood, running a mast grinder, cutting straw, etc., a twelve or thirteen foot geared mill will do the work. If, however, a man wishes to run an eight or ten inch floor grinder, and do custom grinding for the whole district, then he had better buy a fourteen-foot mill, but do not expect a windmill to do impossibilities and take care of itself into the bargain. The mistake so many people make is thinking a twelve-foot mill will do as much work as a twenty horse-power threshing engine. For example, they will ask it to run a ten and sometimes a twelve inch floor grinder, and that when there is very little wind; then they oil it when they think about it, which is not very often, as they have heard some fad about graphite and bronze bearings running a lifetime without oil, or some other nonsense which does not work out in practice, and are only talking points, and so they think any old time will do to oil the mill, the result being they often come to grief, the mill breaking down—through their neglect—but they never blame themselves, it is always the mill that is no good, although their neighbor has one just like it doing good work, the only difference being one man looked after his, and the other did not. Some will say this is not true, but I have seen more pumps and windmills spoiled for the want of a little oil and attention than I have seen worn out. In conclusion, let me say to the reader: If you want a good and cheap power on your farm, to do your own work, then a windmill is what you want; but please keep in mind the following points:

1. Buy from a good, reliable man, whose guarantee is worth something.
2. Buy, if possible, from general agent.
3. Buy the best, not always the cheapest.