

with the crop, or, at the utmost, with a few crops. The effects of lime do not pass away so rapidly. Of this there is a difference of opinion; but we know from our own experience that its beneficial results are continued for several years. At the expiration of a period of seven years we regularly gave a renewed application of lime. Then, and not till then, after a previous liming, the land stood in need of lime.

Viewing the effects of lime and other mineral fertilizers from another standpoint, we are inclined to place the application of lime to land in the class of permanent improvements. Land that would not previous to being limed grow particular crops, clover, for instance, has been so changed by it that they have since grown luxuriantly on it, and other plants, the products of a sour soil (such as sorrel) have disappeared since the application of lime, thereby proving that the quality of the soil had undergone a great and permanent change from the action of the lime.

#### Modern Improvement in Agriculture.

We read so much now in the newspapers, as well as in agricultural periodicals, of the great modern improvements in farming, that some are apt to regard the study of agriculture as a science and the experimenting with soils, seeds and implements as entirely unknown till within the last few years. Let us give to all due credit, and not take to ourselves the credit due to a former generation. Grain crops for feeding were well known in the last century, and the growing of turnips, ruta bagas, cabbage and other green crops was more practiced in England then than in North America now. It is true new varieties have been introduced and the investigations of modern scientific men and practical agriculturists have done good service in agriculture and horticulture. But the great difference between the past century and the present in this matter is this: The connection of agriculture with science was in the former known to comparatively few, whereas now this knowledge is more generally diffused—thanks to the agricultural press! In the latter part of the eighteenth century, when George the Farmer King was on the throne now worthily occupied by his grand-daughter, there were great improvements in this as well as in other sciences, and to them, more perhaps than even to the great workers and writers of the present days, we as farmers owe the greatest debt of gratitude. They sowed the seed and we reap the harvest. The writer of this bears yet in mind much of the invaluable agricultural knowledge he acquired from reading the works of Sir John Sinclair.

The writer of the *Agricultural Economist* says:—"If we have distanced the agriculturists of the last century in green cropping, the fact is more to be attributed to the introduction and utilization of artificial manures than to the discovery of new plants and better kinds of produce." Cabbage-growing for stock feeding is not a novelty in farming; it was long and extensively practiced long before Swede turnips had been adopted into ordinary farming. Arthur Young recommended it highly in his "Annals of Agriculture," "Farmer's Chronicle," and other works that are now little known, and yet may be not unjustly called text books of agriculture. He says: "Having on former occasions mentioned the great importance of this crop (cabbage), the less it is necessary at present; still I must urge our young farmers to determine to have as many cabbages as they can want for sheep, cattle and swine from the first of October till the last of December. Their use is so great, so exceedingly valuable for autumn feeding of oxen, cows, fattening wethers, hogget lambs, and supporting the whole herd of swine, that one may without hazard say that the farmer who does not

make a provision of them is negligent in a very material point of his business."

Kohl Rabi was familiarly known to enlightened agriculturists in England as valuable for feeding purposes very early in the last century. It was known by the name of the cabbage turnip. It was highly esteemed before the introduction of the Swedish turnip.

We have, however, somewhat in our favor that our fathers had not. For instance, they were not able to raise turnips so rapidly and cheaply as we can by the use of the manure drill, and we can, by the use of stimulants, such as superphosphate, force our turnips to a more rapid growth, out of the danger of the flea.

#### Treatment of Fruit Trees.

We have had a very trying season in our fruit gardens. An early and open spring induced early vegetation. Trees were in leaf weeks earlier than in some other years, but our insect foes were on the alert fully as early. Tent caterpillars and measuring worms were on every tree. Our gooseberry and current bushes swarmed with the hideous pests. We thought we had exterminated them, and that all was well, when a sharp frost paid us a visit. What the insects had spared, the frost made a most clean sweep of. Black currants that had withstood the ravages of the insect hosts lay in heaps under the bushes—frost-killed—though well shaded by the abundant foliage. Red and white currants resisted the frost better, but the yield will be far short of that of other years, having suffered so much from the loss of foliage by the insects. Currants will, as a whole, be a very light crop.

The first fruits of the strawberry beds were killed by the frost; the second fruit has escaped, but the first is always best.

The yield of other fruit has also been lessened by the frost as well as by insects.

Cherries are a very light crop.

Apples vary in the different localities. The crop will average light.

Plums and peaches, though also affected by the frost, have some fruit. The plums are heaviest laden, but—that horrid curculio!

The grape crop has been greatly injured. The young shoots were out eight or ten inches long, and the tendrils with the fruit germs fully exposed. The result has been, as might be expected, they were frost killed, and young leaves blackened and fell off. Other leaves now clothe the vines, and young clusters of grapes, later and smaller, are growing on other tendrils; but the year's crop, that early in the season gave such fair promise, will be very light. Other localities may have come off safer than this, but in our own garden, and in others here, the picture we have given is too true.

Fruit growing is a very precarious business, but we would not give it up. It has its pleasures, and notwithstanding its occasional reverses it is on the whole not without a fair profit. Fruit growers are generally prosperous. But the work must not be done in an easy, haphazard way. It is the hand of the diligent that, in fruit growing, as well as in other business, makes the worker successful.

The first and chief thing required in order to ensure success is to prepare the ground thoroughly for orchard or fruit garden. If the ground be properly cultivated to a good depth, having been thoroughly drained, if necessary, and if it be enriched, a good growth of the trees, and a good crop of fruit will be procured; if not, failure and disappointment are certain. And every precaution must be used in the fruiting season to prevent the destructive ravages of insects. We have the means of success in our own hands.

#### The Crop Prospects.

The continued dry weather has been favorable to the luxuriant growth of fall wheat. It had attained such a growth by the end of May that fears were entertained that, if the wet weather continued, the heavier and ranker fields would ere this be lodged and rot before harvest. The two weeks of cool, dry weather, however, has been highly favorable to the development of the wheat coming in head. A finer outlook has never been seen in Canada than at present for fall wheat. Should spring wheat be a total failure, there will be far above a total average in the aggregate number of bushels of wheat in Canada.

Peas look well, and are far advanced for this time of the year; they are fully one month ahead of any previous year, and will be one of the earliest spring grains harvested. There is over an average acreage sown. The low price of oats and barley last year has induced farmers, in the coarser grains, to go more extensively into peas.

There has been a great quantity of American corn sown broadcast for a fodder crop. The regular crop was considerably damaged by the frost in the early part of June, but it has rapidly recovered from the effects. The hay crops, especially timothy, were badly damaged by the frosts in the middle of May. They have never recovered, and the crop is going to be short. The old meadows particularly look bad, and will not be fit to cut until after the wheat harvest. There will not be much over half a crop in the old meadows. In consequence of this, our farmers are wisely supplying the deficiency by sowing Hungarian grass and millet. Extensive preparations have been made for turnips, but as yet not many have been sown, at the time of writing this, June 21st. And part of the early sown seed has not come up yet, owing to the dry weather, and what did vegetate has been eaten by the fly so bad that a second sowing will be necessary. Early sown carrots and mangolds have attained a good size, and the late rain has flushed their growth, so that the plants are now strong and healthy. The frost of the 6th of June cut down the greater portion of the potatoes above ground; they, however, soon recovered, and no damage is perceptible now. The bug, however, promises to be more destructive than ever. The young vines are already covered with the old bugs and their larvæ. Unless farmers make a united effort to exterminate them, we may expect to see bugs here as long as potatoes are grown. A few neglected fields will foster enough of these pests to cover a whole country side.

#### CANADA THISTLES

Have attained a large growth and are spreading at an alarming extent. Whichever railroad you travel this noxious weed meets your gaze. Farms and public highways alike are lined with them. The law with regard to them appears to be altogether inoperative. A few cases of neglect have been brought before magistrates in different localities and fines imposed, but it has only engendered hard feelings amongst neighbors, and resulted in no permanent good. Farmers are loth to embroil themselves in quarrels with their neighbors on this account, and hence the neglect in putting the Thistle Act into force. In some of our municipalities, however, the Council has appointed a commissioner, at a small salary, whose duty it is to see that all the thistles under his jurisdiction are promptly cut. In case of neglect of either the individual or body corporate, the commissioner is empowered to employ help and cut the weeds, and charge the labor against the land in the shape of taxes. The Township Council of London has enforced this, and already good results are seen in the number of thistles that have been cut this month. It is to be hoped that all our municipali-