

The Potato.

ITS VALUE AS A FARM CROP—ITS DISEASES—ITS INSECT ENEMIES.

Value of the Potato as a Crop.

Now, when the potato crop of the season is matured and generally saved, it is well to give some consideration to it. It was throughout the season attacked by the enemies now so well known to us, and threatened by the old diseases and by some little known. The potato crop is a valuable one to the farmer, and it is an expensive one. It demands no little of his care and labor. Plowing and re-plowing, harrowing, drilling, planting, cultivating, taking up and storing, with seed and manure (when manure is applied), when added up, make a pretty good sum to be placed on the debit side in the farm ledger. But after all it has been a remunerative crop. Shrewd, practical men have for years continued its cultivation, and they would not have done so if they did not find it profitable. No other crop on the farm has given so large a cash return as the potato. This can be seen at a glance. The produce of an acre of potatoes is worth from \$60 to \$80 (the estimate is for good yield, but such as can be easily obtained, and at the ordinary market price of the last few years.) It must be a good acre of wheat, and be sold at a good price, that will bring nearly that amount—25 bushels of wheat at \$1.25 per bushel, amounts to \$31.25. Barley this season has paid \$30 per acre—40 bushels at 75 cts. per bushel. From these figures we see at once the great comparative value of the potato crop. The expenses attending it may be heavier than of others, but expenses are not necessarily losses. Another profit of this crop is the good condition of the ground on which it has been grown, for succeeding crops. The summer fallowing (for such the cultivation of potatoes is) frees the ground from weeds, and exposes it to the fertilizing influence of the atmosphere. This is the case with all root crops in a greater or less degree. Some call them impoverishing, but the heavy grain crops that we have had the following year, and succeeding them the good yield of clover and grass, prove the reverse.

Diseases of the Potato.

Let us confine our observation to the diseases of late years, and principally to that one that from the virulence of its attacks and the extent of its ravages, is known as the Potato Disease. Its origin is doubtless owing to the degeneracy of the potato. A dry, bracing climate, such as that of Canada, generally wards off its attacks. It is always most destructive where the atmosphere is murky and lowering. The more luxuriant the vegetation, the more liable is the potato to be destroyed by the disease. But there were as wet and heavy seasons before the disease made its appearance. The disease originates not from the condition of the atmosphere; it would be powerless to produce the disease if there were not already a predisposition to disease in the plant or tuber. The seeds of disease are often present unseen, and, it may be, unsuspected, till developed by some adventitious circumstances. While plants of every species are capable of improvement by cultivation, the improvement may be at the expense of their vital powers. Fungus, or mould, or whatever it may be that is the immediate cause of the potato disease, would not have such an effect if the potato had not degenerated. Though Canada does not suffer so much from the potato disease as the more humid countries of Europe, we are not exempt from it. Even this year there was danger of it for a few days, and in parts of the Dominion it has done much injury. We can use means by which we can so guard against it as to lessen our losses from it

very considerably, by selection of warm, dry soil as much as possible. Let no stagnant water lie on the surface or beneath it. If manure be applied for the crop, let it be well decomposed. It would be better to plow it into the ground in the fall. It is better still to plant on a good fertile soil without manure. An application of lime to the soil would do good service. Plant early. Late crops always suffer most. If the disease come, the nearer to maturity the potatoes are the less injury it will cause. Select for planting such varieties as are least liable to the disease. There is a great difference in the several varieties in this respect. The writer had potatoes entirely rotted by it a few years since, while he had other varieties beside them very slightly affected. Do not plant so close as to prevent the plants having abundant air and sunshine. This is very important, and it will not lessen the yield. Of all the means for guarding against it, none is more important than the selection and preparation of the ground. Deep plowing is requisite; a hard pan beneath a shallow surface soil will retain the water too near the roots of the plant.

A New Disease Affecting American Potatoes in England.

In a recent number of the *Advocate* we gave an account of this disease.

As it has been described by later writers it seems as if it were the Curl, and not a new disease, though now prevailing to a greater extent. We were well acquainted with it in our agricultural pursuits. The plant ceases growing as luxuriantly as before the disease develops itself. The leaves curl, and the tubers, as well as the plants, cease growing and are never worth anything. Ash-leaved Kidneys and Bangors, choice early varieties, we knew to be especially subject to it. The potatoes from the curled plants we were careful not to use for seed. As a remedy for it we planted in moory soil the potatoes designed for raising seed potatoes, and did not apply manure. The disease we concluded to be the result of forcing, thereby weakening the reproducing powers of the potato. The remedial measure we used had the desired effect. Further information leads us to think the first reports were exaggerated.

Insect Enemies of the Potato.

Of these enemies the potato beetle has proved to be the most destructive and to have added more to the farmer's labors than all others. They are so well known and the means for their destruction so familiar to all, that we have no occasion to dwell on the subject. Paris green is the only effectual remedy yet applied. Lime, wood ashes, coal ashes and other substances have been tried as remedies, but have failed. Though the bugs may leave for a time after their application, they soon return as vigorous and voracious as ever. Vegetable poisons seem to have no power to injure them; they have been seen feasting on the deadly henbane and nightshade. Arsenic, whether in Paris green or otherwise prepared, must, as far as yet known, be applied.

Another insect has been making havoc with the potato crop in the Western States. It is a flea-beetle, of the same family as that which preys on the cucumber and turnip, and is not unknown to gardeners here. It is very injurious to cucumber vines, eating the leaves in small holes, and not ceasing till the only thing left of the leaves is the bare vein. The skeleton left cannot perform the function of the leaves, and the plant dies. This year they have infested the potato vines, and in such vast numbers as to endanger the growth of the crop. The means used for destroying the potato bug are equally effective when applied to the flea beetle, and the remedies used by gardeners for

the preservation of their cucumber vines will be of good service against this enemy to the potato. Sprinkling the leaves with dry slaked lime, plaster or coal ashes has been found an effectual remedy, and lime will be still more effectual if carbolic acid be dissolved in the water with which the lime is slaked. That they have not before now been a means of great injury to the potato crop is owing in a great measure to the aid of our good friends the birds, that prey upon the young insects, and thus prevent their rapid increase. Were this destruction of the young of insects at any time to cease, our labors for the preservation of our crops would increase many fold, and the produce of our fields and gardens be obtained only after incessant contests with our insect enemies. Every day brings us additional proof of the policy of protecting the birds as our faithful allies, and of preserving our trees for their dwellings and the shelter of our grounds.

Pruning Gooseberry and Currant Bushes.

The first consideration is—When are we to prune gooseberry bushes? We have for some years pruned in the fall, and we are satisfied with the result. Spring pruning is recommended by many, but having had such a trial and having during that time been successful in having abundant crops of large, luscious fruit, we think this doubtful method is proved to us by an experience of years. We transplant in the fall also, as bushes two years old transplanted now will commence bearing next summer. Every year we propagate a few young bushes that we may plant in place of any that showed symptoms of failing in the fruiting season.

The object of pruning is to obtain young bearing wood and to have none but such as is young and vigorous, as young trees and young bearing branches bear larger and richer fruit than old trees and old branches. By pruning out the old wood we have a succession of such as is best suited for fruit bearing. This is our object of pruning—it is but one. A free circulation of air and easy access to heat and light are essential to the growth of good fruit. If bushes be suffered to grow unpruned, the branches will be so crowded as to deprive the inner branches of this atmospheric influence. Not a ray of sunshine nor a breath of free air can find a way into the heart of the bush. The objects, then, of our pruning are to obtain young bearing wood, and that this wood may have all the benefits of sunshine and air, and hence we learn how to prune. Cut out old wood, but not indiscriminately. It would not do to leave no branches but such as are of this year's growth. The shoots that are left should be evenly distributed, and not so crowded as to prevent the due expansion of the leaf and the growth to largest size of the berries, with their earlier ripening. Keeping the bushes pruned to a single stem is not suitable to Canada. In the moist climate of Britain we found it the better way; but here in Canada that tree shape does not afford the shade for stem and roots and soil that are needed in our hot summers. This shade is not at all inconsistent with the pruning we have recommended. In pruning we must bear in mind the necessity of shade for the root as well as of uninterrupted air and sunshine for leaves and fruit.

While the demand for currants has been constantly increasing, they are becoming scarcer in our markets and the price higher. This is the case especially with the black currant, which is now better appreciated than heretofore. To grow good crops of currants requires, it is true, care and labor, but not more than the fruit is worth many fold. The currant flea and currant worm have now to be contended with; but nothing worth possessing is to be had without striving for it, and we can

by a little care and fruit from their in those who will not fruit gardens prop glected they will loss on the owner. nually, manured i we have found a t spring of great ad cessary for gooseb Heavily covering t the heat of summ tive of the mildev superior varieties

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We have had of extirpating clover, etc., a bare fallow, an ject of fallowin attention amon to the subject, following in co Among the r agriculture, ev our readers, no til very lately deemed necess of wheat. If