

THE VEGETABLE GARDEN.

The Potato Disease.

Our occasional correspondent, Mr. J. F. Wilkey of Mount Radford, Exeter, England, sends us a local paper to which he had addressed the following communication about the recent discoveries relating to the potato disease:—

The discovery made by Worthington G. Smith, as published in the Journal of Horticulture, and for which the Royal Horticultural Society has awarded him the Gold Knightian Medal, affords a suitable basis for operations with a view to its cure or prevention. The cause of the disease appears to be a fungus, the "resting spores," or seeds of which live through the winter in the ground, where having fallen with the dead haulm, leaves, and tuber, they quietly rest till the following summer.

Taking this for granted, it will be seen how important it is that all the diseased portions of the potato plant should be immediately gathered and burnt. Daily watching is imperative, to prevent the incursions of this pest. Every leaf or stalk showing symptoms of the disease should be destroyed by fire, to prevent further ravages. It should be remembered that the circulation of the sap soon communicates the poison to the tuber, and it is only from the healthy leaves and stalk that the tuber can receive any advantage.

As the "resting spores" lie hibernating in the ground, it seems reasonable to attack them there before planting the sets. I knew an intelligent farmer in Cornwall who told me that he always salted the ground before planting to kill the weeds, sowed from 1½ to 2 cwt. of salt to the acre and ploughed it in, at three successive periods, of two weeks apart. About three or four weeks after this the potatoes were planted. They never took the disease, whilst his neighbor, who never salted his land, which was separated from his only by a hedge, had his potatoes badly affected.

By this I judge that salt destroys the fungus spores as well as the weeds. By persevering in this simple and economical plan it is probable that the potato disease may be greatly overcome.

Insect Pests in Gardens.

The insects which annoy the gardener, and damage or destroy his crops, are of several kinds. The striped bug is very destructive to young plants of cucumber, melon, squash, &c. Tobacco dust, bone flour, ashes, soot, &c., are used to destroy or drive them away, but I have never found anything equal to shell lime (air slaked) for their destruction. The cabbage flea, a small, black insect, which attacks young plants of cabbage, turnip, &c., is also very destructive, but easily conquered by early applications of the last named remedy in a liberal quantity.

The cabbage louse (I use the common names), a small, bluish insect, often infests crops of growing cabbages. They are not particularly destructive to these, but when a mass of them collect on the heads, as they frequently do, the appearance of the cabbages is spoiled, as they can scarcely be gotten off without removing all the outer leaves, and thus damaging the sale. These pests, although not very destructive to the growing cabbages, are very much so to the plant when producing seed. It was only a few years ago that I had a crop of seed cabbages entirely destroyed by them. They first appear in small clusters, at the tip of the branches, about the time the blossoms are coming, and, if not immediately attended to, soon envelop the leaves and stalks to their total destruction. They are generally the worst in dry seasons, and sometimes a heavy shower, before they get much start, will destroy them. I do not know of any positive remedy. Lime will check, but not destroy them. As soon as they appear on seed cabbage, the tip on which they lodge must be nipped off, and attention must be paid to them every day until the stalks and pods are quite hard.

A new enemy to the cabbage family has lately appeared, in the form of a green grub, which eats away the leaves, and in some sections whole fields have been destroyed. There is no positive remedy as yet found against them, though many have been tried, with varying success. They are not yet common in this section, hence I have not had occasion to experiment with them.

Another injurious insect is the one which produces what is known as "club root" in cabbages, cauliflowers, &c. Various theories have been advanced as to the cause of this malformation, but it is beyond a doubt caused by a maggot which eats into the root, causing it to swell in various shapes and destroying the plant. I have no doubt that the eggs are deposited in the manure, and so taken to

the field; the maggot there hatches, and at once commences the work of destruction. My conclusions in this matter have been arrived at from observations made on three different crops of radishes, and here, to be the better understood, I will say I believe the cabbage maggot to be one and the same. A few years ago I sowed three pieces of land with the white summer radish—one on land manured with stable manure at the time of sowing, the next without manure, where a liberal application had been made the previous year, and the other without manure, but on one end of the land a heap of stable manure had lain during the winter, and was removed to adjacent land for an early crop. The radishes on the first place were mostly maggot-eaten, those on the second were not affected in the least, nor yet were those on the third bed, except where the manure heap had been.

The theory that hog manure will produce club root is not entirely unfounded; for, while it may not be the immediate cause, yet, no doubt, from its nature, it is the most attractive to the fly in seeking a place to deposit her eggs, and by it more eggs are carried to the ground than in horse or cow manure. I firmly believe that much depends on the previous treatment of manure, such as heating, turning, &c. (by which the eggs may be destroyed), for the prevention of club root. Shell lime is an effectual preventive, and about Newark, N.J., market gardeners apply it heavily once in about five years, with good results. Undoubtedly the maggots are killed by it before they can begin the work of destruction. Where lime cannot be had conveniently, and even where it can, I advise putting the manure, especially that intended for cabbages and cauliflower, into a large heap, letting it heat, and occasionally working it over to prevent scorching. Henderson advises bone flour as a remedy for club root. One thing is certain, if my view is correct, we have in this valuable fertilizer the best substitute for stable manure, and one that is free from the eggs which produce the cabbage maggot.—*Francis Brill, in New York Herald.*

Peppermint Raising.

The editor of the *Rural Home* has been taking a cruise around in New York State. He gives notes of his journey, from which notes we extract the following:

At East Palmyra you begin to see fields of a crop special to this locality, with which the general farmer is wholly unacquainted, viz: peppermint. All along the valley to Lyons, our stopping-place, and we know not how much farther below, nearly every farmer has his plantation of peppermint, and in the valleys extending northwards to Ward Lake Ontario, where wet enough for the mint to flourish, it is grown.

Dr. E. W. Sylvester, whose fruit farm and nursery we visited, has some low land in a valley north of Lyons, and grows several acres of mint every year. We made some inquiries of the doctor, as to the yield and profit of mint and will give our readers the benefit of the information gained:

Peppermint is best propagated as we propagate strawberries, by the young roots formed by runners taking root. These may be set in the fall, but are rather more certain if planted in the spring. They grow up and yield their maximum crop the first year. Dr. Sylvester has two or three new plantations, and a few old ones. The new had made a ranker growth and were almost entirely free from weeds, while those growing their second crop were more or less weedy.

When fully in blossom, probably from the middle to the latter part of August, it is mowed, wilted and taken to the distillery, where it must be distilled without delay. The mint is steamed up, the oil passing over and being condensed, the same as in distilling whisky. There is about one distillery to a school district, and they generally charge forty cents a pound for distilling. A good first crop will yield from thirty to thirty-three pounds of oil to the acre, and the price ranges from \$2.50 to \$6 per pound. The Doctor received \$5.11 a pound for his last crop.

The yield the second year is but little more than half that of the first, so that if the average of the two crops is about twenty pounds, it is all that can be expected, and perhaps an average of \$3 per pound is all that can be calculated on for a series of years, by good careful cultivators.

They generally keep the oil in tin cans, but the Doctor has brought up from New York demijohns, holding two and three gallons, believing it will keep better in glass. A three-gallon demijohn will hold twenty-two pounds, which at the price that the Doctor realized for his last crop, would be worth \$112.42. Ten of these, weighing 220 pounds, making a light load for a buggy, would be worth \$1,124.42.

The expense of erecting a distillery ranges from \$600 to \$1,000, and as under favorable circumstances they can distill about thirty pounds in twelve hours, earning \$12, they can make a fair percentage on cost, annually.

It is calculated that about half a million of dollars' worth is annually produced in Wayne county, and perhaps about the same value in Michigan, and that supplies the limited demand for the use of babies and adults suffering from cholera, toothache and other severe pains.

The Farmers' Garden.

We presented some thoughts and suggestions on this subject in our last, and we feel disposed to amplify them, because we are thoroughly convinced that the attractions of farmers' homes and of the farmers' life might be very greatly augmented by increased attention to the family garden. As we stated, the greatest objection on the part of farmers to a liberal garden patch probably is, the labor required for its proper cultivation. The labor could be very much lessened by such an arrangement of the garden plot and garden crops that most of them might be cultivated by horse labor.

We will suppose that a farmer wishes to devote about half an acre to the kitchen garden, and that he determines to lay it out in circular form. The circle would be about 10 rods in diameter, and 31 rods in circumference. Should the exterior row be devoted half to grapes and half to blackberries, the former 8 feet and the latter 6 feet apart, he could plant 32 grapes and 42 blackberries, which would afford, when in full bearing, quite a liberal supply for a family.

Eight feet inside of this, a row of raspberries could be planted, about 23 rods in length. At three feet apart, 154 raspberries could be planted in the row, which could be divided between the red and black varieties, to suit the tastes of the family.

Six feet inside of this, a row about 26 rods long could be planted to currants and gooseberries. At four feet apart, about 108 plants could be set in this row, or, if that would be more than the family would like of these species, raspberries, or whortleberries could be substituted for part.

Four feet inside of this, a row of strawberries, over 25 rods, or 418 feet could be planted. Set one foot apart, 118 plants could be set in the row. Four rows of strawberries, three feet apart, would contain about 1,600 plants, covering about one-ninth of an acre, which, properly cultivated, ought to yield thirty bushels of this delicious fruit.

After making this liberal allowance for the small fruits, in the kitchen garden, there will be a circular space, fifty-four feet in diameter, one hundred and seventy feet in circumference, left for vegetables. The outside row of his might be planted to asparagus, and the next to rhubarb, and the remainder planted to those annual vegetables, a small amount of which is relished in every family.—*Rural Home.*

TO KILL HORSE RADISH.—Horse radish when it has once got possession of the ground, is one of the most difficult things to eradicate. We notice a statement that kerosene will kill it, if the stalk is cut off close to the ground and the oil applied to it.

PUTTING UP POTATOES IN THE SOUTH.—A writer in the *Mobile Register* says: "I always put my potatoes up in slaked lime, sprinkling it thoroughly among and over them throughout the barrels. It takes no great deal of lime, but it prevents the potatoes from getting strong. Northern potatoes would soon get strong in our climate unless so treated, but lime and a dry room keeps them good the year round."

TOADS.—The *New York Herald* says that N. C. Ely, the wideawake President of the Farmers' Club of the American Institute pays fifty cents apiece for all the toads he can purchase, and these useful reptiles are put on his 500,000 farm in Connecticut. On our own grounds toads are encouraged to be fruitful and multiply, as they destroy immense numbers of noxious insects. Toads are useful nocturnal marauders in gardens.

SUPERPHOSPHATE ON ASPARAGUS.—Peter Henderson says he has found superphosphate of lime very useful as an application to asparagus beds, at the rate of 500 pounds per acre (which would be a little over three pounds to the square rod), sown on the beds and hoed in. When tried in alternate rows, the difference was nearly a foot in the height of the stalk in favor of the phosphated rows; and the crop was nearly double when cut the following spring.

GROWING HORSE RADISH.—Around the city of New York gardeners grow it as a second crop. The ground is plentifully manured, and marked off into rows one foot apart. Every alternate row is planted with early cabbages, and after the plants are set out, the horse radish sets are planted in the intermediate rows, at the distance of 18 inches apart. If the horse radish starts too soon, it is cut off in hoeing the cabbages, which does not injure the horse radish roots in the least. In July the cabbages are harvested and sold, and the ground is left entirely to the horse radish. As the farmer is supposed to produce only one crop from his land each year, he can manage the crop without so much labor. The soil must be deep, so as to allow the roots to penetrate a foot or more if possible. The sets which are planted consist of the small roots which are taken from the large ones, and are from four to six inches in length.—*Rural New Yorker.*