

GARDEN  ORCHARD.

## ONION BLIGHT OR MILDEW

(Peronospora Schleideniana).

Prepared for "The Farmer's Advocate" by W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa.

In various parts of Canada onions have suffered during the past few years from the attacks of the onion blight, which, in some cases, has caused serious loss to vegetable-growers. As this disease can be prevented by thorough spraying with Bordeaux mixture, all vegetable-growers should be aware of the fact. The onion blight is a parasitic fungus which spreads by means of spores in summer, and is carried over winter by what are known as oospores. These oospores are formed within the leaves, and when these are removed in the field or fall off they remain over winter there, and re-infect the young plants in the spring or early summer. It will be readily seen that it is important, where the disease is troublesome, to remove all foliage from the field in the autumn and destroy it. Where possible, the onion should not be grown two years in succession in the same field; and, if possible, two years should elapse, as these oospores retain life for two years. When the disease infects the onion plants by means of the oospores in early summer, the mycelium grows through the plants, feeding on the juices, and the first outward indication of the disease is a violent discoloration of the foliage. In a short time the leaves turn yellowish and fall off, and give the plant the appearance of being scalded. When the disease is quite apparent, but before the leaves dry up, the latter have a downy look on the surface in places. It is at those points that the spores are being given off from the tiny stalks which have protruded from the mycelium within the leaf. These spores spread rapidly, and if conditions are favorable, will germinate in half an hour and re-infect other leaves or plants. These spores are so numerous that it does not take long for a large area to become affected. It has been found that the disease spreads most rapidly in damp, warm, close weather, the spores germinating very rapidly under such conditions. In low-lying ground the air is moister than over elevated land, and the disease is usually worse there.

Sometimes the disease will be checked before it has done much damage, owing to a change in weather conditions, but it may break out again later on. Every leaf which is destroyed weakens the plant and lessens the size of the onions, hence it is very important to check it at the very start or use preventive measures.

Once the spore has germinated and the disease entered the leaf, it is not possible to reach the mycelium by spraying, hence it is necessary to spray early enough to kill the spores before they germinate. Spraying should be begun towards the end of June, and the plants kept covered with Bordeaux mixture until the end of the season. If the disease appears before spraying has been done, spray as soon as possible. As the leaves of the onion are smooth, it is necessary to put the mixture on in as fine a spray as possible, so that it will adhere well.

## LEGAL SIZE OF FRUIT BASKETS.

The May Fruit-crop Report of the Fruit Division, Ottawa, calls the attention of fruit-growers to Sub-section 2, Section 326, of the Inspection and Sales Act, dealing with fruit baskets. As amended at the last session of Parliament, this reads:

2. Every basket of fruit offered for sale in Canada, unless stamped on the side plainly in black letters at least three-quarters of an inch deep and wide, with the word "quart" in full, preceded with the minimum number of quarts, omitting fractions, which the basket will hold when level-full, shall contain, when level-full, one or other of the following quantities:

(a) Fifteen quarts or more;  
(b) Eleven quarts, and be five and three-fourths inches deep perpendicularly, eighteen and three-fourths inches in length, and eight inches in width at the top of the basket, sixteen and three-fourths inches in length, and six and seven-eighths inches in width at the bottom of the basket, as nearly exactly as practicable, all measurements to be inside of the veneer proper, and not to include the top band.

(c) Six quarts, and be four and one-half inches deep perpendicularly, fifteen and three-eighths inches in length, and seven inches in width at the top of the basket, thirteen and one-half inches in length, and five and seven-eighths inches in width at the bottom of the basket, as nearly exactly as practicable, all measurements to be inside of the veneer proper, and not to include the top band: Provided that the Governor-in-Council may by proclamation exempt any Province from the operation of this section.

(d) Two and two-fifths quarts, as nearly exactly as practicable. 1 E. VII., c. 26, s. 5.

## BROWN-TAIL MOTH CONVENTION.

The convention called by the Nova Scotia Department of Agriculture, at Annapolis, on the 7th inst., to consider the question of the brown-tailed moth, and what measures ought to be taken to stamp it out, showed very plainly the interest which is being taken in this part. No subject within the writer's experience, covering the past ten years, has ever aroused such widespread concern as the announcement that the dreaded brown-tail moth had gained a foothold in Nova Scotia. One hears of nothing else.

The convention opened with a report by Prof. Cumming of the various steps which had been taken by the Government in the matter. The effort had been first to find how largely the insect had spread, to outline the infested district, and, second, to do everything possible in the short time at command to arouse public interest in the threatened danger. This had been done by sending out inspectors, who held meetings, visited schools and farms, everywhere urging the destruction of the nests in which the insects pass the winter as partly-grown caterpillars, about a quarter of an inch long. To further encourage the destruction of these nests, a bounty of 3 cents per nest was offered through the schools for all which should be brought in and delivered to the teachers. In this way alone considerably over one thousand nests have been destroyed.

Following Prof. Cumming's general report, the different inspectors, including Mr. G. H. Vroom, Dominion Fruit Inspector for Nova Scotia, Profs. Smith and Sears, of the College, and two graduates of the Agricultural College, Mr. Guilford B. Reed, of Berwick, and Frank Brady, of Canning, reported on the territory they had each examined. The area so far known to be infected is as follows: In King's County scattering nests have been found as far east as Port Williams, Canning, and Blomidon, but not more than a dozen nests, all told, have been found in that County. Passing into Annapolis County, they become more abundant as one goes west, several nests having been taken about Middleton, Lawrencetown, Bridgetown and Annapolis Royal. In the vicinity of Deep Brook, near the Digby line, some three hundred nests were destroyed. From there west, throughout Digby County, the insects are widely scattered, and in some sections very abundant. As many as nine nests have been found on a single small plum tree, and Mr. Reed reported collecting thirty nests in ten minutes in one orchard. So far as known, the insects have not yet crossed the Yarmouth County line, though they are very close to it.

What complicates the situation very seriously is the character of the country infected. Practically every farm has a few fruit trees on it, and everywhere along the roadsides and in the woods are innumerable seedling apple trees on which the insects are found. And as the orchards are of very little importance, they receive but little attention, and no spraying is done. Fortunately, the insects have so far confined themselves almost wholly to the fruit trees, only one nest having been found on a red maple and one on an oak. This, of course, makes their detection and destruction far easier.

The interest aroused by the educational campaign, and by the bounty, has caused a thorough search to be made in most sections, with the result that in many localities a careful inspection by the College authorities later has revealed scarcely a nest. But in other sections a good many nests still remain, and as the caterpillars are now out of the nests almost altogether, it is proposed to put two spraying outfits in the field at once to go over the infected district where spraying is not practiced, and destroy as many as possible of the remaining caterpillars before they are done feeding and ready to transform into the pupa stage. These spraying outfits will be provided with regular spray casks for use on roadside trees and others which can be got at with the wagon, and with small bucket pumps, which may be carried to out-of-the-way trees in steep, rocky places, which, unfortunately, abound in the infected district.

The Convention was fortunate in having Dr. Fletcher, from Ottawa, present, who discussed not only the brown-tail moth, but many other insects, urging the importance of spraying and the seriousness of the present crisis.

The Deputy Minister of Agriculture of New Brunswick, Mr. Thomas A. Peters, was also present, and gave some valuable suggestions on the subject. He was accompanied by Mr. Wm. McIntosh and Mr. W. H. Moore, who were preparing to act as inspectors in case of an outbreak in New Brunswick.

The Convention, which was well attended by representative men from all parts of the Annapolis Valley, and from as far West as Yarmouth, passed resolutions endorsing what had been done by the College authorities, requesting them to continue the work until legislation can be passed covering the case, and expressing appreciation of the seriousness of the threatened danger.

P. C. SEARS.

## SPRAYING IN EARNEST.

Interest in spraying is yearly becoming more apparent, says the Fruit-Crop Report of the Fruit Division, Ottawa, A. McNeill, Chief. A decided increase is noticed in the number of orchards sprayed this year. Growers generally seem to have awakened to the fact that there is no other investment on the farm that pays so well. One Nova Scotia correspondent writes: "There is a great deal more spraying done here than ever before. Nearly two hundred spray pumps have been sold to farmers here this spring, and are being used thoroughly." Even in the old fruit sections, where spraying has been practiced for many years, greater interest is being shown. At St. Catharines, the co-operative association reports the distribution of over fifty spraying outfits. "It can be assumed with the utmost confidence," continues the report, "that outside of sections infested with the San Jose and oyster-shell scales" (the latter, by the way, is not to be compared in the same class with San Jose.—Editor), "three thorough sprayings with properly prepared Bordeaux mixture—first, when the leaf buds are expanding; second, just after the petals fall; third, a week to ten days later—will control seventy-five per cent. of the insects and fungous diseases attacking the apple."

## BLACK ROT OF THE TOMATO.

Black-rot disease, writes W. T. Macoun, Horticulturist, Experimental Farm, Ottawa, did much damage to tomatoes in the vicinity of Ottawa in 1906, a large percentage of the fruit being rendered useless in some plantations. When the disease begins to spread on the fruit, small, roundish spots may be seen usually towards the blossom-end. These rapidly increase in size, and the tomato becomes discolored and rotten at the parts affected. The spores are given off from dark, mould-like masses on the surface of the fruit, and these, being scattered, re-infect the fruit. The disease also attacks the leaves. The tomato rot can be controlled by spraying with Bordeaux mixture, beginning in the hotbed, and keeping the plants covered until the fruit is nearly ripe.

## POULTRY.

## TURKEY INQUIRIES FROM AN AMATEUR.

Editor "The Farmer's Advocate":

I am trying to raise turkeys this year, but am rather inexperienced, and would like to have a few questions answered. Some of my little turkeys, when they were taken out of the nest, seemed to be very loose in the bowels; they had never been fed yet. I gave them all a black pepper, and their first feed was a boiled egg, with a little bread squeezed out of sweet milk. I sprinkle pepper just a little on their feed. I give them onion tops and lettuce; also sweet milk to drink. Sometimes I boil the milk, with some pepper in it.

Is curd made out of sour milk good for them, and should I give them sour milk to drink?

A neighbor of mine feeds her turkeys a proprietary poultry feed. Is it good for them?

There are no lice on them, but would it be all right to dust them occasionally with insect powder, or would sulphur be better?

My neighbor makes a cake for her turkeys out of 2 cups corn meal, 3 cups shorts, 1 teaspoon soda and enough sour milk to make a batter, and feeds them this all the time, with the poultry food sprinkled over it.

What should I do for them if they get diarrhoea?

Hastings Co., Ont.

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It is quite natural for the first droppings of young turkeys to be more or less watery. I know of no reason or advantage to be gained in giving pepper in any form to young turkeys at any time; otherwise, what has been given is all right. Many successful breeders feed curd made from sour milk, with no ill effects, and sour milk, if given once a day for drink, will do no harm. If you are certain there are no lice upon them, they will not require dusting with insect powder or sulphur, but a dust bath should be provided if they cannot get to a dry, dusty spot themselves. However, lice upon turkeys are hard to see, and are generally present upon young poults, unless they were driven off the hen just before hatching. The most successful turkey-breeder I know rears her young poults each year upon a cake similar to the one here described. However, she adds no poultry food of any kind, and I don't consider it necessary. It must be remembered that the food is not everything, and that besides being fed regularly, they will require to be kept from brooding upon the same spot two or more nights in succession. Provide fine grit, and do not let them get sour, fermented food, and I think you will not lose any with diarrhoea. I would especially caution you not to make sudden entire change of either food or drink. If you decide to make any change, do so gradually.

Simcoe Co., Ont.

W. J. BELL.