

GARDEN & ORCHARD.

Little Peach.

During recent years, fruit-growers in some of the peach-growing sections of Ontario have been disturbed by an increasing prevalence of the disease known as "little peach." This disease was at one time considered to be a form of yellows, which was usually designated as peach yellows by the growers, while the regular peach yellows was called the premature peach. It is an entirely separate disease, with an unknown origin. In a paper given by M. B. Waite, pathologist in charge of Fruit Disease Investigations, Bureau of Plant Industry, Washington, D. C., at a meeting of the American Pomological Society in St. Catharines, two theories were advanced as to the origin. One was that it may have been introduced on the Japanese plum, and the other that it may be a native disease of stone fruits which has adapted itself to the cultivated peach and plum with difficulty. The malady occurred on the Japanese plum, and appeared in this country about the time of the introduction of these plums in America.

There is a marked contrast between the disease and yellows. Mr. Waite compares these diseases thus: the peach yellows produces premature, red, spotted fruits, with variable characters, sometimes at first darker than normal, but usually yellowing and drooping from the inside of the tree outward, and frequently producing an abundance of a bushy, wiry growth, this abnormal growth being covered by an abundance of narrow, yellow leaves. Little peach, on the other hand, has undersized fruit, both flesh and stone being small, is belated in ripening, and poorly developed. The leaves have a peculiar roll and droop, with a yellow coloration not unlike the yellows.

The disease may appear on a sickly, unthrifty tree, but it often makes its appearance on a number of trees situated close together at the same time. It spreads from tree to tree, until a number of colonies of trees are affected. It spreads sporadically from orchard to orchard, and may wipe out the trees over a large area.

In experimenting with the disease, Waite found that, by transferring buds from diseased trees to healthy ones, the disease was produced. Yellows is also produced in this way, so it was concluded that little peach belonged to the same general type as the peach yellows and peach rosette or the "yellows group," but it is a distinct disease, with distinct symptoms.

The method of control is the eradication of infected trees. A tree which has either little peach or yellows is no use, and the sooner it is destroyed, the less the danger of the disease being spread to healthy trees. A three years' eradication test proved successful in Michigan, where the second year it was found that the percentage of diseased trees was reduced to less than one-half of one per cent., and at the end of the third year the total number of diseased trees did not exceed one per cent. of the total number of trees in the district. The secret of success consists in timely inspections of the orchard by an inspector or someone who can readily detect the first symptoms of the disease; and, where the disease is found, prompt removal is imperative. Three inspections yearly are advised, one in July, one in August, and one in September. The point is to detect the disease and destroy the tree immediately; and where the disease is prevalent, more frequent inspection is advisable. New trees can safely be planted in places where infected trees have been removed. The grower should be quite sure of the disease before destroying the tree, because there are several other diseases which somewhat resemble yellows and little peach. Borers cause a yellowing of the foliage, but it begins at the top. Yellowing may also be caused by the root aphid, or from a sour soil or frost injury, or lack of soil fertility, particularly of nitrogen. These cause the leaf symptoms, but none of the fruit symptoms. The very much undersized, late-ripening fruit is a sure symptom of little peach, and, once the disease is recognized, destroy the tree without delay.

Fruit Marks Act. — Not Amended.

Editor "The Farmer's Advocate":

In my review of the agricultural legislation of the recent session of Parliament, published in your issue of the 10th inst., reference was made to an amendment to the Fruit Marks Act. I have discovered that, like many other bills, the one relating to the packing and marking of fruit did not reach its third reading. It, like three others introduced, was an amendment to the Inspection and Sale Act, which now includes the Fruit Marks Act. The Amendment to the Inspection and Sale Act, which received Royal assent, was Bill No. 9, which fixes the standard for a barrel of potatoes, when sold or offered for sale, at one hundred and sixty pounds.

J. B. SPENCER.

Demonstration Orchards in Quebec.

Eight hundred dollars is the sum granted by the Quebec Legislature to co-operative societies, to be expended in demonstration work in the orchards of that Province. This grant can only be expended as directed by a joint committee made up of three, representing the Quebec Pomological and Fruit Society, three representing the co-operative society, and one representative of the Quebec Department of Agriculture. The committee representing the Quebec Pomological Society is known as the committee on demonstration orchards, and is composed of Prof. W. S. Blair, Macdonald College; Rev. Father Leopold, La Trappe, and Robert Brodie, Montreal, Que.

The work of demonstration is to be confined to pruning, spraying, cultivating and fertilizing bearing orchards, and to the packing of the fruit, and is to be limited to one or, at most, two orchards in a district.

The committee hopes to secure the orchards for this purpose by agreeing to pay all expenses of the work they do, the owner receiving all money obtained for the fruit, and, in case the returns are not so great as from his crop adjoining, the amount is to be made up from the grant.

Eighty trees of uniform size, and of one variety are required. This will be divided into eight plots of ten trees each. One half the area will be cultivated, the remainder left in sod. Two plots of each of these areas will be manured in the spring with stable manure, and one plot of each will be manured with commercial fertilizer, while the remaining two plots will not be fertilized.

All the trees will receive thorough spraying with lime-sulphur or Bordeaux mixture. These demonstration orchards should prove of great benefit to orcharding in Quebec.

Looks as if Dame Nature were preparing a dead set against the poor potato beetle. The soldier-bug this year relieved many Canadian farmers from the necessity of Paris-greening. And now, from across the line, comes a report published in the Ohio Farmer, of a garter-snake eating the bugs with a relish. May the Colorado insect's enemies increase.

THE FARM BULLETIN.

Timothy Rust.

The United States Department of Agriculture, Bureau of Plant Industry, has recently published a bulletin on "Timothy Rust in the United States," by Edward C. Johnson, Pathologist in charge of cereal-disease work. This rust was reported in the United States as early as 1882. Iowa reported some in 1891, and in 1906 it became epidemic at the Arlington Experimental Farm, near Washington, D. C. Since then it has been found to be widespread, having been reported from Maine to Ontario, and from northern Minnesota to Iowa, Kentucky and Virginia. This rust is similar in appearance and morphological characteristics to the rust of wheat (*Puccinia graminis*).

This rust will not attack the cereals directly, but can be transferred to them by using bridging hosts. It is easily transferred to other grasses. The acridal stage of the rust is not definitely known, and, according to experiments, is not the same as that of the wheat rust. The rust has many distinctive characteristics, and unless further experiments should show that it can produce its acridum on the barberry, and until these experiments have been performed this species will be called *Puccinia phlei-pratensis*.

The rapid distribution of timothy rust in recent years is undoubtedly due to the dissemination of the uredospores by insects, birds, animals, man, and air currents. As there are wide differences in timothy strains with regard to rust resistance, the problem in timothy rust prevention becomes one of breeding. Such breeding must be carried on where the rust is abundant. When one thinks of the damage done cereals by rust, some idea can be formed of what might be the fate of timothy were this particular species to become prevalent at any time.

An "Improved" Lawn Roller.

Many farmers, as well as town people need a small roller for the lawn and garden. Several have made them of solid cement, which makes them rather heavy for some purposes. I have evolved what I consider an improvement on the old method. I secured a piece of smoke-stack that had mostly rusted or burnt out and had to be replaced. The piece I got was 20 inches in diameter and 3 feet long. If the pipe has small holes in it, these can be covered by a piece of tin. Next I got some 3-inch pipe, 3 feet 4 inches long; this allowed me 2 inches out of each end of the roller. Then I got two spice pails; these are 14 inches in diameter and 1 foot high, and are to go in the center of the roller to make it hollow. As these are 14 inches, and my drum is 20 inches, there remains a 3-inch space around them to fill with cement; and, as they are each 1 foot deep, this leaves 6 inches on each end for cement. I have a hole bored through the center of the bottom of each pail, which is the center of the roller, and I have a piece of pipe 6 inches long which comes through the bottom of one of the pails, and through the cement on the end of the roller, being just one inch short of the full length of the roller, no cement being within one inch of the end of this, so that a plug can be put in it and not extend beyond the end. This piece of pipe gives an opening to the inside of the roller or these pails, so that they can be filled with water if desired, and thus make the roller 80 to 90 pounds heavier. Having all the material on hand, mix the cement quite wet. Put the casing on end on a board which has a hole in it to let the pipe for the center pass through two inches, and be sure and have it in the center, and secure it there. Then put in six inches of cement and pound it well. Next put in one of the spice pails, bottom down, fill in around with grout, 1 part cement to 5 parts of gravel. When full to end of pail, put in the short pipe through the outer edge of the bottom of the pail, having it extend to within one inch of the top of the casing. Then fill the casing level full, with the exception of



Percheron Breeders and Importers at the Percheron Show at Nogent le Rotrou, France. July 1st, 1911.

First row, sitting down, beginning on the left—Messrs. Lukin, American; Charles Kirk, American; Omer Singmaster, Charles Aveline (President Percheron Society), Peter Hopley, American; Phillips, American; Hawthorne, Canadian; Armstrong, Canadian; Mulvaney.

Second row, standing, left to right—Hopley, Jr., American; Gerald Powell, (interpreter); E. G. Wheeler, American; W. T. Durham, American; James McLanglin, American; James Fletcher, Snider, Phillips, Jr., (all Americans); J. Astor (journalist); Moffit, American; Smith, American; Chabondez (interpreter); A. Robinson, American.

Third row, left to right—August Tacheau, French breeder; A. Chapelle, French breeder; G. Stewart, Wilson, Jr., Sam Bell, Jr., all Americans; E. Perriot, French breeder; Col. G. W. Crawford, T. Kirk, Americans; L. Aveline, French breeder; Omer Vanlandeghem (interpreter); G. D. Henson, American; Jerome Vanlandeghem (interpreter).