

TO THE EDITOR:

Owing to the destructive nature of the San Jose scale, an insect which is likely to make its appearance in Michigan at any time, it is of the utmost importance that every one should be informed regarding its appearance and the steps that should be taken to destroy it, and we trust that you will give the following statement a prominent place in your columns and notice it editorially.

PRESS BULLETIN NO. 11.

MICHIGAN EXPERIMENT STATION,
AGRICULTURAL COLLEGE,

Jan. 22, 1897.

A DANGEROUS ORCHARD PEST.

The horticultural interests of the state are seriously threatened by an insect known as the San Jose scale, which is likely to appear at any time in our midst, and which will be difficult to eradicate if it obtains a good foothold.

It made its appearance in California some twenty years ago and has caused the fruit growers of that state immense sums of money in fighting it and in the loss of trees and fruit.

It was carried to New Jersey from California in 1887 upon plum trees and was introduced into several nurseries, but its dangerous character was not fully recognized for several years. In the meantime it had multiplied rapidly and had not only spread to thousands of trees in these nurseries, but had been carried on young trees to nurseries in New York, Maryland, and other states, and had been widely distributed over the country upon nursery stock sold by them. It has thus been scattered here and there over nearly all of the Atlantic States, and has been found in Pennsylvania, Ohio, Indiana, Illinois and other western states.

In New Jersey, where it has gained the strongest foothold, it is regarded as the most dangerous foe of the horticulturist; its presence in Ohio has been known for several years, but new colonies are being found in unexpected places, and great damage has been done in many localities, notably upon Catawba Island, where as least 20,000 peach trees have been infested and many of them have been ruined by it; in Illinois it was not detected until recently, but it is now known to occur in at least fifteen places, most of which are widely scattered, and in some of them it has been distributed over an area a half mile square.

While we have no knowledge of its existence in Michigan, it is more than likely that it is scattered over the State, unnoticed, or, at least, unreported, as the number of shipments of nursery trees into Michigan from infested nurseries is three times as great as into Illinois, where fifteen colonies have been discovered, with other orchards yet to hear from.

This scale attacks the trunks, branches, and fruit, of all orchard trees, and is also found on the raspberry, blackberry, currant, gooseberry, and many shade trees. It is to be especially feared on account of the rapidity with which it multiplies, as there are from three to four broods during a season, and if all come to maturity the progeny of a single female scale will number from 15,000,000 to more than 3,000,000,000 in one season. Its small size permits it to remain unnoticed until its numbers have largely increased, and it has greatly injured, if it has not ruined the tree. At best they have

but little power to move about, but are distributed to considerable distances upon other insects and birds.

The most probable means of infection to Michigan orchards is upon nursery stock, and particularly if *within the past six years you have purchased trees from eastern nurseries we urge you to at once carefully examine them, as there is a possibility that they are infested with this scale.* Particular attention should be paid to the branches that are two or three years old or to the trunks of young trees, as there they will be most numerous and more easily detected. When plentiful upon the trees they will have an ash-gray, scurfy appearance, and may cover a considerable area of the bark with several layers of small, flattened scales that can be readily scraped off with the thumb nail. These will for the most part consist of the coverings of dead insects. The living insects are nearly black in color and are about the size of the head of a pin at this time of the year, and are of something the same shape, except that the center is slightly elevated, with a shallow, ring-like depression about it, as can be seen with a magnifying glass.

Sometimes a yellow spot will appear at the center of the elevation, and if the living scales are crushed a yellowish mass can be seen. The wintered-over females bring forth living young in May or June, and then may be as much as an eighth of an inch in diameter, but will be very much flattened.

The young insects are able to move about for a short time, but soon become fixed upon the trees, and, inserting a long, slender tube into the bark, suck out the sap. With thousands and even millions upon a tree it can be readily seen that great injury will be done by robbing the tree of its food and also on account of the punctures made by the insects.

An examination of the inner bark will show it to be of a dark red color, and this can generally be taken as indicative that the San Jose scale is upon the tree. If the scales are very numerous the tree will be ruined in two or three years at most.

In case you find any insects upon your trees that answer the above description, or that you have any reason to think are the San Jose scale, we urge you to cut off a little of the bark with a number of the insects upon it and, after soaking it in kerosene to destroy them and avoid the danger of scattering them, mail them to Horticultural Department, State Experiment Station, Agricultural College, Mich.

We shall be glad to examine them and report the name of the insect, with remedies for its destruction. By your hearty coöperation in this matter we hope to check the spread of the insect, and this may save to the fruit-growers of Michigan thousands if not millions of dollars.

If you have any reason to believe that the scale has appeared in your neighborhood we shall be glad to know of it, together with any facts that you have regarding its appearance.

Yours very truly,

L. R. TAFT.

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