South Dakota State University
Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange

Extension Circulars | SDSU Extension

1-1922

Insect Pests and Plant Diseases of the Strawberry Bed

A. Ford

Follow this and additional works at: http://openprairie.sdstate.edu/extension_circ

 Part of the Agriculture Commons

Recommended Citation
Ford, A., "Insect Pests and Plant Diseases of the Strawberry Bed" (1922). *Extension Circulars.* Paper 95.
http://openprairie.sdstate.edu/extension_circ/95

This Circular is brought to you for free and open access by the SDSU Extension at Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. It has been accepted for inclusion in Extension Circulars by an authorized administrator of Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. For more information, please contact michael.biondo@sdstate.edu.

Extension Circular No. 95
[illegible]

South Dakota State College
and United States Department
of Agriculture Cooperating.

INSECT PESTS AND PLANT DISEASES OF THE STRAWBERRY BED

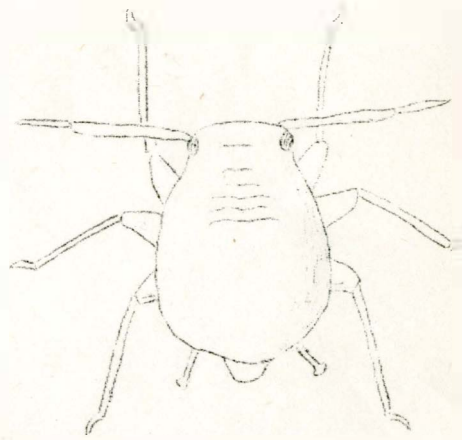
by
A. L. Ford
Specialist in Entomology and Horticulture

Insect pests and plant diseases cause a continual loss in many strawberry beds. As a rule this loss is disregarded by the average grower who believes that there is nothing practical that can be done. We maintain that for an individual to grow strawberries efficiently, he must give this loss caused by insect pests and plant diseases due consideration.

Fortunately, the strawberry is not as susceptible to insect and plant disease injury as the average garden or fruit crop. Here in South Dakota there are relatively few of these pests with which the strawberry grower will come in contact. These are the root-louse, white grub, leaf-roller, curculio and leaf spot. These are herewith taken up separately in detail.

THE STRAWBERRY ROOT-LOUSE

These are small dark green plant lice which occasionally congregate on the roots in large numbers and cause the plants to turn yellow and die. These lice are very small, being less than 1/16 of an inch in length. The winter is passed in the egg stage, the eggs being found on the stems and leaves of the plants. In the spring these eggs hatch and the young feed on leaves and stems. Later they enter the soil and continue their feeding on the roots. It is claimed that ants actually carry these plant lice into the ground and place them on the strawberry roots. They increase very rapidly, having several generations each season.



Strawberry root louse

As for the control of this pest, there is no poisonous spray that can be used because they do most of their work under ground. This pest usually is distributed on strawberry plant shipments from the nursery. It is always well to examine shipped in plants to see if they are infested with root lice. If they are infested, the plants should not be accepted. In case a patch does become infested, there is but one thing to do and that is to abandon the infested patch for a year or two and start a new patch on uninfested ground with uninfested plants. Clipping and burning the plants after the fruiting season also is of benefit since many of the overwintering eggs are destroyed by this practice.

Cooperative Extension Work in Agriculture and Home Economics,
W. F. Kumlien, Director. Distributed in furtherance of Acts of
Congress of May 8 and June 30, 1914.

THE WHITE GRUB

The common white grub is probably South Dakota's worst strawberry insect pest. These are the larval or grub stage of our ordinary June beetles. There are several species or kinds, but they all act and look very much alike, so we will call them just white grubs. This pest also attacks the roots underground and hence is very difficult to control.

The Crown-borer

As with the root louse, poisonous sprays cannot be used for controlling this pest. Never put a strawberry bed on ground that was in sod the previous year, especially in a locality where white grubs have been bad. They are always worse in patches following sod. Deep fall plowing of ground to be used for strawberries the following season is a good practice as this will noticeably reduce the pest. In the event that an established patch becomes seriously infested, the only means of control at one's disposal is to plow up deeply the infested patch and start a new one on grub-free ground.

THE STRAWBERRY CROWN-BORER

The strawberry crown-borer is a white, yellow-headed, footless grub about ¼ of an inch in length. The adult or parent of this grub is a small dark-colored snout beetle. The eggs are laid by the beetles in the spring in the crowns of the plants. The young grubs which hatch from these eggs eat their way into the crown where they continue to work until mature. Often one-half of the crown is entirely excavated, the result being that the plant is killed. The pupal or resting stage is passed within the cavity in the crown. In the fall the adult beetles emerge, feed up on the plants for a time and then go into winter quarters under any protection that they locate. These beetles are not able to fly, which causes them to winter fairly close to the place from which they emerged.

The White Grub

Checking the damage caused by this pest can be accomplished in several ways. Since the beetles do not fly, a rotation of crops will always cause its check. If the strawberry bed is clipped and burned over at the end of the fruiting season, much of the trouble will be eliminated. It has been claimed that a spray of lead arsenate in the fall of the year will reduce the pest since the beetles in feeding on the poisoned plants in the fall will be killed. In securing new plants in the spring from a patch that is infested, it is always well to take up the plants early before any eggs have been laid in the crowns. In this way non-infested plants will be secured.

THE STRAWBERRY LEAF-ROLLER

At times the leaf-roller is one of the most injurious pests on strawberries. It is a small brownish worm that folds sections of the leaves together by means of fine silk webb. It feeds from the inner surface of its enclosure. When numerous, a large percentage of the leaves are webbed and eaten, resulting in a great loss of vitality in the patch and hence a great reduction in yield of fruit. Some strawberry growers in surrounding states have had their strawberry yields reduced from 50 to as high as 80 percent, and in some cases entire beds have been completely destroyed. The damage by this insect is caused, not so much by the amount of leaf tissue eaten, as by the folded condition of the leaves which it brings about, this interfering with the normal functions of the leaf, and thus causing it to die.

There are three generations or broods of this insect this year. The moths appear early in May and lay their eggs in the new leaves. After hatching the worms feed in the open but after a day or two they pull the sides of a leaf together with silk webb and feed from within this shelter. The worms remain in the folded leaves until quite late in the fall. Part of them crawl out and putate under rubbish where they pass the winter, while some pupae winter in the folded leaves.

It is very hard to control this pest by spraying because of the fact that the worms fold the leaves about themselves and thus put them out of reach of the poison. Some results can be obtained by using the lead arsenate spray early in the season when the worms have not yet webbed themselves in. Do not spray when the plants are in full bloom as pollination may be retarded. Do not use a poisonous spray after the fruit is well set because of the danger from poisoning the fruit. (There is little danger when lead arsenate is used) The most reliable way of checking this pest is by clipping and burning over the bed after the fruiting season. Practically all of the worms in the leaves can thus be destroyed.

STRAWBERRY DISEASES

The most important strawberry disease is probably the strawberry leaf spot. This makes its appearance in the form of small, discolored spots, being most abundant about blossoming time. At first these spots are of a reddish or purplish tint and rather small. Later they increase in size and change in color to white in the center bordered by red or purple at the edges of the spots.

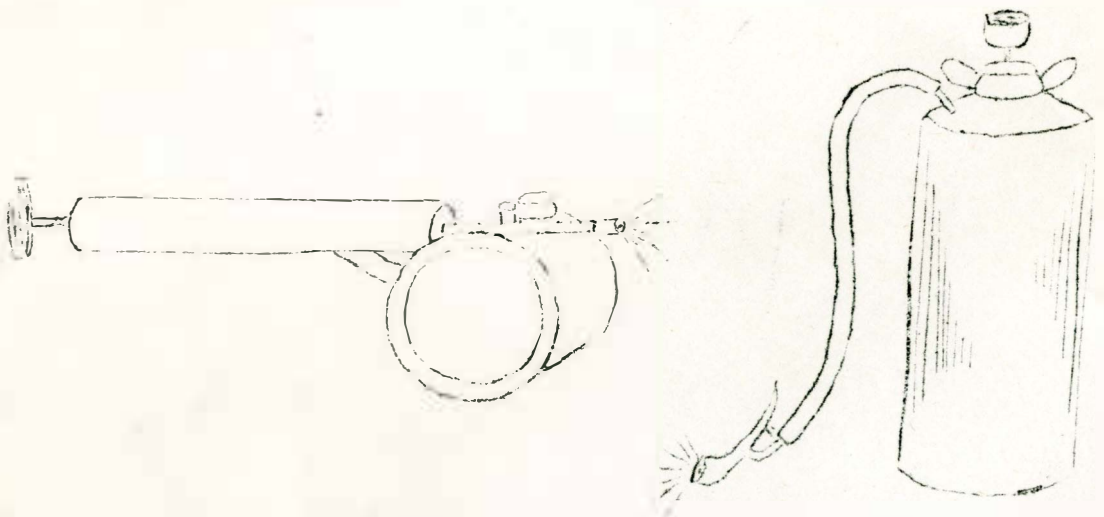
When this disease shows up in alarming abundance, it would be well to give the patch a spray of Bordeaux mixture (explained later. This spray should be applied just before the blossoms open, but not during full bloom. After the fruiting season, diseased patches should be mowed and burned over, this destroying the stage of the disease which passes the winter.

SPRAY MIXTURES

There are only two sprays that one possibly can use on the strawberry patch, these being lead arsenate and Bordeaux mixture. In using lead arsenate, always use at the rate of 1½ pounds of the powder to 50 gallons of water, which on the smaller scale is one ounce of the powder to every two gallons of water. Bordeaux mixture can be purchased in the powder form from drug stores, or it can be made. The 4-4-50 Bordeaux mixture is the best to use on strawberries. It contains 4 pounds of quick lime, 4 pounds of blue viterol and 50 gallons of water. If a smaller amount is desired, the formula should be cut down proportionally. Divide the water into two equal parts. Shake the lime and make a milk of lime in one part and dissolve the blue stone in the other part. After this is done, pour the two parts together into a separate container, care being taken to see that the two streams unite into one. The result is Bordeaux mixture. This homemade Bordeaux should be used immediately as it will deteriorate with standing.

SPRAYERS

For the club members strawberry patch, an expensive sprayer is not necessary and furthermore, no spray is needed unless some of the above described trouble becomes present. For the small patch, the ordinary atomizer sprayer is large enough. It is true this type of sprayer requires more work, but good results can be obtained.



The Atomizer Sprayer

Compressed Air Sprayer

For larger patches we would strongly recommend a hand sprayer of the compressed air type. By pumping a few strokes, a continuous spray is secured which lasts for quite a time.