control of

Strawberry Root Weevils

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STRAWBERRY ROOT WEEVILS

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Strawberry Root Weevils

Strawberry root weevils are among the most common and serious pests which attack strawberries in Washington. When numerous, these insects can destroy a strawberry planting in one season. To grow strawberries successfully, therefore, you must control strawberry root weevils.

Root Weevils

Three kinds of weevils attack strawberries. They are commonly known as the strawberry root weevil, Brachyrhinus ovatus, the rough strawberry root weevil, Brachyrhinus rugosostriatus, and the black vine weevil, Brachyrhinus sulcatus. The adult and larval forms of these are similar in appearance except for size. All have snouts or beaks, and none can fly.

The adult strawberry root weevil is about ½ inch long and varies from black to brown.

The adult rough strawberry root weevil is about ¼ inch long and is usually an even dark brown.

The adult black vine weevil, the largest of the three weevils, is about 5/8 inch long, black, and often marked with small yellow or white flecks.

There are several other kinds of root weevils which injure strawberry plants. Usually not numerous, they can be controlled by the same methods as the strawberry root weevils.

Life History

The life histories of the various root weevils are similar. Most of them pass the winter as white to pinkish-colored legless grubs in the soil among the roots of the strawberry plants. In the milder sections of the state, however, some adult weevils overwinter around the bases of the plants.

Weevils which pass the winter as adults usually appear and begin feeding on plant foliage in the latter part of March or the first of April.

The weevils which spend the winter in the grub stage usually start changing to adults late in May or during June, or when Marshall strawberries begin to develop red color. Many growers begin control measures then. The adults begin laying eggs about two weeks after they emerge and

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continue until late in August. The small grubs which hatch from the eggs enter the soil and start to feed on the roots of the strawberry plants.

Injury

Plants heavily infested with root weevils are stunted and are either killed or their yields so reduced that the planting is unprofitable. The small grubs feed entirely on the small rootlets. As the grubs grow, they feed on the larger roots and even on the crown in heavily infested areas. The adult weevils feed on the leaves and fruits, but their damage is not serious compared to that of the larvae or grubs.

Control

Poison bait is recommended to control strawberry root weevils. Most growers use commercial preparations of weevil bait. These baits usually contain dried apples or other fruits and sodium fluosilicate.

Homemade bait formulas are as follows:

**FRUIT BAITS**

- Dried apples, raisins, or prunes: 50 pounds
- Bran: 45 pounds
- Insecticide, such as sodium fluosilicate, calcium arsenate, or sodium fluoride: 5 pounds
- Moisture, including water in fruit from soaking: 5-6 quarts

**BRAN BAITS**

- Bran: 100 pounds
- Molasses: 6.5 pounds
- Insecticides, such as sodium fluosilicate, calcium arsenate, or sodium fluoride: 5 pounds
- Water (approximate): 5 gallons

Prepare the bran baits by mixing the bran and insecticide together. Then add the water containing molasses by sprinkling it over the bran and chemical mixture and stirring thoroughly. The bait should be moist enough so that you can form a ball of it in your hand, but not too moist.

Method of Application

For strawberries planted in hills, scatter about 1 tablespoonful of bait around the crown of each plant. For matted row plantings, broadcast the bait among the plants. Use from 50 to 100 pounds of bait for an acre,
depending on the number of plants. For best results, drop the bait onto the
ground close to the crown of the plant rather than on the foliage.

**Time and Number of Applications**

THE STRAWBERRY ROOT WEEVIL appears first.
ROUGH STRAWBERRY ROOT WEEVIL follows in about a week.
THE BLACK VINE WEEVIL is last to appear. Many have been found
the first week in July or at the end of the strawberry harvest.

Examine strawberry plantings carefully for signs of root weevils,
beginning about April 1 and continuing throughout the season. Make the
first application of the bait when or soon after you find the first root
weevils. Most of the weevils usually emerge from the ground during the
latter part of May or the first of June. This may vary slightly from year to
year and with localities, but it usually happens about the time Marshall
berries develop red color.

The number of bait applications varies, depending on when the weevils
appear in the spring and the occurrence of rains. If it rains soon after you
apply the bait, repeat the treatment.

Three to four applications a year are necessary for adequate control.
Make the earliest application in April if you find overwintering weevils at
that time. Apply again, usually just before or during harvest, and again
just after harvest. Make another application during the latter part of August
if you still find live weevils in the strawberry fields. A final application
should be made during the last half of September for black vine weevils
which emerge at this time.

**New Insecticides**

Some evidence indicates that using benzene hexachloride in a dust
to control the strawberry aphid may also aid in the control of root
weevils. The results of studies designed to prove the effectiveness of
insecticides as controls for the root weevils are inconclusive at this
time. Some growers feel they get weevil control by applying a chlordane
spray following harvest. Applications of DDT, aldrin, or chlordane to
the soil before planting show promise as controls. The results of these
tests will be released as soon as possible.