

OREGON AGRICULTURAL COLLEGE
EXPERIMENT STATION

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Circular of Information 17.

October 1927.

AGRICULTURAL COLLEGE
28 JUL 1928
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THE RASPBERRY FRUIT WORM

by

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This circular is written in response to numerous requests for information upon the raspberry fruit worm, a pest that caused much concern this past season in the Pacific Northwest.

This insect has been present in Oregon and Washington for many years, but apparently has never caused damage so serious to loganberries and raspberries as shown by reports of and specimens of the fruit worm received from two localities in Washington and one in Oregon.

INJURY CAUSED BY LARVAE

The injury by the raspberry fruit worm is mainly that caused by the feeding of the larvae within the fruit, which develop in and destroy the fleshy receptacle on which the fruit is borne, causing the fruit to dry up before ripening. At picking time many of the berries which do not show any external evidence of injury, will each be found to contain a worm. Even with careful sorting it is difficult to detect the worms which frequently adhere to the picked fruit.

The adult beetles feed on the leaves, skeletonizing them, and on the blossom buds as they appear, eating out the inside. When numerous, the beetles may destroy the entire bud cluster.

THE FRUIT WORM'S LIFE HISTORY FOLLOWED

In the spring, soon after the new growth of the plant is started, the small reddish-brown beetles appear, having come out of the soil underneath the plant. After feeding on the blossom buds and unfolding leaves for a few days the female lays her tiny dull-yellowish eggs on the base of the blossom buds, on the bud petioles, and on the underside of the leaves. The eggs hatch in a few days and the larvae live within and beneath the berry cap.

CONTROL MEASURES NOTED

No opportunity has been afforded to study this pest in the West. In England, the logan and raspberry fruit worm (Byturus tomentosus Fabr.), is the worst pest with which logan growers have to deal, and is the most usual cause for grubbing up otherwise fruitful plantations. Experimental tests, comprising two applications of a spray, consisting of lead arsenate 6 pounds, soft soap 10 pounds, and water 100 gallons, at a pressure of 125 pounds to the square inch, reduce the total infestation from 24 to 15 per cent.

In Eastern United States, the fruit worm (Byturus unicolor Say) has been known as a pest of raspberries for a number of years. In 1909 the Ohio Experiment Station published information upon the life habits and control of this pest. Goodwin of that station reports that a spray of arsenate of lead, 4 pounds to 50 gallons of water, applied just as the beetles were beginning to appear on the vines in the spring, reduced the total infestation from 35 per cent to 9 per cent. Walden of the Connecticut Agricultural Experiment Station, after two years experimental tests, recommends that the foliage be well-coated with lead arsenate, 2 pounds to 50 gallons of water, from the time that the first beetles appear in the spring until the blossom buds open to such an extent that there is danger of poisoning bees.

The time and number of applications of lead arsenate spray necessary to combat the beetle under Oregon and Washington conditions remain to be determined. In England, two applications were made and three seemed desirable. In Ohio, only one application was made while in Connecticut four applications were made at intervals of about a week. The first was applied as the adults were beginning to appear in numbers and the last as the first blossom buds were opening. Two pounds of lead arsenate powder to 50 gallons of water is recommended. For those who prefer to use a dust, repeated applications of an 85-15 commercial lead arsenate dust may be of value.

ADDITIONAL CONTROL MEASURES RECOMMENDED

Since the larvae and pupae are in the soil during the late summer, fall and winter, measures that tend to break up the fragile pupal cases and expose the pupae to the elements, birds and poultry are of value. Thorough, shallow cultivation, as close as possible to the plants, from late summer to early fall is recommended. In Connecticut, poultry had the run of the East Haven experimental plot, making it difficult to find the larvae and pupae in the soil under the plants, even in the check plot.