

OREGON AGRICULTURAL COLLEGE

EXPERIMENT STATION

J. T. Jardine, Director

OREGON AGRICULTURAL COLLEGE
JUL 1928
LIBRARY

Circular of Information 9.

May, 1926.

SAVE OREGON'S APPLE AND PEAR CROP FROM THE
MILLION DOLLAR BANDIT

by

Don C. Mote, Entomologist

The annual loss from wormy apples and pears in Oregon is about \$700,000, the cost of control being an additional expense of nearly \$300,000. Orchardists in many sections of the state are faced with a critical situation in the necessity of more effective codling moth control. This situation, it is believed, can be solved if the growers will seriously devote themselves to the problem and accurately carry out their spraying operations in harmony with the latest information from the Agricultural Experiment Station.

Because of the variations in codling moth activity in various parts of the state it is obviously impractical to give detailed advice as to the dates of applications for the various regions, yet certain principles which have wide application may be cited. The Department of Entomology would emphasize the following as very important:

Thoroughness and timeliness are absolutely essential if growers are to be assured of apples and pears free from worms. The spray should be in the calyx cups and on the surface of the apples before the first brood of worms reach the apples. "Kill the first brood of worms and there will not be any second or third brood to fight."

Adequately Cover all the Apples in the tops of the trees as well as on the inside and outside. A "spray gun" on a low-capacity spray outfit will always slight the top of the tree. In fact, even with the best possible equipment thorough covering of the tops is never easy. It is important that the leaves be covered as well as the fruit.

Apply Two or Three Cover Sprays for the first brood of worms according to the region. Make the first application just before the first eggs hatch; the second just before the period of the maximum hatching and give a third treatment if the egg hatching period is extended by irregular laying.

An Additional Cover Spray, timed according to local conditions, may be advisable to control the second brood of worms, especially with late maturing varieties or where there is fear that early sprays have not been fully effective. If this last cover spray is put on two months ahead of picking, objectionable spray residue is not likely to be present at harvest. Where a shorter time remains between the last spray and harvest, wiping of the fruit will often be necessary. In the case of early varieties the cost of this last spray and of necessary wiping will often be greater than the protection is worth.

Orchard Sanitation - The importance of orchard and packing house sanitation has not in the past been fully appreciated. In districts where control is difficult the following supplemental control measures are practical, feasible and of value in reducing worm infestation:

1. Thinning - A careful collection and destruction of wormy apples at thinning time will aid materially in reducing later broods of worms. Piles of cull fruit should not be allowed to accumulate but should be destroyed daily if possible.

2. Scraping and Banding Trees - Wherever codling moth control is difficult this supplemental control measure should be adopted. Scrape from the trees all the rough bark under which the larvae may spin their cocoons. Before June 1st band the trees with burlap strips of three thicknesses and approximately six inches in width. Thirty to forty per cent of the larvae will collect under these bands. Visit these bands every two weeks during the summer and destroy the accumulated worms, giving the final treatment after harvest.

3. Packing Houses: The screening of all the windows and doors of packing houses in the spring to prevent the escape of moths into the orchard is especially valuable in cutting down worm infestation. Large numbers of codling moth larvae pass the winter in packing sheds where fruit is received from orchards for grading and packing. In the spring these transform to moths which escape and fly to the nearby orchards, thus increasing the codling moth population. Where feasible cracks and crevices should be eliminated from the floors and side walls of the houses where fruit is received for temporary storage. The larvae leaving the fruit and finding no cracks in which to escape, can readily be trapped in burlap or other refuse placed for the purpose in the corners and along the sides of the room. In the spring the moths may be caught by means of liquid cider baits placed here and there in the screened packing house.

The essential factors in codling moth control are:-

1. Thorough and timely spraying, directed against the first brood of worms.

2. The use of adequate machinery, spray guns, rods and nozzles or if necessary a tower in order to reach the upper third of the tree. Cover the apples and pears on the inside of the tree as well as the outside.

3. The use of arsenate of lead at 2 to 4 pounds to 100 gallons of spray solution.

4. Orchard and packing-house sanitation to reduce the number of codling moth that you have to fight.

5. Consultation with your Agricultural Experiment Station or County Agent in reference to exact spray dates and other details.

OREGON AGRICULTURAL COLLEGE
Agricultural Experiment Station
Corvallis

James T. Jardine
Director

TO THE APPLE AND PEAR GROWERS OF OREGON:-

Health authorities will insist this season upon a spray residue of not more than one hundredth of a grain of As_2O_3 , Arsenious oxid, to a pound of apples. This means that growers of pears and apples are confronted to a greater degree than ever before with the difficult situation of controlling the codling moth and at the same time eliminating the spray residue to which the Health authorities object.

In order to meet the standards required by the Health authorities orchardists must make an especial effort to combat the first brood of codling moth worms. The eradication of the first brood of worms will reduce the necessity of late spray applications near harvest time, which applications produce the objectionable spray residue. If a spray for later broods is needed, wiping of the fruit will be necessary.

In order to assist you in solving your codling moth problem, we are attaching herewith a brief circular of information regarding codling moth control practices which will tend to reduce to a minimum the objectionable spray residues.

Yours very truly,

J. T. Jardine