

Work the bugs out of your crops

Control plum curculio in orchards

UNIVERSITY PARK — The typical Pennsylvania weather that we've been having, with its unpredictable shifts from cold winds and rain to swelteringly hot and humid days, plays an important part in controlling the activities of the plum curculio.

This insect is an injurious pest in plum, apple, peach, and cherry orchards throughout Pennsylvania, says Robert Tetrault, Penn State Extension entomologist.

The first curculios make their grand entrance in apple orchards right about the time of apple blossom festivities, according to Tetrault.

Dressed in a dark brown costume with whitish patches and four humps on its back, the beetle is about ¼ inch long.

This beetle could be nicknamed Pinocchio, because one third of its total body length is 'nose'. Its long snout projects forward and downward from the head.

How does the weather harness this bug's activities? It seems that periods of cool, rainy weather with maximum temperatures below 70 degrees Fahrenheit are not ideal for curculio activity.

This bug begins to bus'le when the first warm period arrives, generally right after the petals fall from the trees, and when the maximum temperature reaches 75 degrees Fahrenheit or higher.

The adult curculios can usually be found in orchards for 5-7 weeks, and are generally more abundant on fruit trees next to woods, fence rows and trashy fields.

Small, pearly-white eggs, which hatch in 7 days, are laid singly by the female curculio in a small cavity underneath the skin of the young fruit.

After the week long in-

cubation, the yellowish-white larva poke their brown heads toward the center of the fruit. There they begin to burrow large irregular cavities.

After gorging themselves at the fruits's expense for 16 days, the larva reach maturity. At this point, the ¼ inch long pest flees its host and enters the soil where it is transformed into an adult curculio.

The new adult emerges sometime in August and feeds for a short time before seeking winter quarters — its damage for the year completed.

According to Tetrault, both feeding punctures and egg punctures are made in the fruit by the adult.

The feeding punctures are small round holes extending into the fruit about 1/8 inch. Egg punctures are distinguished by a characteristic crescent-shaped cut which partially surrounds the sunken egg.

Adults make an average of over 100 feeding and/or egg punctures during their normal life. Feeding punctures cause misshapen or gnarly fruit.

Fruit tree varieties that bloom the earliest are first to provide suitable locations for feeding and depositing eggs.

The critical period for controlling this pest comes during the first warm

weather after petal fall when the temperature climbs to about 75 degrees for several days.

Tetrault warns that when feeding is greatly reduced by low temperatures and moderate rains wash spray deposits from fruit and foliage, as growers noted during the Spring of 1978 and 1979, curculio control is more difficult. He also pointed out the cooler weather means the active pest will be around the orchard for an extended period.

Penn State advises orchardists to monitor temperatures in order to time curculio sprays, with spraying schedules for trees bordering woods or fence rows being more frequent.

Tetrault said most of the insecticide combinations suggested in Penn State's commercial production guide have provided commercially acceptable control. However, the Guthon plus PennCap-M combination, he said, has a slight edge.

Along with getting the right insecticide com-

bination, Penn State reminds growers that the length of time between sprays is also important.

Where growers have noticed a history of plum curculio injury, the following

are important considerations:

—shorten the interval between sprays during peak activity (this may be necessary on only the outside rows);

—increase the insecticide rate during peak activity; and,

—select the most effective insecticides without sacrificing control of other pests.

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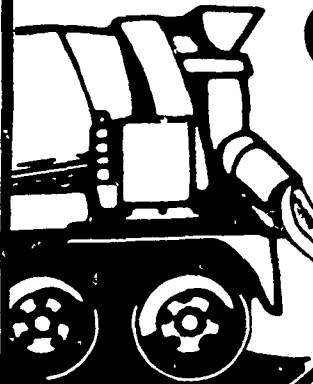
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