



HOME | TREE FRUIT INSECT PEST - PLUM CURCULIO

Tree Fruit Insect Pest - Plum Curculio

Plum curculio, *Conotrachelus nenuphar*, is an injurious pest of apples, cherries, nectarines, peaches, and plums throughout the state.

 ARTICLES | UPDATED: MARCH 22, 2016



Adult beetles are ¼ inch long, dark brown with whitish patches, with four humps on their wing covers, and a protruding snout one-third its body length. Photo by G. Krawczyk.

The characteristic crescent-shaped oviposition scars are being observed more frequently in Pennsylvania as narrow-spectrum insecticides are used without an organophosphate insecticide after bloom.

Description and life cycle

Adult beetles are ¼ inch long, dark brown with whitish patches, with four humps on their wing covers, and a protruding snout one-third its body length. Eggs are pearly

white. Larvae are yellowish white with a brown head, lack legs, and are ¼ inch long when fully grown.

Adult plum curculio beetles first appear in orchards during the time of apple bloom. Most beetle activity occurs during the first warm period after petal fall, when the maximum temperature is 70°F or higher. Periods of cool, rainy weather with maximum temperatures below 70°F are not suitable for curculio activity. The plum curculio is usually more abundant on fruit trees adjacent to woods, fencerows, and trashy fields. Adults can be found in orchards for 5 to 7 weeks. Slight feeding occurs on petals, buds, and blossoms, but there is little injury until the fruit is available. Eggs are laid singly

in a small cavity underneath the fruit skin during the first warm periods after petal fall; eggs hatch in 7 days. When fruit is approximately ½ inch in diameter, it provides abundant food and a suitable place for egg laying. Early blooming varieties are the first to provide suitable locations for feeding and depositing eggs.

Injury

Adults average over 100 feeding and/or egg punctures during their normal life. Feeding punctures are small, round holes extending 1/8 inch into the fruit; egg punctures are distinguished by a characteristic crescent-shaped cut that partly surrounds the sunken egg. Larvae are most likely to develop in fruit that drops. They make large irregular cavities and feed for about 16 days before maturing. Larvae then leave the fruit and enter the soil where they pupate and emerge as adults during August. These adults feed for a short time before seeking winter quarters. In some years a partial second generation may occur in southern portions of the state. When the eggs fail to hatch, a half-moon scar forms. When the eggs hatch and the larvae begin to feed, the scar is indented and does not expand. These larvae may deform the fruit but rarely complete development in fruit that remains on the tree.

Monitoring and management

The critical period for controlling plum curculio is during the first few days of warm and humid weather following petal fall, when maximum temperatures remain approximately 70°F. Control is more difficult when feeding is greatly reduced by low temperatures and moderate rains because spray deposits are washed from fruit and foliage. Low temperatures also extend the period during which curculio is active in orchards. Temperature monitoring is important in timing sprays. A spray residue should be maintained for 308 DD base 50 following petal fall (on McIntosh apples). On stone fruits, sprays should be timed for the petal fall stage and repeated if needed.

In blocks with a history of plum curculio injury, the following are important considerations: (1) shorten interval between sprays during peak curculio activity (this may be necessary on outside rows only), (2) increase insecticide rate during peak activity, and (3) select the most effective insecticides without sacrificing control of other pests or interfering with the integrated pest management program. Specific chemical recommendations for home gardeners are in [Fruit Production for the Home Gardener](#) , and recommendations for commercial growers are in the [Penn State Tree Fruit Production Guide](#) .

© 2020 Penn State Extension
