

Almond

Tenlined June Beetle

Scientific name: *Polyphylla decemlineata* and *Polyphylla sobrina*

(Reviewed 3/09, updated 3/09)



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DESCRIPTION OF THE PEST

[Adult beetles](#) are about 1 inch long and brown in color with longitudinal white lines on the back. Adult males are commonly seen flying during the evening hours in mid-summer and remain hidden within tree canopies and under organic debris during daylight hours. Adult females produce pheromones to attract males. *Polyphylla sobrina* females usually mate on emergence at the soil surface. However, *P. decemlineata* females are reported to mate in trees and then may disperse to other locations.

[Larvae](#) are cream-colored grubs with a brown head capsule. They live in the soil and are about 2 inches long when mature (sandy soils are preferred). Development from egg to adult requires 2 years, and adults emerge from the soil from late June through September. First-instar grubs overwinter in the first year of their development. They molt to the second instar around March then to the third instar around June. The third instars overwinter and molt to the pupal stage in late spring.

DAMAGE

Larvae feed on roots, causing severe [injury and death](#) to mature trees. Initial damage to root systems may not be immediately evident in above ground tree growth (e.g., production of new shoots and leaves). Adults cause no damage.

MANAGEMENT

Tenlined June beetle infestations are localized within orchards and are often first noticed when a clump of trees start to decline and die. Infestations usually spread slowly from the initial sites where they are first identified in orchards, killing neighboring trees. Control requires the removal of infested trees and soil fumigation before replanting. When removing dead trees, inspect roots for the presence of larvae or larval feeding. Remove all trees in the infested area plus one or two uninfested trees on all sides of the infested area to stop the spread within the orchard.

Male tenlined June beetles are attracted to light sources (e.g., tungsten lights, black lights) and generally first appear in early June. Although there are no proven methods for controlling tenlined June beetle grubs other than removing infested trees and neighboring trees (including roots) and fumigating the soil before replanting, it has been observed that soil drenches of an organophosphate insecticide as soon as first adults emerge can reduce populations. Because the insect has a 2-year life cycle in the soil, this approach must be repeated in consecutive years. Grub control is difficult because no effective methods exist to move insecticides downward in the soil to where the larger second- and third-instar grubs are common (more than 8 inches below the soil surface). Natural enemies that parasitize the grubs (i.e.,

Scoliid wasps, entomopathogenic nematodes) and adults (tachinid flies) do exist, but these biocontrol agents do not exert high levels of mortality to the beetle. Impacts of predators (e.g., burrowing owls) are also limited.

Research aimed at managing the tenlined June beetle is ongoing, but progress is slow because of biological and logistical factors associated with the beetle.

PUBLICATION



UC IPM Pest Management Guidelines: Almond

UC ANR Publication 3431

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