



EXTENSION CONNECTION

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Photo by Lyle J. Buss, University of Florida

Adult citrus leafminers have a distinct black spot on each wing tip.

Citrus leafminer control tips

Citrus leafminer (CLM) is a very small, light colored moth that has spread throughout Florida. CLM is a potentially serious pest of citrus (oranges, mandarins, lemons, limes, grapefruit and other varieties), related Rutaceae and some ornamental plants.

Researchers first documented the CLM (*Phyllocnistis citrella*) in Dade County, Florida, in 1993. CLM damage to foliage can stunt the growth of young trees and make them more susceptible to citrus canker where the pathogen is present. Mature trees can better tolerate the damage, although heavy infestations may reduce production. In general, CLM is active from mid-summer through fall and early winter.

IDENTIFICATION AND REPRODUCTION

Adult CLMs are small, silvery moths with brown and white

markings and a distinct black spot on each wing tip.

The adult moths are more active from dusk to early morning and rest on undersides of leaves during the day. Females lay eggs on the underside of leaves. Young leaves (known as flush) are the preferred oviposition (egg-laying) site.

Eggs hatch within four to five days after being laid, and new larvae start feeding in shallow, twisty tunnels (called mines) in the leaves. The larvae mine the lower or upper surface of the leaves, causing them to curl and look distorted. The mines become more visible as larva become larger. Mature larvae pupate within the mine and roll the edge of the leaf to protect the pupa with silk.

The entire life cycle of the insect takes two to seven weeks to complete. In Florida, the life cycle is about 21 days, and populations peak in summer and early fall.

BIOLOGICAL CONTROL

Biological control is a suitable method to help reduce populations of CLM in Florida. Natural enemies already present in Florida have responded to leafminer infestations, causing up to 90 percent mortality of larvae and pupae. These natural enemies include the introduced parasitoid *Ageniaspis citricola* that is established throughout most of Florida and is responsible for up to 30 percent of this mortality mostly later in the year.

CHEMICAL CONTROL

Leafminers are effectively controlled in young trees by systemic insecticides applied against Asian citrus psyllid (ACP). While new leaves of mature citrus trees may be heavily damaged, tree growth and fruit yield are unaffected. Therefore, insecticides are generally not needed for mature citrus trees (except for lemons, which have multiple flush growth).

On young trees, soil applications of neonicotinoids should be made about two weeks prior to leaf expansion to allow time for the pesticide to move from the roots to the canopy. Applications of neonicotinoids in summer should be timed to avoid rain events within 24 hours, which would cause leaching of product away from the root zone.

The appearance of CLM in young flush of trees is an indication that residual effects have worn off and reappearance of ACP is soon to follow. Foliar applications of products effective against CLM target larvae and at best provide no more than three weeks of protection. Therefore, optimal timing is important, and sprays directed against CLM should be applied when flush is about halfway extended to kill the maximum number of larvae.

For more information on CLM management, including recommended chemical controls, see <https://edis.ifas.ufl.edu/cg098> in the 2020–2021 Florida Citrus Production Guide. 🍊

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