

OAK WORMS

(*Phryganidia californica*)

DESCRIPTION

There are several caterpillars that feed on oaks including the California oak worm (*Phryganidia californica*) and tussock moth (*Orgyia* spp.). Each of these caterpillars feed on oak leaves, primarily in the spring, but can be active as second generation insects in late summer or early fall. Leaves will appear skeletonized in early stages and then completely consumed as larvae mature. Feeding is usually not noticed until frass or fecal pellets fall onto underlying patio furniture or cars where they are considered a nuisance.

Oak worms are smooth, small, yellow-green caterpillars with brown heads and dark stripes down their sides. They can range from 1/10 to 1 inch in length throughout their development. Tussock moth larvae are very distinctly hairy with three prominent cream-colored dots towards the head capsule.

In California, oak worm is most commonly found on coastal live oak in San Francisco, Monterey Bay, Santa Barbara, and other areas close to water sources. Tussock moth is common in San Francisco but can also be found along the Central Coast.

SYMPTOMS

Healthy oaks affected by oak worm experience defoliation in the spring and throughout the summer from one or more of these pests. Damage may appear sporadically or throughout the entire canopy. Many leaves appear partially chewed (skeletonized) and will turn brown and die, while other leaves may be completely eaten. Oaks that are experiencing other stresses, such as drought, can decline from oak worm infestation at a quicker rate. Look for signs of leaf feeding or fecal pellets around the base of the tree for activity or worms raining down on you.

TREATMENT

Trees that are in known areas of infestation can be treated preventatively in the early spring with TREE-äge® using rates according to the diameter size on the label at least 4-6 weeks prior to activity. Trees with current canopy infestations should be treated with ACE-jet for rapid response and then sequentially with TREE-äge for two years of control.

Early spring applications provide the most protection from feeding damage but later treatment will also stop mid- or late-summer infestations very well. Be sure to encourage watering of trees in naturalized areas that may have low soil moisture or natural rainfall in order to help upward distribution of the material into the canopy. Use of a soil surfactant such as NutriRoot™ in combination with watering will ensure deeper water penetration into the root system and ultimately better translocation of the systemic insecticide.

PHOTOS

A: California oak worm

B: Tussock moth (larvae)

Photo A taken by: Dawn Fluharty, Arborjet

Photo B taken by: Herbert A. 'Joe' Pase III, None, Bugwood.org



A



B

OAK WORMS

WHEN TO TREAT

Monitor trees for injury by caterpillars, often seen as pin holes or notching in the leaf. Apply ACE-jet as soon as symptoms of injury, or as the caterpillars themselves, become visible. Depending on species, infestations occur from March to October. Timing is important as ACE-jet will only remain active in the tree for three to five weeks. Caterpillars feeding on foliage and tips of twigs are susceptible to ACE-jet treatments.

Use TREE-äge® Insecticide or ACE-jet in early spring, before buds break, when leaf chewing caterpillar outbreaks are expected. Alternatively, treat with ACE-jet when leaf injury first appears, or when caterpillars are first observed. TREE-äge can provide protection for 2 years. One application is sufficient to control leaf chewing caterpillars. ACE-jet remains active to protect the tree canopy for approximately 3 - 5 weeks.

Generally, the best seasons for injection are spring and fall, since uptake occurs when trees are transpiring. The environmental conditions that favor uptake are adequate soil moisture and relatively high humidity. Soil temperature should be above 40°F for trunk injection. Hot weather and/or dry soil conditions may slow translocation of product into foliage so water trees before and after treatment application. The addition of a soil surfactant, such as NutriRoot, as a drench or sub-surface soil injection will encourage water to move deeper into the soil and increase moisture availability to the tree over time. If treating trees in the summer, inject in the morning for the quickest uptake.

WHAT TO EXPECT AFTER TREATMENT

Larvae in treated trees will immediately stop feeding and fall from the tree within hours (ACE-jet) to days (TREE-äge). Trees with more than 25% defoliation may generate more leaf tissue with adequate soil moisture. Consider recording or mapping the location of outbreaks as infestations are often sporadic.

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WORLD CLASS FORMULATIONS

For treatment of oak worms, use TREE-äge® Insecticide or ACE-jet.

TREE-äge is a broad spectrum insecticide for use on Emerald Ash Borer, certain bark beetles, certain caterpillars, coneworm, and more. It has proven in independent studies to have high levels of efficacy and 2 year control. TREE-äge can be used on trees grown in residential and commercial landscapes, golf courses, parks, plantations, seed orchards, and forested sites (private, municipal, state, tribal and national areas).

ACE-jet is a quick knock-down broad spectrum insecticide that produces a beneficial health response in the tree as it metabolizes into phosphorous and sulfur. It is effective against caterpillars, aphids, leafminers, scale, adelgids, thrips, boring beetles, and spider mites.

Our products can be purchased at your local Arborjet distributor. For a distributor near you visit arborjet.com/distributor



QUIK-JET INJECTION

TREE I.V. INJECTION



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TREE I.V. Pro Kit

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