



Western Tent Caterpillar

Forest Health Fact Sheet

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Christine Buhl, ODF

Western tent caterpillar

Western tent caterpillar (*Malacosoma californicum*) is a common defoliating pest of hardwoods in Oregon. Outbreaks from this insect can last 2 - 3 years and cover thousands of acres. During heavy infestations, tent caterpillars will migrate and feed on many non-hosts including garden crops and landscape plants. The sight of completely defoliated trees and thousands of caterpillars can be alarming, but even large outbreaks do not typically cause tree mortality. However, in eastern Oregon outbreaks can kill bitterbrush, an important browse plant for deer. As the name suggests this insect constructs tents, although caterpillars of several other moth species in Oregon also construct tents, webs and silken bags.

Hosts

- Western OR: alder, cottonwood, willow, hawthorne, fruit trees
- Eastern OR: aspen, cottonwood, fruit trees

Western tent caterpillar occurs throughout most of the western states, into the northern great plains states. This insect is one of several tent caterpillar species that occur in Oregon, others are Pacific and forest tent caterpillars.

Biology

Adults emerge in late summer to lay eggs in masses on twigs and branches. Larvae develop within egg masses over winter and emerge to feed shortly after bud burst the next spring. Early stage caterpillars construct tents that provide protection when they are not feeding. These caterpillars feed together until developing in to latter stages that disperse to feed solitarily. Late-stage caterpillars are the most distinct. These larvae are variable in color but generally have orange and light blue coloration with patterned banding running along the length of their bodies. There is one distinct broken white band that runs along the top of their bodies. Larvae feed for about a month then pupate for 2 - 3 weeks before emerging as adults.

Adults have wide; white, gray, brown and/or reddish brown banding across their wings.



Jerald Dewey, USFS, Bugwood.org

Western tent caterpillar adult (1-2" wingspan) and eggs

This insect has one generation per year. Outbreaks are periodic and typically last 2 - 3 years. Outbreaks often collapse on their own due to naturally causes such as parasitism, predation and a caterpillar-specific virus (nucleopolyhedrosis virus or NPV).

Damage

Successive years of intense defoliation may reduce tree growth and potentially cause some dieback. Typically hardwoods are able to rebound from defoliation and



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Western tent caterpillar and tent on bitterbrush

reflush new leaves each spring. If outbreaks occur in combination with other stressors that affect tree health, such as drought, trees can die although this is rare.

Management

Because damage from this pest is mainly cosmetic and outbreaks typically collapse on their own, control is not usually necessary.

Natural

The combined effects of parasites, predators and disease typically keep populations in check and dissolve outbreaks.

Silvicultural

If necessary, prune off and destroy occupied caterpillar tents as soon as the infestation is apparent. Early mornings and evenings are the best times to prune out tents since the caterpillars tend to congregate in their nests at night. Use this method sparingly, over-pruning can also be harmful to trees.

Management highlights

- Damage is often cosmetic and trees reflush normally
- Natural controls such as parasites, predators and viruses typically keep populations in check
- Occupied tents may be pruned in early spring to lower population numbers, although over-pruning can be more harmful to the tree
- Biological insecticides have shown efficacy with limited non-target impacts

Insecticides

Chemical control of tent caterpillars is rarely warranted, but may be necessary if outbreaks occur on fruit trees, timber crops or in recreation areas. Insecticides are most effective when applied in early spring, when larvae are small. Many biological insecticides such as *Bacillus thuringiensis kurstaki* (Btk), spinosad and NPV (USFS is the sole source) have proven effective.

When using pesticides, always read and follow the label



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Completely defoliated red alder with tents during outbreak

More information:

Oregon Dept. of Forestry, Forest Health
<http://tinyurl.com/odf-foresthealth>
2600 State St. Bldg. D, Salem, OR 97310
503-945-7200

Other references:

USFS Forest Health Protection
www.fs.usda.gov/goto/fhp/fidls

OSU Forestry Extension
<http://extensionweb.forestry.oregonstate.edu/>