TREES & SHRUBS

Aphids on Shade Trees and Ornamentals

no. 5.511

by W.S. Cranshaw [1]

Quick Facts...

Aphids occur on almost all types of trees and shrubs. They usually do not damage plants and are controlled by natural enemies such as lady beetles.

Problems most commonly occur where aphids produce leaf curls, such as on ash, plum, honeysuckle and snowball viburnum.

Check for natural enemies before treating with insecticides.

Systemic insecticides are particularly effective when aphids have curled the leaves.

Contact insecticides and soaps are useful when aphids are exposed on leaves.

Dozens of species of aphids (plant lice) may be found on shade trees and woody ornamental plants in Colorado. Aphids are small insects, typically less than 1/8 inch, although some may be almost 1/4 inch long. The colors of different aphids range from bright orange or red to dull gray. One common group, woolly aphids, produces an abundance of flossy, waxy threads that cover their bodies. Winged and wingless forms can be produced by all Colorado aphid species (Figure 1).

Aphids feed on plants by sucking plant sap from the leaves, twigs or stems. When abundant, aphids remove large quantities of sap, reducing plant growth and vigor. This injury is most common with stem- or trunk-infesting aphids, such as the woolly apple aphid and juniper aphid. Aphids feeding on developing leaves also can produce leaf curl injuries. This is most frequently observed on snowball viburnum, honeysuckle, plum and ash.

Most aphids excrete large quantities of a sweet, sticky substance called honeydew. At times, excessive honeydew dropping from trees can be an extreme nuisance. Also, sooty mold fungus may grow on the honeydew, producing a gray, unattractive covering of the leaves. Sooty mold is not damaging to the trees except when it covers leaves and temporarily reduces photosynthesis.

Ants often are attracted to honeydew and feed on it. Ants may even "tend" aphids and other honeydew-producing insects (certain scales, leafhoppers, treehoppers), protecting them from natural enemies such as lady beetles and lacewings. (See fact sheet 5.550, *Beneficial Insects and Other Arthropods.*) Often the presence of ants crawling up trees or on foliage indicates that large numbers of aphids or other honeydew producers also are on the plants.

Typical Aphid Life History

Most species of Colorado aphids overwinter as eggs on specific types of woody plants. Eggs hatch in the spring. The following spring and summer, forms of the aphid sometimes move from overwintering plants to other plant species. Summer aphids consist entirely of females that give birth to live young at a rate of one to 20 per day.

The newly hatched aphids can complete their development within one to two weeks, after which they begin to produce more aphids. Consequently, aphid populations may increase rapidly, with several generations occurring during the growing season. At the end of the summer, both male and female aphids are produced. They mate on the overwintering host plant, and females lay eggs.

Control

Many kinds of insects naturally prey upon aphids. Most common are various species of lady beetles (ladybugs), green lacewings, syrphid flies and small parasitic wasps. Under many conditions, these beneficial insects provide effective

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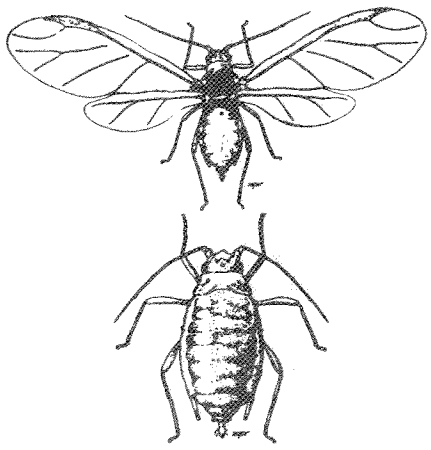

Figure 1: Adult aphids — winged and wingless.

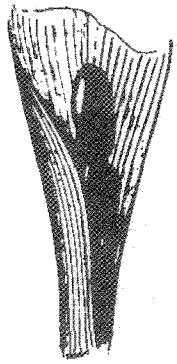

Figure 2: Aphid eggs deposited on a leaf (enlarged).

Table 2: Insecticides for control of aphids on shade trees and ornamentals.

Systemic insecticides
Orthene (acephate)
Cygon (dimethoate)
Merit (foliar and soil treatment)
DiSyston (soil treatment only)
Contact insecticides
Malathion
Sevin (woolly aphids only)
Diazinon
Dursban
Soaps, detergents
Oils
Dormant Oils

Always carefully read and follow all label instructions. Failure to do so can result in excessive exposure to humans, pets and wildlife and leave damaging residue on plants.

control of aphids. Before applying any insecticide, check the plants to make sure these natural controls are not already reducing aphid numbers. Sometimes ants interfere with these natural controls. Excluding ants with sprays, sticky bands, etc., can allow biological controls to be effective.

When natural enemies are not abundant enough to provide aphid control, insecticides sometimes are needed to prevent plant injury. For most aphid problems, particularly those associated with leaf curls, insecticides that move systemically within the leaf or plant provide the best control. The most common systemic insecticide available to homeowners is Orthene (acephate). Cygon (dimethoate) also may be available as a spray for use on evergreens.

DiSyston is a systemic insecticide sold in granular form or as a plant food mixture that can be mixed with soil and picked up by plant roots. Merit (imidacloprid) is a systemic insecticide used in soil injections by commercial pesticide applicators.

Most systemic insecticides are quite toxic to humans; use with extra caution. Some plants may be injured by certain systemic insecticides. **Carefully read and follow all label directions. None of the systemic insecticides available to homeowners can be legally used on food crops.**

Contact insecticides that do not move systemically in plants are useful for aphid control where the insects are exposed on the plants. Contact insecticides for aphid control include Malathion, Diazinon and Dursban. Plant coverage must be thorough when using contact insecticides. **Diazinon is extremely hazardous to birds**, so use with extra caution on plants frequented by birds for nesting or feeding. Sevin (carbaryl) is effective against most woolly aphids found on evergreens, but has limited effect on most other aphid species.

On tolerant plants, insecticidal soaps or certain dilute dishwashing detergents (1 to 2 percent concentration) can provide aphid control. For more information, see 5.547, *Insect Control: Soaps and Detergents.* Good plant coverage is important when using soaps or detergents because these products may injure plants. Always test soap or detergent on a small area of the plant.

Aphid problems originang from eggs that overwinter on the plant also can be controlled with dormant oils. These products are discussed in 5.569, *Insect and Mite Control: Spray Oils.*

Where high water pressure is available, infested plants may be hosed with water to reduce aphid numbers. This also removes recently deposited honeydew.

Table 1: Some common species of aphids in Colorado.

Common name	Scientific name	Hosts
Ash leafcurl aphid	*Prociphilus fraxinifolii*	Ash
Giant willow aphid	*Lachnus salignus*	Willow
Giant conifer aphid	*Cinara* spp.	Conifers
Leafcurl plum aphid	*Hyalopterus arundinis*	Plum
Elm leaf aphid	*Tinocallis ulmifolii*	American elm
Birch aphids	various	Birch
Oak aphids	*Tinocallis* sp.	Oak
American walnut aphid	*Monellia caryae*	Walnut
Rose aphid	*Macrosiphum rosae*	Rose
Green peach aphid	*Myzus persicae*	Peach, plum
Honeysuckle witches broom aphid*	*Hyadaphis tartaricae*	Honeysuckle
Snowball aphid	*Neoceruraphis viburnicola*	Snowball viburnum
Woolly apple aphid	*Eriosoma lanigerum*	Apple, elm
Woolly aphid (various)	*Adelges* spp., *Pineus* spp.	Conifers

*Discussed in 5.546, *Honeysuckle Witches Broom Aphid.*

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