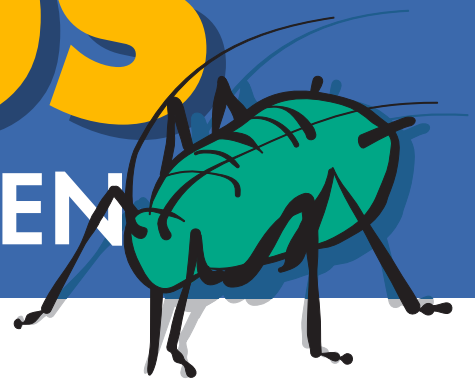
CONTROLLING APHIDS IN YOUR GARDEN



Most plants can tolerate low to moderate numbers of aphids without noticeable damage. On some plants, however, large numbers of aphids can distort foliage and flowers and stunt plant growth. Some species of aphids can also transmit plant diseases when they puncture plant tissues to feed.

Aphids excrete "honeydew," a sweet substance that forms a harmless but sticky coating on leaves. The honeydew is soon colonized by a fungus called "sooty mold," which is also harmless, but makes leaves look black and dirty. Argentine ants love to feed on honeydew, and to ensure a continuing supply, they protect aphids from their natural enemies. When this happens, aphid management must include ant management (see the Ant fact sheet in this series).

DETECTION

Aphids are very small insects with soft, pear-shaped bodies. They have long legs and antennae, and most have two tube-like structures called cornicles on their hind end. Adults of some species have wings. Aphids can be many colors and are usually on buds or the undersides of leaves.

TOLERATE SOME APHIDS

- **Tolerate low to moderate numbers of aphids** as long as they aren't causing noticeable plant damage. There is a reason for this: aphids have many natural enemies such as spiders, ladybugs, lacewings, and minute parasitoids (tiny non-stinging wasps) that often keep aphid numbers below damaging levels. These beneficial insects rarely appear on the scene until *after* aphids have begun attacking plants. This "lag-time" can be a day or two or as long as several weeks. As the season progresses, aphid control by these natural enemies improves because more natural enemies are attracted to your garden and more stay to breed.
- **Aphids commonly found on trees will not infest your garden annuals**, and these aphids can help attract natural enemies that will attack pests on other plants.

LESS-TOXIC CONTROLS

- **Learn to recognize beneficial insects.** Among the most important natural enemies of aphids are the tiny wasp parasitoids that lay their eggs inside the bodies of aphids. These tiny wasps *cannot* sting people. A parasitized aphid (called a "mummy") looks puffed-up, and its skin hardens and changes color, often to tan, light brown, or black.
- **Attract beneficials to your garden** by planting a wide variety of flowering plants. (See fact sheet in this series called "Naturally Managing Pests… With a Health Garden"). The adult forms of many beneficial insects, including tiny wasps and lacewings, feed on pollen and nectar.
- **Consider buying beneficial insects** (see the Products and Resources box on back). Lacewings are more likely to stay in your garden than commercially available ladybugs.
- **Buy beneficials before aphid numbers are high.** If you have an aphid emergency, first use soap or oil

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sprays (see Products and Resources below) to reduce the population. Then, if necessary, release natural enemies. On the other hand, don't purchase beneficial insects before you have aphids. You will be releasing them into your garden to starve.

APHIDS — SO MANY, SO FAST

The remarkable life cycle of aphids helps to explain how they can quickly appear in large numbers. In the temperate climates of spring, female aphids called "stem mothers," emerge from "overwintering" eggs. These plump, distinctive-looking aphids do not need to mate to reproduce. Stem mothers give birth to live daughters, and these offspring give birth to more live daughters — all without the need of mating. The swiftly growing female aphid colonies cluster around the stem mother and continue to multiply long after her death. At the end of the season, aphids begin to produce both sons and daughters. When these males and females mature, they mate and the females lay eggs on bud scales or bark to "overwinter" and begin the cycle again.

- **Wipe off or prune away** colonies of aphids from leaves and buds.
- **Use a forceful stream of plain water** to wash off aphids and honeydew.
- **Use insecticidal soaps** to kill aphids on contact and spare beneficials such as lacewings. These products do not leave toxic residues.
- **Use spray (horticultural) oils** to control aphids without leaving toxic residues for natural enemies.

PREVENTION

- **Use slow-release fertilizers.** Some aphids reproduce more quickly on plants with high levels of nitrogen in their leaves and buds. Fertilizers such as compost, sewage sludge, or encapsulated materials (Osmocote®) are better because they slowly release moderate levels of nutrients.
- **Avoid excessive pruning** because it stimulates aphid-attracting growth.
- **Use a row cover** (Tufbell®) to exclude aphids and other pests but allow air, light, and irrigation water to reach plants.
- **Control ants** by spraying or painting a 4" wide sticky barrier (Tanglefoot®, Stickem® Tree Pest Barrier) around woody shrubs or trees. (See the Ant fact sheet in this series.)

PRODUCTS AND RESOURCES

Examples of trade names of products listed in this fact sheet:

(Note: Product labels should list plants to be treated.)

Insecticidal Soaps:
Safer® Insecticidal Soap
Insect Killer

Insecticidal Soap w/Pyrethrins:
Safer® Yard and Garden
Insect Killer

Spray (Horticultural) Oils:
SunSpray Ultrafine®
Volck®

Sticky Barrier:
Tanglefoot®
Stickem Tree Pest Barrier

Encapsulated Fertilizers:
Osmocote®

Row Covers:
Tufbell®

Sources for Lacewings:
Buena BioSystems
P.O. Box 4008
Ventura, CA 93007
(805) 525-2525

Rincon-Vitova Insectaries
P.O. Box 1555
Ventura, CA 93002
(805) 643-6267

PESTICIDES AND WATER POLLUTION

Common household pesticides show up in treated wastewater and in Bay Area creeks, sometimes at levels that can harm sensitive aquatic life. So, water pollution prevention agencies have teamed up with participating Bay Area stores to reduce the risks associated with pesticide use. This fact sheet is part of a series of information pieces and store displays aimed at educating Bay Area residents about less-toxic pest management. Look for the "**Our Water Our World**" logo next to products in participating hardware stores and nurseries throughout the Bay Area.

Pest control strategies and methods described in this publication are consistent with integrated pest management (IPM) concepts, and are based on scientific studies and tests in actual home and garden settings. Use suggested products according to label directions and dispose of unwanted or leftover pesticides at a household hazardous waste collection facility or event. No endorsement of specific brand name products is intended, nor is criticism implied of similar products that are not mentioned.

FOR MORE INFORMATION

For more information, contact:

Bio-Integral Resource Center (BIRC)
(510) 524-2567

University of California Cooperative Extension Master Gardeners in your area (in the phone book)

Central Contra Costa Sanitary District website: www.centralsan.org

University of California IPM website: www.ipm.ucdavis.edu

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