



APHIDS

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.

The Honeydew Problem

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 honeydew, and to insure a continuing supply, they protect aphids from their natural enemies. When this happens, aphid management must include ant management (see also the Ant fact sheet in this series).

Detection

Aphids are small (usually 1/8”), soft-bodied insects. They have pear-shaped bodies with long legs and antennae, and most species have two tube-like structures called cornicles protruding from their hind end. Under certain conditions most species can produce adult forms with wings.

Tolerate Some Aphids

- **Tolerate low to moderate numbers of aphids** so 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 (“mini-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 shade trees will not infest your garden annuals**, but these aphids can help attract natural enemies that will attack pests on other plants.

What You Can Do

- **Learn to recognize beneficial insects.** Among the most important natural enemies of aphids are the mini-wasps (“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 beneficial insects to your garden** by planting a wide variety of flowering plants since the adult forms of many beneficial insects, including mini-wasps and lacewings, feed on pollen and nectar.
- **Buy lacewings rather than ladybugs** (see the Products & Resources box below). Lacewings are more likely to stay in your garden than commercially-available ladybugs.
- **Buy beneficial insects before aphid numbers are high.** If you have an aphid emergency, first use soap or oil sprays (see page 2) to reduce the population, then 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.
- **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 ladybugs. 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.** High levels of nitrogen in the leaves and buds of plants make them particularly attractive to aphids. 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** 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 around woody shrubs or trees.

Aphids—So Many, So Fast

The remarkable life cycle of aphids helps to explain how they can quickly appear in large numbers. In the spring in temperate climates, 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.

Products & Resources

Insecticidal Soaps

Safer® Insecticidal Soap Insect Killer

Insecticidal Soap w/Pyrethrin

Safer® Yard and Garden Insect Killer®

Spray (Horticultural) Oils

SunSpray Ultrafine® or Volck®

Encapsulated Fertilizers

Osmocote®

Row Covers

Tufbell®

Sticky Barrier

Tanglefoot® or Stickem® Tree Pest Barrier®

Sources for Lacewings

Buena BioSystems
P.O. Box 4008
Ventura, CA 93007
805-525-2525

Rincon-Vitova Insectaries

PO Box 1555
Ventura, CA 93002
800-248-2847

Note: New products are constantly coming to the market. Brand names listed are for example only. No endorsement of specific products is intended nor is criticism implied of similar products that are not mentioned. Always use according to directions on product label.

For More Information

If you have questions about the information in this fact sheet, contact the Marin County Department of Agriculture at 415-499-6700, or the Bio-Integral Resource Center, PO Box 7414, Berkeley, CA 94707; 510-524-2567.