



## The Many Problems with Aphids

by Anne Skinner, UC Master Gardener

In addition to munching on the new spring growth on your plants, aphids have a number of other bad qualities. As they feed on plant leaves, aphids can carry diseases such as viruses from plant to plant. They secrete honeydew, a clear sticky substance which can mess up your clean car or make walkways sticky and slippery. The honeydew attracts ants, which like its sweetness so much, they will actually "farm" aphids and protect them from predators. The honeydew also often leads to a fungal disease on the plant leaves called sooty mold. Aphids are just the sort of garden visitors you would like to evict.

Aphids are soft bodied, sap sucking, pear-shaped insects, about 1/4 inch in length. Various species are green, brown, yellow, red or black. They suck up so much plant sap, their bodies secrete the excess sap, which becomes honeydew. Most adult aphids do not have wings, but some can creatively develop wings if the population becomes too high for the food source. Aphids are most often seen feeding in dense groups on young foliage. In warm weather, some species can develop from a newborn nymph to an adult in 7-8 days, allowing the aphid population to rapidly increase.



The woolly aphid produces some nymphs which will attack the larvae of ladybirds and hoverflies.

### **When your plants are growing rapidly, check the leaves at least twice a week.**

Low to moderate numbers of aphids usually do not cause significant damage, but large populations of aphids, or certain species can cause plant decline or death. With high numbers of aphids, some species cause the plant leaves to curl, which provides them with shelter from natural enemies and management practices. Check the underside of plant leaves, and leaves from several areas on trees for hiding aphids. Look also for the natural enemies of aphids and their larvae. Ants climbing on tree trunks and shrubs are another clue of aphid infestation. Ants will try to drive off aphid predators to protect their source of sweet honeydew produced by the aphids.

Vegetable crops with aphid-transmitted viruses have mottled, yellow or curled leaves and stunted growth. Even low numbers of aphids can transmit viruses. Other aphid species attack lettuce roots, apple roots and limbs, or the crown on carrots.

### **Reducing the problem**

Natural enemies (beneficial insects) include larvae and adult lady beetles, lacewings, syrphid flies and parasitoids, such as parasitic wasps. Predators will significantly reduce the number of aphids, but will not eliminate them completely. Parasitic wasps are the most important natural enemies of aphids, as they lay their

eggs inside the aphid. The presence of hollow, crusty brown aphid "mummies" is the only indication the wasps have come to help you in the garden.

The simplest aphid management is a strong stream of water applied early in the day to the plant's leaf surfaces. As a soft-bodied insect holding onto the leaf, the dislodged aphid is damaged by the force of the water and left on the ground for predators to feast upon. The early morning treatment is preferable so the leaves can dry during the day to prevent other plant diseases from taking hold on a wet leaf during a warm summer night. Clearing weeds from around vegetable bed areas and checking any newly obtained plants for aphids before placing them in the garden are always good cultural practices. For vegetable crops, a protective covering will prevent the transmission of viruses from aphid feeding and damage to young seedlings.



Adult convergent lady beetle feeding on aphids  
Photo by Jack Kelly Clark

Insecticidal soaps have to make contact with the insect, and aphids often hide under leaves to escape the attention of predators. Soap sprays may damage the plant leaves and should not be used when the temperature is over 85 degrees, due to the risk of injury to the plant.

In the case of aphid infestation in a tree, controlling the ant population will reduce the aphids to less damaging numbers. Fabric tree wrap or duct tape wrapped around the tree trunk about 6-8' from the ground, with a thick layer of a sticky substance, such as Tanglefoot, applied only to the wrap, keeps the ants from access to the leafy canopy of the tree. A second ring a bit higher further reduces the ant's ability to climb the tree. The wrap should be changed at least twice a year to keep it effective and allow the tree bark to breathe. Ant bait traps also will control the ants and thus reduce the aphid population.

If an ornamental tree is close to a walkway or driveway, it may be necessary to also prune back the overhanging limbs to reduce the honeydew secretions from dropping onto the pavement. The honeydew is very sticky and in addition to being messy, it can be a slip and fall hazard.

Systemic insecticidal products are applied to the ground around the plant. The chemical is absorbed by the plant and then will be present in the leaves, stem, roots, fruit and flowers. While this sounds like the perfect solution, the insecticide is toxic to **all** insects coming in contact with the plant or its pollen. This means that beneficial insects will also be killed as they feed on nectar or pollen. Without the beneficial insects, the aphids will return in the future and have no predators to keep them in check. Bees are very susceptible to insecticides and native bees are vital pollinators of many of our food crops. Especially avoid use of systemic insecticides when plants are in bloom or prior to bloom.

For detailed information, identification, pictures and management of aphids, the UC IPM Pest Note on Aphids is excellent. <http://ipm.ucanr.edu/PMG/PESTNOTES/pn7404.html>

Nature helps with aphid control through both beneficial insects and weather extremes. Late spring freezes, excessive heat and rain all kill aphids. While aphids are a pest and they certainly look gross on a rose bud, the heat of summer slows the growth of new shoots which are the aphids' favorite. Hosing aphids off the plants is usually sufficient treatment for the home gardener.

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