



## Aphids

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**Description:** Aphids, or plant lice, are small, soft-bodied insects. There are hundreds of different species of aphids, some of which attack only one host plant while others attack numerous hosts. Most aphids are about 1/10 inch long (2.54 mm), and though green and black are the most common colors, they may be gray, brown, pink, red, yellow, or lavender. A characteristic common to all is the presence of two tubes, called cornicles, on the back ends of their bodies. The cornicles secrete defensive substances. In some species they are quite long, while in others they are very short and difficult to see. Aphids feed in clusters and generally prefer new, succulent shoots or young leaves. Some species, known as wooly aphids, are covered with white, waxy filaments, which they produce from special glands. Order: Homoptera, Family: Aphididae



Figure 1. Aphid. VCE image

**Habitat:** Aphids are common pests of nearly all indoor and outdoor ornamental plants, as well as vegetables, fruit trees, and field crops.

**Life cycle:** Aphids have unusual and complex life cycles that allow them to build up tremendous populations in relatively short periods of time. Most species overwinter as fertilized eggs glued to stems or other parts of plants. Nymphs, which hatch from these eggs, become wingless females known as "stem mothers." There are no males present at this time. Stem mothers reproduce parthenogenetically (without mating), and their eggs are held within their bodies until they hatch so those young are born alive. All offspring are females, which soon mature and begin to reproduce in the same manner. This pattern continues for as long as conditions are favorable. A dozen or more generations are typical in Virginia. Periodically, some or all of the young develop wings and migrate to other plants. Some species always settle on the same type of plant, others have one or more alternate hosts. With the return of autumn's shorter days and cooler temperatures, a generation appears which includes both males and females. After mating, these females lay the fertilized eggs that overwinter and eventually hatch into stem mothers the following spring.

Certain ants sometimes protect colonies of aphids. The ants gather aphids or their eggs and keep them through the winter in their nests. In spring, the ants transport these aphids to food plants where they protect them from enemies and at intervals transport them to new plants. For payment, the ants collect honeydew, a sweet sticky substance which aphids secrete as a waste product. Aphids are found through the US on many crops, plants, and trees.

**Damage:** Aphids feed by sucking up plant juices through a food channel in their beaks. At the same time, they inject saliva into the host. Light infestations are usually not harmful to plants, but higher infestations may result in leaf curl, wilting, stunting of shoot growth, and delay in production of flowers and fruit, as well as a general decline in plant vigor. Some aphids are also important vectors of plant diseases, transmitting pathogens in the feeding process.

A sticky glaze of honeydew may collect on lower leaves, outdoor furniture, cars, and other objects below aphid feeding sites. Honeydew coated objects soon become covered by one or more brown fungi known as sooty molds. Crusts of sooty mold are unsightly on man-made objects, and they can interfere with photosynthesis in leaves.

Some common aphids that are present in Virginia are:

**White Pine Aphid:** Black or gray with long legs; found most commonly on white pines. This is a common pest of eastern white pines. Severe infestations reduce the growth and may even kill small trees. Colonies occur most commonly on twigs and stems where the bark may be killed in patches. Needles and twigs are sometimes completely covered with sooty mold. Their eggs are laid in lines on needles. They may hatch when infested white pines are brought indoors as Christmas trees.

**Rose Aphid:** Green or pink with black legs. A widespread and common pest of all cultivated roses, this species may also damage pyracantha. Stems, buds, and young tender leaves are damaged.

**Giant Bark Aphid:** Ash gray with black spots. Nearly 1/2 inch (14 mm) long including the legs, this is our largest aphid species. It attacks willow, maple, elm, oak, birch, and several other common shade trees. It feeds on the bark of twigs and small branches. Bees, wasps, and flies are attracted to the honeydew they secrete.

**Green Peach Aphid:** Pale yellow-green in color. This species attacks dozens of different hosts including aster, catalpa, crocus, dahlia, English ivy, iris, lily nasturtium, pansy, rose, snapdragon, tulip, and violet, as well as many garden vegetables and some fruit trees. It is capable of transmitting over 100 different plant viruses.

**Chrysanthemum Aphid:** Shiny dark brown with short cornicles. Common and widespread on chrysanthemum where they cause stunted growth and slightly curled leaves.

**Wooly Alder Aphid:** Plump and blue-black, but completely covered with white waxy filaments. Silver maple is the primary host, but they migrate to alder in mid-summer, then return to silver maple in late fall. This aphid is not particularly injurious to either host, but it becomes a nuisance when waxy filaments accumulate under heavily infested trees.

There are many other aphid species, some of which produce galls. Included in this group are Witchhazel Cone Gall Aphid, Spiny Witchhazel Gall Aphid, and the Elm Cockscomb Gall Aphid.

**Non-Chemical/Least Toxic Control:** Natural enemies play a very important part in controlling aphid populations. Lady beetles, lacewings, damsel bugs, flower fly maggots, certain parasitic wasps, birds, and fungal diseases all attack aphids. Without them, these pests would be much more destructive. Gardeners should avoid use of insecticides, which are harmful to beneficial organisms in the garden. Gardeners should also strive to keep their plants healthy and growing vigorously since migrating aphids are attracted to the unhealthy, yellow-green color of struggling plants.

**Chemical Control:** Horticultural oil or soap may be used. Ask your Extension agent for information about appropriate pesticides. Soaps and oils are most effective when used when large numbers of overwintering eggs are detected. A large number of contact and systemic insecticides are labeled for control of aphids, see the Virginia Pest Management Guide for the most current recommendations. Again, it is often best to leave control of aphids to natural predators to minimize damage to host plants.

Notice: Because pesticide labels can change rapidly, you should read the label directions carefully before buying and using any pesticides. Regardless of the information provided here, you should always follow the latest product label when using any pesticide. If you have any doubt, please contact your local Extension agent or pesticide dealer for the latest information on pesticide label changes.

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Revised: Olivia C. McCraw, June 26, 2014