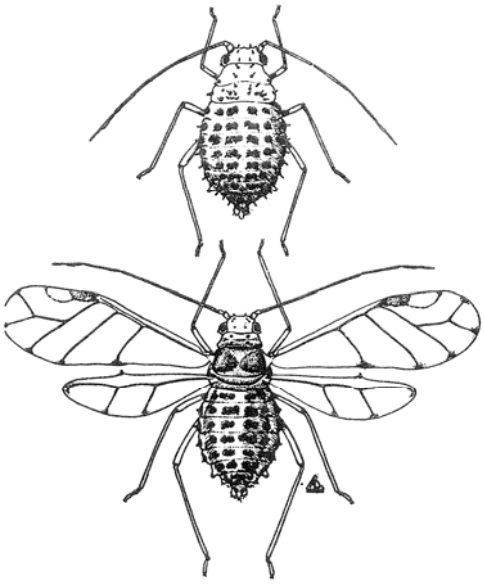
Insect Diagnostic Laboratory
Cornell University 4140 Comstock Hall, Ithaca, NY 14853

Aphids

Family: Aphididae

Green Peach Aphid: nymphs, winged adults, and wingless adults.
Photo by: Whitney Cranshaw, Colorado State University; Bugwood.org



Wingless and winged aphids.

Injury

Aphids may damage many plants including fruits, vegetables, and ornamental trees and shrubs. The major damage is caused by the aphids sucking the juices from the stems and leaves causing a reduction in vigor, curling distortion, and reduction in yield. Some species inject saliva into the plant tissue as they feed and may transmit viral diseases from one plant to another.

In addition to the direct damage caused to the plant by the aphids feeding, a black fungus known as sooty mold grows on the honeydew secreted by aphids. Sooty mold is unsightly and in association with honeydew it is objectionable to the buyer of affected plant material, fruits or vegetables.

Description

Aphids or plant lice are small, soft bodied, slow moving insects that feed by sucking juice from plants. They can usually be recognized by the pear-shaped body and fairly long antennae. Aphids vary in color -- white, gray, green, brown, red, yellow or black. They are usually found in large numbers (colonies) on the undersides of leaves or on stems. There are both winged and wingless aphids in most species. As the aphids feed they secrete honeydew – a sweet sticky shiny substance seen on leaves. Honeydew consists mainly of excess sap ingested by the insect and passed through the body.

Life History

Most species of aphids overwinter in the egg stage. The eggs hatch in the spring to produce a generation of females. These female aphids give birth to living young. Generally the first young aphids are wingless, and

when a colony becomes too crowded winged forms may be produced. The winged forms migrate to new host plants and begin colonies. Enormous populations are built up from these overlapping generations all summer long.

Late in the season the aphids migrate back to the original host plant, and a generation consisting of both males and females is produced. These individuals mate and the females lay eggs, which overwinter.

Monitoring

Carefully inspect plants for the beginning of an aphid population buildup. Check for natural enemies such as mummies (gray-brown, bloated, parasitized aphids -- indicating wasp parasites at work), and the alligator-like larvae of lady beetles and lacewings.

Yellow sticky boards are also used as a monitoring tool for aphid populations. Aphids are attracted to the yellow color and often are visible on the cards before they are detected on the plant.

Management

If there are high numbers of mummies, or large populations of ladybird beetles, or lacewings along with the aphids, additional treatments may not be necessary. Ladybird beetles and lacewings are beneficial because both the adults and larvae actively feed on aphids.

In general, controlling populations early in the season often eliminates the need for later spraying. In a few cases, however, treatment may need to be carried out all season long. Wash off aphids with a stream of water as needed, early in the day. A hard stream of water directed on aphids will remove many from plants, but be careful not to damage young plants with too much water pressure.

Pesticides such as insecticidal soap, horticultural oil, cyfluthrin, or permethrin may be used for control, depending on the type of plant infested. Check the label for what kinds of plants the product may be used on. For edible crops, be sure to check the number of days you have to wait to harvest (= Days to Harvest) before applying any pesticide.

Prepared by: Carolyn Klass, Sr. Extension Associate; Department of Entomology, Cornell University
Revised 4/2008
Updated 12/2009