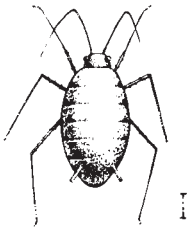
A3757-E

GARDEN FACTS
University of Wisconsin-Extension
Vegetable Aphids

Vegetable Aphids

K. A. Delahaut



Aphids, also known as plant lice, are soft-bodied, sucking insects. They feed on plant sap and excrete a sugary honeydew that attracts ants and creates the conditions for sooty mold, a type of fungus (saprophytic) that feeds on decaying organic matter.

There are several aphid species, all belonging to the insect family Aphididae, that are capable of attacking any type of vegetation. Aphids that pose the most serious problem to Wisconsin vegetable production include the green peach, melon and potato aphids.

Appearance

All aphids are soft-bodied and pear-shaped with a pair of cornicles, or little horns, projecting from the rear end of their abdomens. Adult aphids may or may not be winged. Some of the more common species are listed below.

Common name	Scientific name	Description	Host plants
Bean aphid	*Aphis fabae*	Dark green to sooty black	Artichoke, asparagus, bean, carrot, corn, lettuce, parsnip, rhubarb, spinach, squash. Winter hosts—euonymous & viburnum spp.
Cabbage aphid	*Brevicoryne brassicae*	Gray-green with a powdery, waxy covering	Broccoli, Brussels sprouts, cabbage, collards, kale, kohlrabi, and radish. Winter host—eggs on host plants.
Corn leaf aphid	*Rhopalosiphum maidis*	Bluish-green	Corn. Winter host—none; migrates from the south.
Green peach aphid	*Myzus persicae*	Yellowish-green with 3 dark lines on their backs	Beet, celery, cole crops, cucurbits, lettuce, pepper, potato, spinach, tomato. Winter hosts—cherry & peach
Melon aphid	*Aphis gossypii*	Pale yellow to brown or nearly black with black cornicles	Asparagus, bean, beet, celery, cucurbits, okra, spinach. Winter hosts—many.
Pea aphid	*Acyrthosiphon pisum*	Pale green with black legs	Peas. Winter host—alfalfa.
Potato aphid	*Macrosiphum euphorbiae*	Pink or green	Asparagus, bean, corn, cucurbits, eggplant, lettuce, pepper, potato, sweet potato, tomato. Winter host—rose.

Symptoms and effects

Reduced plant vigor, stunting and deformed plant parts are common symptoms of aphid infestations. In some cases, it's the production of honeydew or presence of sooty mold that alerts the gardener to an aphid outbreak. Most importantly, aphids are excellent transmitters of several viral diseases, such as the mosaic viruses, that cause leaves to shrivel and that infect a wide range of hosts. In some cases, it's the appearance of virus symptoms that indicate aphid activity.

Life cycle

It is difficult to generalize the life cycle of all aphids because of the diversity of their life habits, which can range from single to multiple hosts. One of the unique characteristics of aphids that sets them apart from all other insects is their ability to bear live young. Aphids overwinter as eggs on a perennial host. In spring, the eggs hatch and the aphids migrate onto their summer host when it becomes available. The female aphids can then reproduce without mating and will hold the eggs in their bodies to give birth to live young. By eliminating mating and egg laying, aphids have successfully shortened their life cycle and thereby increased their reproductive capability. Throughout the summer, wingless females predominate. However winged forms may arise when populations become too large for the available food source. In late summer, in response to the shortened daylight hours, wingless females and males are produced for the purpose of mating and laying fertilized eggs that will survive adverse winter conditions.

Scouting suggestions

Look for "hot spots" of aphid activity scattered throughout the field. Because of the spotty nature of infestations, look for aphids on a number of plants in several areas. Examine the terminals of 15 consecutive plants or sample units and rate the plants as infested or uninfested. Given the huge reproductive potential of aphids, an infestation level of 5%–10% indicates a potentially damaging infestation. Repeat checks at weekly intervals to determine the need to treat.

Control

Cultural: Predators such as ladybird beetle adults and larvae, green lacewing larvae, syrphid fly larvae and several parasitic wasps all help reduce aphid numbers. Heavy rains help dislodge aphids from the plant and, during periods of high humidity, fungal diseases may greatly reduce populations. The remarkable reproductive capacity of the aphid normally overcomes the effects of natural controls in spring when cool temperatures hinder the development of natural enemies. These natural controls most often catch up in the warmer weather of summer and fall.

Chemical: Treat crops with an insecticide when threshold levels have been reached. One of the problems associated with the control of green peach and melon aphids results from their resistance to several insecticides. In particular, aphids have shown resistance to organophosphate insecticides. Refer to the University of Wisconsin–Extension publication C*ommercial Vegetable Production in Wisconsin* (A3422) for a list of recommended products.

Author: K. A. Delahaut is an outreach specialist with the Integrated Pest Management Program at the University of Wisconsin–Madison and the University of Wisconsin–Extension, Cooperative Extension.

Thanks to Jeff Wyman and Phil Pellitteri for reviewing this information.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, University of Wisconsin–Extension, Cooperative Extension. University of Wisconsin–Extension provides equal opportunities in employment and programming, including Title IX and ADA requirements. If you need this information in an alternative format, contact the Office of Equal Opportunity and Diversity Programs or call Extension Publishing at (608) 262-2655.

To see more Cooperative Extension publications, visit our web site: www.uwex.edu/ces/pubs/