X1043

University of Wisconsin Garden Facts

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Provided to you by:

Vegetable Aphids

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Aphids are soft-bodied, sucking insects that are sometimes called plant lice. They feed on plant sap and subsequently excrete a sugary honeydew that can attract ants as well as support the growth of a saprophytic fungus called sooty mold. There are several species of aphids, all of which belong to the insect family Aphididae, that are capable of attacking any type of vegetation. Host plants may be identified by a particular aphid's common name. The aphids that pose the most serious problem to Wisconsin vegetable production include the green peach, melon, and potato aphids.

Appearance

There are several species of aphids that commonly attack vegetable crops grown in Wisconsin. All aphids are soft-bodied and pear-shaped with a pair of cornicles projecting from the rear end of their abdomen. 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*	grey-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 back	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 host – 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 deformation of plant parts are common symptoms of aphid infestations. In some cases, it's the production of honeydew or presence of sooty mold that alerts one to an aphid outbreak. Most importantly, aphids are excellent vectors of several virus diseases such as the group of mosaic viruses that infect a wide host range. In some cases, it's the appearance of virus symptoms that indicate aphid activity.

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Life Cycle

It is difficult to generalize the life cycle of all aphids because of the diversity of their life habits that 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. These female aphids can 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 day length, 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 in the field, a number of plants in several areas should be examined for aphids. Examine the terminals of 15 consecutive plants/sample unit and rate the plants as infested or uninfested. Given the huge reproductive potential of aphids, an infestation level of 5-10% would indicate 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 when insecticides are not used. 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 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, organophosphate insecticides are the insecticide class to which resistance has been shown to date. Refer to UWEX publication A3422 "Commercial Vegetable Production in Wisconsin" for a list of recommended products.

For pesticide recommendations: See UW-Extension Bulletin A3422 or contact your County Extension Agent.

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References to pesticide products in this publication are for your convenience and are not an endorsement or criticism of one product over similar products. You are responsible for using pesticides according to the manufacturer's current label directions. Follow directions exactly to protect the environment and people from pesticide exposure. Failure to do so violates the law.

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