



BUG BIZ

Pest Management and Insect Identification Series



Myzus persicae, Green Peach Aphid

(Hemiptera: Aphididae)

Alejandra Velez, Chris Carlton

Description

Green peach aphid is an important agricultural pest and disease vector worldwide. Adults typically measure around 2 mm in body length and different reproductive forms vary in appearance. Nymphs and wingless adults are yellow to bright green in color, plump and oval in shape. Winged adults are more elongate and possess dark brown markings on the thorax and abdomen against a pale green background, but may vary to nearly all brown or black. Eggs are less than 1 mm in length, are initially yellow or green in color, and darken as they mature.

Due to the great diversity of aphids (approximately 1,500 species in the United States), many of which are similar in appearance, identifications to species require specialized preparation and examination under a microscope. Microscopic features such as sensory structures (sensoria) on the antennae, wing vein patterns and the paired tubes at the end of the abdomen, among other characteristics, are key diagnostic traits for identifying aphids at the genus and species levels. Typically, winged forms (alates) are necessary for positive identification. An entomology diagnostician or insect taxonomist should be consulted for species determinations before decisions are made about pest control.

Life Cycle

The green peach aphid has the ability to go through 30 generations in a year in the southern U.S. As with many aphid species, the green peach aphid has a complex life cycle that involves wingless adults, live-bearing females and winged, sexually reproducing males and females. In some parts of the world, it also includes continuously reproducing females that do not require males, a condition called parthenogenesis. The reproductive pattern in the U.S. is closely tied to cultivated and wild host plants in the genus *Prunus* (plums, cherries, peaches). Nymphs hatching from overwintering eggs on



Alate (winged) green peach aphid adult (Andrew Jensen, Flickr.com, Creative Commons 2.0).



Green peach aphid, wingless adult (Jim Baker, North Carolina State University, Bugwood.org).

Prunus mature into wingless reproductives that may complete several generations on their woody hosts. This is followed by production of winged forms that disperse to summer host plants. Most of the growing season is spent as live bearing wingless forms on a wide variety of wild and cultivated broadleaved plants. A single female may give birth in as few as six days after her birth, typically within eight to 10 days, and may produce 75 offspring at the rate of over one per day. Newly born or hatched nymphs undergo a series of four or five growth stages (instars) lasting around two days each. By skipping the egg stage, rapid population growth can occur, leading to overcrowding and triggering additional waves of winged reproductives that disperse to more favorable host plants. The onset of fall triggers the production of sexually reproducing winged aphids, which migrate to *Prunus* hosts to mate and lay eggs. Overwintering occurs in the egg stage, with the cycle repeating the following spring. However, in regions where females reproduce parthenogenetically year-round, migration to *Prunus* hosts does not occur.

Ecological Significance and Pest Status

Green peach aphid poses a significant threat to numerous economically important crops, primarily because of its capacity to spread plant viruses. Over 400 plant species are recorded as hosts. Management is difficult due to rapid population growth and resistance to insecticides. Green peach aphid infestations in green houses are often sources of damaging populations outdoors when infested plants are transplanted. Vegetables in the families Solanaceae, Chenopodiaceae, Compositae, Brassicaceae and Cucurbitaceae often suffer direct damage from aphids, but plant virus transmission typically causes greater losses. Given their high mobility, both adults and nymphs of this

pest transmit numerous plant viruses. More than 100 viruses can be vectored by green peach aphid, causing plant diseases in potatoes, beets, lettuce, cauliflower, turnips, cucumbers, watermelons and other crops.

Control

Integrated pest management, which is a combination of biological, cultural and chemical strategies, is used to manage green peach aphid. Removing the overwintering hosts in the genus *Prunus* from the vicinity of high value crops can delay or prevent establishment of damaging populations of aphids. Conserving and supplementing predators, such as lady beetles, lacewings, spiders, syrphid fly larvae and predatory midges, can prevent buildups of damaging populations and minimize production of winged aphids due to overcrowding. Reducing nontarget mortality of beneficial insects due to excessive or improper pesticide applications is crucial in maintaining a healthy natural enemy complex against aphids and other insect pests. Numerous species of tiny parasitoid wasps can be effective in controlling aphids. Wasps of the genera *Aphelinus* and *Aphidius* (family Braconidae) deposit eggs in adult aphids. Larvae feed on the body tissues of the aphids, eventually killing them and emerging as adult wasps. While the tiny adults may go unnoticed, the presence of bloated, dark colored “mummy aphids” is an unmistakable sign of a parasitic wasp presence.

Insecticidal control of aphids can be difficult and usually requires thorough applications of systemic insecticide to all foliage surfaces. Aphid repellents such as horticultural oils may provide some control. For technical information about pesticides, consult the latest LSU AgCenter Pest Management Guide.

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