

Introduction to Aphids

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Green peach aphid (David Cappaert, Bugwood.org)

Aphids are small soft-bodied, generally sluggish insects that have piercing-sucking mouthparts, which are inserted into the phloem tissue and remove fluids. Aphids are the only insects that have "honey tubes," or cornicles, on the abdomen. The cornicles, which project beyond the body of aphids can make them appear jet-propelled. Cornicle shapes and colors are used by taxonomists to help separate aphid species.

The most common aphids on greenhouse crops are green peach aphids (*Myzus persicae*), and melon/cotton aphids (*Aphis gossypii*). Both melon aphids and green peach aphids can feed on very large numbers of host plants. Both species are generally green insects, but the color often varies. Melon aphids can vary from light green to very dark green, and green peach aphids from light green to nearly pink.

In greenhouses and tropical areas, all aphids are usually females that produce live young. The immature aphids are called nymphs. Each female can produce about 50 to 200 nymphs during her life span, and these nymphs (which are all females) can begin reproducing in 7 to 10 days. Adult aphids may or may not have wings, depending on population density and/or host plant condition. The winged forms are able to disperse within the greenhouse, and are also able to fly into the greenhouse from outdoor crops, overwintering sites, etc. Most of this flight is not directed. That is, aphids fly in the direction of the wind.

Plants must be inspected frequently to find localized aphid infestations. Yellow sticky traps will capture some flying winged aphids, but most aphids do not have wings. Look for the insects themselves, which may be visible on plant stems or partially hidden on leaf undersides. Be alert as plants mature because buds and flowers are favored areas for aphid feeding. Small white skins left on plants by aphids during the molting (growth) process are other signs of an aphid infestation. Aphids also produce sticky liquid called honeydew, containing sugars and other chemicals, which can cover leaves and flowers. Whiteflies, mealybugs and soft scales also produce honeydew. In addition to direct injury through feeding and being a nuisance, aphids are able to transmit several viruses, which cause diseases of both vegetable and ornamental plants. To date, however, virus problems caused by aphids on greenhouse ornamentals seem to be minimal.

Most growers control aphids using conventional or biorational pesticides. However, pesticide-resistant aphid populations are becoming common, and growers are sometimes having great difficulty in controlling them with insecticides. Aphids on buds or in flowers are especially difficult to deal with, because even after being killed the dead aphids remain. There are several biological control options, including parasites and predators. Despite the widespread availability of biological control agents from commercial sources, biological controls are not widely used on ornamental plants. Most biological controls in greenhouses are used on vegetables.

