BOHART Museum of Entomology University of California, Davis

INFORMATION

No. 04

Aphids

Rose aphid. Photo by Kathy Garvey.

Aphids are very small, soft-bodied insects in the order Hemiptera, Family Aphididae. Their piercing/sucking mouthparts are used to feed on plant sap, usually from the stems or leaves. There are many species, and they come in many colors. Some species secrete a waxy white or gray substance over their body that gives them a wooly appearance. Nearly all plants are susceptible to one or another aphid species.

Aphids have many generations per year. They may undergo both a sexual phase, involving one generation in the winter, and an asexual phase, involving many, many generations throughout the summer. During the asexual phase, adult females give birth to up to 12 live offspring without mating. The offspring are all female. Young aphid offspring are called nymphs, which molt (shed their exoskeleton) four times before becoming an adult. It takes seven days for a newborn nymph to become adult (reproductive). During the sexual phase, adult females produce both male and female aphids. Males and females mate and in some species eggs are produced which are able to survive a harsh winter.

In general, adult aphids are wingless, although in the winter or fall populations may produce winged individuals. Aphids are most often found in dense groups, feeding on leaves or stems.

Low densities of aphids are usually not a problem in an ornamental or vegetable garden, however large numbers of aphids can be responsible for noticeable damage to garden plants. A high rate of infestation by aphids will cause the leaves of plants to curl and yellow. The insects themselves also produce a sticky excretion called honeydew that may promote the growth of sooty mold. Aphids may also transmit viruses from plant to plant. Squashes, cucumbers, pumpkins, melons, beans, potatoes, lettuces, beets, chards, and bok choy all have aphid-transmitted viruses. It is not necessary for large numbers of aphids to be present to transmit a virus.

Check your plants often during the spring and summer for the presence of aphids. Aphids cause the most damage during the warm (65-80° F) but not hot summer months. Check the underside of leaves, and pay special attention to plants in the upwind edge of a garden. The presence of ants may help you discover aphid populations, as ants are attracted to the sweet honeydew that aphids excrete.

There are several non-chemical means of controlling aphids. If you discover low levels of aphids it may be possible to prune the infected areas. High levels of nitrogen fertilizer such as blood meal have been shown to reduce aphid populations, however, be sure not to use more nitrogen than necessary as it can be toxic to the plant. A strong spray of water is often enough to dislodge aphids from sturdier plants and to rinse off honeydew. In addition, lady bugs and lacewings are also effective at controlling aphid populations.

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