

Ohio State University Extension Fact Sheet

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Aphids On Trees And Shrubs

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Aphids are small (1/16-1/8 inch long), soft bodied insects commonly called plant lice or ant cows. Virtually every plant has at least one aphid species that attacks it. These small insects are masters of reproduction and are often found in great numbers on stems or leaves. Some species even feed on the roots of plants. They range in color from green to brown, red, black or purple. Some species may even have different color forms in the same colony. Most have the soft exoskeleton exposed, but some species produce waxy, cottony strands which cover the body. These are often called woolly aphids.

Aphids are identified by their sucking mouthparts, long, thin legs, long antennae, pear-shaped body and pair of tube-like structures (called cornicles) arising from the posterior of the abdomen. A hand lens may be needed to see the short cornicles of some species. These cornicles apparently are the ducts of glands that produce alarm odors. Aphids may be winged or wingless and colonies often have both forms.

Aphids excrete a sugary liquid called honeydew. This honeydew drips onto plant foliage or other structures and provides a suitable place for black sooty molds to grow. Ants often tend or care for aphids in return for the honeydew. Therefore, if ants are running over a plant, look carefully for aphids.

Types of Damage

Each plant reacts differently to aphid attacks. Some plants show no response to the aphids, while other plants produce distorted (twisted, curled or swollen) leaves or stems. Occasionally, aphids may actually kill leaves or small shoots. Since aphids may move from one plant to another, they may transmit plant diseases which contaminate the sucking mouthparts.

Probably the most common disturbance caused by aphids is their never-ending production of honeydew. This sweet liquid drips onto plant foliage and stems and is soon covered with black sooty mold. Cars, sidewalks, and lawn furniture under trees with aphids are also covered with this sticky fluid. Ants, flies and wasps appreciate the sugary meal and can become a nuisance of their own. Even though plants may look bad from the growth of sooty molds, these fungi do not damage the plant tissues. Once the aphids disappear, the sooty mold often dries up and falls off the plant.

The important things to remember about aphids is that they are tremendous reproducers, and with their ability to fly, tend to constantly reinfest plants.

Control Tactics

Most aphid attacks merely cause temporary aesthetic damage to plant material. In fact, most of the species with complicated life cycles use the alternation of hosts to escape the numerous predators, parasites and diseases associated with a sedentary life. Therefore, unless significant damage is occurring or the aphids are dropping honeydew on cars and lawn furniture, control is not necessary.

Strategy 1: Cultural Control - Syringing Use a hard jet of water from the hose to dislodge the aphids. Periodic syringing will keep the populations from doing much damage and allow the parasites and predators to build up to effective levels.

Strategy 2: Cultural Control - Plant Resistance Many trees, shrubs and flowers have resistance to aphids. Observe those plants in the neighborhood to identify those that seem to be annual "aphid food" and those that never seem to be bothered. Select the resistant types for your own yard.

Strategy 3: Biological Control - Encourage Predators and Parasites Lady beetles, green lacewings, hover flies, and parasitic wasps commonly do a good job of aphid control if they are not killed with insecticide applications or if ants are not allowed to tend the aphid colonies. If ants are tending aphids on a plant, place a ring of insecticide dust or diatomaceous earth around the base of the plant. If the plant has to be sprayed with an insecticide, use a "softer" material such as horticultural oil (1.5-2.0 percent) or an insecticidal soap. These materials tend to cause less harm to the beneficials.

Strategy 4: Chemical Control - "Soft Pesticides" Since most aphids are soft-bodied insects, horticultural oils and insecticidal soaps seem to provide good control. Thorough coverage is needed since these products have contact activity only. Request a fact sheet on horticultural oils for information on product specifications, tolerant plant materials and rates.

Strategy 5: Chemical Control - Contact Insecticides Numerous contact insecticides are registered for aphid control. Since aphids are often placed under considerable pesticide pressure in field crops and greenhouses, they may be resistant to certain categories of insecticides. Therefore, if you do not obtain reasonable control, consider rotation to another insecticide. Contact insecticides currently registered for aphid control include: acephate (Orthene), bendiocarb (Ficam, Turcam)(*), bifenthrin (Talstar), chlorpyrifos (Dursban), cyfluthrin (Tempo)(*), diazinon, endosulfan (Thiodan) (*), fenitrothion (Pestroy)(*), fluvalinate (Mavrik)(*), lindane, malathion, nicotine sulfate, pyrethrum, permethrin (*), rotenone, resmethrin, and tetramethrin + sumithrin.

Strategy 6: Chemical Control - Systemic Insecticides Several systemic insecticides are useful in aphid control. Aphids have sucking mouthparts and are thus very susceptible to pesticides located in the plant vascular system. Some of the systemic insecticides also have contact activity. Systemics injected or applied to the ground are less harmful to beneficial insects. Systemic insecticides include: acephate (Orthene), dicotophos (Bidrin)(*), dimethoate (Cygon)(*), disulfoton (Di-Syston)(*), oxamyl (Vydate)(*), oxydemeton-methyl (Metasystox-R)(*). * = Restricted Use Pesticide

NOTE: Disclaimer - This publication may contain pesticide recommendations that are subject to change at any time. These recommendations are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. Due to constantly changing labels and product registrations, some of the recommendations given in this writing may no longer be legal by the time you read them. If any information in these recommendations disagrees with the label, the recommendation must be disregarded. No endorsement is intended for products mentioned, nor is criticism meant for products not mentioned. The author and Ohio State University Extension assume no liability resulting from the use of these recommendations.

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