

Insect Pests

Overview

Insects may cause problems by eating or chewing our plants. While this may annoy some gardeners, others may choose to tolerate it. If, however, the level of pest population becomes so high that it damages a plant's ability to survive or produce food, human intervention may be in order.

This handout offers information to help identify potential causes of insect infestations in the home garden and lists practices that help prevent infestations. Reflect on your personal view of living with nature, including insect pests, to determine at which point you will take action.

Clues Left by Insect Pests

It is often difficult to identify the culprit of plant damages because many insects are small, blend well into the background, may be active only at night, or hide on the underside of the foliage. This presents a challenge to getting an accurate diagnosis, which is requisite to appropriate and effective intervention.

Fortunately feeding habits of insects may offer helpful clues. Insects can be distinguished by their method of feeding: chewing/rasping or piercing-sucking.

Chewing/rasping insects have mouthparts that are able to chew holes into leaves, buds, roots, seeds, fruits or woody parts of plants. Examples of leaf chewing insects include earwigs, caterpillars, sawfly larvae, webworms, leafrollers, skeletonizers, cutworms, flea beetles, blister beetles, and cucumber beetles. Flower, fruit and seed feeders include fruit flies, midges, yellow jackets, hornets, codling moth, corn earworms and seed weevils. Structural pests include carpenter ants, termites, and powderpost beetles.

Piercing-Sucking insects not only damage plants directly by feeding, but sometimes inject toxic substances that cause symptoms ranging from simple stippling of leaves to extensive disruption of the entire plant. Spotting and stippling occurs when chlorophyll is destroyed by sucking mouthparts. Examples of sucking insects are whiteflies, aphids, adelgids, mealybugs, scales, leafhoppers, spittlebugs, lace bugs, thrips and mites.

Commonly Seen Damages

- Seedlings chewed off at soil level: Cutworms.
- Stems hollowed with larvae inside, leaves wilted or woody plants with trails under bark: Borers.
- Roots or bulbs with signs of feeding or dead spots: Wireworms, many kinds of beetle grubs, weevils.
- Fruits or plants spotted, sticky, slimy or frothy: Aphids, leafhoppers, spittlebugs, whiteflies, scales, and mealybugs.
- Leaves with large ragged holes: Adult or larval stage of beetles, moth larvae.
- Skeletonized leaves: Beetle larvae, pear slugs, thrips, and some caterpillar species.
- Leaves curled, puckered or distorted: Aphids, leafhoppers, plant bugs.

- General decline of a plant along with chewed roots: Root feeding larval stages of weevils, beetles or moths.
- Dimples and/or distorted fruits and berries: Plant-feeding stink bugs called brown marmorated stink bug.
- Trees and lumber with excavated cavities and frass (insect poop): Carpenter ants, termites.
- Processed wood with small holes and fresh sawdust: Powderpost beetles.

Integrated Pest Management

Integrated Pest Management is a systematic and holistic approach that suppresses pests with minimum impact on human health, the environment, and non-target organisms.

1. Prevention

- Plant the “Right” plant in the “Right” place. Know a plant’s cultural requirements and match them with its environment to encourage healthy growth.
- Maintain sanitation. Remove diseased plant parts; keep the ground free of leaf litter.
- Keep plants healthy with proper care to reduce susceptibility to damages by insects and diseases.
- Encourage beneficial insects. Plant insectary plants, such as carrots, cilantro, dill, sweet clover, fennel, and Queen Anne’s Lace, to attract natural predators of insect pests.
- Inspect structures. Be aware of water leaks. Keep doors and windows sealed properly.

2. Monitoring

- Become a detective, regularly check your plants for clues left by insect pests.

3. Identifying the Pest

- Proper identification is important. Sometimes an insect is just hanging out in an area where damage has occurred but is not the cause.
- Observe. Are insects munching on leaves, buds or other insects? Are they flying or crawling? What is their physical appearance? Take pictures to help with identification.

4. Developing a Pest Management Strategy.

- Once the culprit is identified, Master Gardeners can recommend cultural, mechanical, biological, and chemical methods to reduce the pest population.

OSU and Other Resources

Audubon’s Field Guide to Insects and Spiders by Alfred Knops, 1998

Garden Insects by Crenshaw, 2004

Oregon State University Extension Publications <http://catalog.extension.oregonstate.edu>, including

The Oregon and Washington Master Gardener *Sustainable Gardening Handbook*

Rodale’s Organic Gardening: Controlling Pests and Diseases, Rodale Publishing, 1994

Master Gardener™ Advice

- Call Home Horticulture Helpline: 503-655-8631 (Clackamas County), 503-821-1150 (Washington County), 503-445-4608 (Multnomah County).

- For other 10-Minute University™ handouts and class schedule, visit www.cmastergardeners.org

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