



Pests, Weeds, and Diseases

Healthy gardens can provide their own natural defenses against pests and diseases.

Good gardening practices help plants outgrow many weeds and other problems, and even attract good bugs that eat pests. When pests become a problem, natural pest controls protect the bugs, birds, and other predators that control pests—and are also safe for people, pets, and wildlife.

The Keys to Natural Pest Control

- 🌿 Prevent problems with good gardening.
- 🌿 Identify "suspects" before using controls.
- 🌿 Give nature a chance to fight pests.
- 🌿 Use non-toxic controls FIRST.
- 🌿 Use least-toxic pesticide option only as a last resort.



Prevent Problems with Good Gardening

Natural pest control is more than just buying organic pesticides. Follow these steps to help your garden take care of its own problems:



Build healthy soil. Add compost to the soil when planting, and mulch to feed plants and useful soil life. See the *Soil* guide to learn how.

Choose plants that thrive in your garden conditions. See the *Garden Design* and *Plant Right* guides for help selecting plants for each situation. Replace problem plants with those better suited to your site.

Grow a diverse variety of plants to prevent problems from spreading.

Water wisely. Don't stress plants by watering too much or not enough. Water early in the day, and use soaker hoses or drip irrigation to prevent diseases and weeds. See the *Watering* guide for more tips.

Keep it clean. Remove diseased plants, weeds, and debris where pests may hide.

Don't use preventative sprays. Many pesticides kill beneficial garden life along with pests and should only be applied when problems are identified.

Mulch to smother weeds and stop disease spread. See the *Mulch* guide for more information.

Identify “Suspects” Before Using Any Controls



Some “good bugs,” (left to right): ladybug larvae eating aphids, ground beetle, and garden spider.

If you see damaged plants or suspected pests, look carefully to identify the problem and its cause. **Most insects are not pests. A scary-looking bug may actually be eating your problem pest.** Correctly identifying problems is the key to finding effective, least toxic solutions. Many pest and disease problems are caused by improper watering, fertilization, or other practices. Pesticides only make them worse by disrupting the beneficials in your garden. Check out the *Resources* on the back page for help identifying pests and “good guys.”

Give Nature a Chance to Fight Pests

When pests appear in the garden, natural predators often follow close behind. Don't rush to spray pesticides that may disrupt this natural cycle. **Keep an eye on emerging problems, give predators a chance to work, and consider how better gardening practices can help.** Most plants quickly recover from damage to less than a quarter of the foliage.

Ladybug hunting aphids.



Try Non-Toxic Controls First

Many pest problems can be controlled with traps or barriers that don't disrupt natural predators, or by simply removing infested plant parts or pest hiding places.

Barriers and traps can be used to keep many pests off plants. Bird netting and deer fences are effective barriers. Four-inch wide **copper strips** around beds or plants repel slugs (*below*). **Lightweight fabric covers**, such as Reemay, exclude flying pests like carrot rust flies, spinach leaf miners and cabbage root maggots.



A shallow plastic container, like those that margarine and sour cream come in, partly filled with fresh beer is an effective **slug trap** (*right*). Other simple traps include a **band of sticky material**



around a tree trunk to stop ants from bringing in disease-carrying aphids; and a **band of cardboard or burlap** wrapped around apple tree trunks to trap codling moths so their cocoons can be easily collected and disposed.

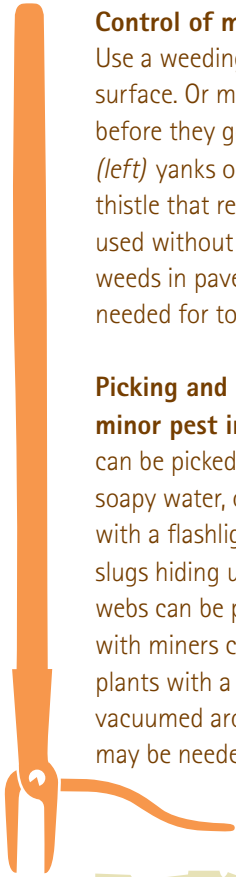


Control of many weeds is easy with proper tools.

Use a weeding knife or a hoe to cut weeds below the surface. Or mow the lawn to knock down annual weeds before they go to seed. A **long handled pincer weeder** (left) yanks out taproots of weeds like dandelion and thistle that resprout if roots are left behind—and can be used without stooping or kneeling. **Boiling water** kills weeds in pavement cracks. Repeated treatment may be needed for tough weeds.

Picking and pruning are effective controls for minor pest infestations.

Large, slow-moving pests can be picked off plants then squashed, drowned in soapy water, or put in the garbage. **Hunt slugs** at night with a flashlight; or put out boards and then gather the slugs hiding under them in daytime. **Tent caterpillar** webs can be pruned out of trees. Beet or chard leaves with miners can be pulled. **Aphids** can be washed off plants with a strong spray from a hose. **Flies** can be vacuumed around indoor plants. Repeat treatment may be needed for these methods.



Use Least-Toxic Pesticide Option Only as a Last Resort

When non-toxic controls fail to prevent a serious pest or disease problem, look for the least toxic pesticide registered to control it.



Remember that ALL pesticides, including herbicides, can be toxic to people, pets, beneficial garden life, and other animals—especially fish. They should be used carefully and kept out of streams, lakes and Puget Sound.

Insecticidal soaps dry out soft bodied pests like aphids, white flies, and earwigs. **Horticultural oils** smother mites, scales, aphids, and other pests.

Plant-derived insecticides kill a wide variety of insects, and rapidly degrade into harmless byproducts in the sun or soil. **Neem Oil** kills and disrupts activity of many insects and diseases; it is the least toxic to mammals, birds, and fish. **Pyrethrum** and **Rotenone** kill many pests and quickly break down into non-toxic forms. However, they are also toxic to beneficials, insects, people, and other animals.

APPLY ALL PESTICIDES SAFELY!

Even the “organic” types.

Buy only as much as you need, to avoid having to store leftovers. “Ready to use” products are sold in small amounts and are safer to use than concentrates that require mixing.

Avoid combination products such as Weed and Feed.

Read and follow label directions exactly.

Only apply pesticides on plants and pests listed on the label. Never apply more than what is recommended.

Apply only where pests are present.

Only fungicides should be used preventatively.

Wear gloves, long sleeves, and safety glasses.

Change clothes when finished applying.

Dispose of unused pesticides and containers properly.

Unused pesticides should be disposed at Household Hazardous Waste sites. Empty pesticide containers can go in the garbage.

(See the *Resources* list.)



Predators, such as ladybugs, can be introduced or attracted into the garden to eat aphids and other soft-bodied pests. *Bacillus thuringensis* (**Bt**) poisons caterpillars including cutworms, tent caterpillars, and cabbage loopers—but also non-pest caterpillars.

Predatory nematodes kill a variety of soil dwelling pests including cutworms, army worms, crane flies, and root maggots.

Sulfur prevents fungal diseases such as scab, rusts, leaf curl, and powdery mildew.

NATURAL PEST CONTROL RESOURCES

Books

- *Sunset Western Garden Problem Solver*. Photos and descriptions of many common plant problems, plus non-toxic controls.
- *Rodale's Color Guide of Garden Insects*. Great photos for identifying pests and beneficial insects, with organic controls.

Other Resources

- **EnviroStars**. Environmentally responsible businesses. www.envirostars.org
- **The Garden Hotline**. www.gardenhotline.org or 206-633-0224
- **WSU King County Extension Resources**. Master Gardener e-clinic, gardening fact sheets, Plant Clinic schedule and demonstration gardens. <http://extension.wsu.edu/king/gardening>
- **WSU Extension Publications** View or download bulletins on gardening and managing pests. <http://gardening.wsu.edu>
<https://pubs.wsu.edu/ListCategories.aspx?TopicID=6>
- **Local Hazardous Waste Management Program in King County**. www.HazWasteHelp.org



Pesticide Disposal and Emergencies

- **Household Hazards Line**. Information on pesticide disposal options and locations. 206-296-4692, or 888-Toxic Ed (888-869-4233).
- **Poison Control**. Help in case of pesticide poisoning. 800-222-1222, or call 911.

Bellevue's Natural Lawn and Garden website

www.bellevuewa.gov/naturallyardcare.htm

Bellevue's Natural Gardening Guides

Composting Food Scraps • *Composting Yard Trimmings*
• *Drip and Soak* • *Fertilizer* • *Garden Design* • *Lawn Alternatives* • *Lawns* • *Mulch* • *Pests, Weeds, and Diseases*
• *Plant Right* • *Seasonal Calendar* • *Soil* • *Watering*

For copies, visit Bellevue's Natural Lawn and Garden website (above) or call Bellevue Utilities at 425-452-6932.

Natural Yard Care Neighborhoods

www.naturallyardcare.info

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