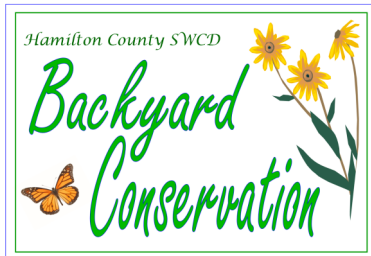




PEST MANAGEMENT



What is Pest Management?

Pest management is the identification and control of backyard nuisances—including diseases, insects, weeds, and problematic wildlife. By spotting these issues early and treating them directly and properly, you can drastically improve the health of your backyard.



Japanese beetle photo courtesy of: Purdue University Department of Forestry & Natural Resources



Oak wilt photo courtesy of: Purdue University Department of Forestry & Natural Resources

Identify Your Problem:

- **Insects**, including bees, ants, beetles, butterflies, moths, and flies, damage plants in several ways. Chewing insects leave visible damage to leaves and flowers. Japanese beetles, tomato hornworms, and cutworms are all chewing insects. Sucking insects, such as leafhoppers, aphids, and thrips, will suck out plant juices, leaving misshapen leaves or flowers. They may also carry diseases from one plant to another. Borers disrupt water movement in plants by burrowing into stems, fruits, and leaves. Plants are often left with small accumulations of sawdust-like material on stems or fruits.
- **Disease** identification can prove very difficult. Some diseases damage leaf surfaces, interfering with photosynthesis. Other diseases prohibit water and nutrient movement. Still other diseases produce toxins and directly kill the plant. Because of the wide range of methods diseases use to attack plants, symptoms vary. They may include: mushroom-like growths on tree trunks, a grayish mildew appearance on leaves, spots on leaves, flowers, or fruits, wilting or death of a plant, seeping sap from branches or tree trunks, and stunted growth.
- **Weeds** cause problems by competing with beneficial plants for light, space, and water. Small, young, plants are especially susceptible to this competition. Your local garden center can be a great resource for weed identification and management.
- **Nuisance wildlife** cause damage by eating or smashing plants. The damage is usually easily distinguished from insect or disease damage due to the magnitude in which it occurs. Deer and rabbits are two common browsers of garden vegetation.

Controlling Your Pest:

- **Insects** can often be removed by hand. Drop individuals into warm, soapy water or vegetable oil. Use caution when handling unfamiliar insects in case they have spines or secrete dangerous substances. You can also remove insects by spraying the plant with a hose or sprayer, or suck them up in a vacuum. If you have a more large-scale problem, species-specific traps may be necessary. The traps use hormones to attract insects, so be aware that putting up a trap will actually draw more insects to your yard. The Purdue University Extension Service offers publications on all types of insect pests. To find one applicable to your issue, visit <http://www.ces.purdue.edu/extmedia/ent.htm>.



Photo courtesy of: istockphoto.com

- **Disease** can often be controlled with sanitation practices. Remove the diseased material, clean up diseased litter, and prune diseased branches. Disinfect your pruners to prevent spreading disease. Since insects spread many diseases, keep an eye on your insect populations as well. The Purdue University Extension Service also offers publications on a variety of plant diseases. Visit <http://www.ces.purdue.edu/extmedia/botany.htm> to find them.

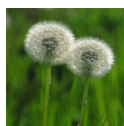


Photo courtesy of:
organicgardening.com

- **Weeds** can be hoed, pulled, or mulched.

- **Nuisance wildlife** can be discouraged by fencing, netting, or guarding tree trunks. If you know the animal you are dealing with, you can also trap it, but check local trapping regulations first. If you need professional assistance with nuisance wildlife, call the Indiana Department of Natural Resources at 1-800-893-4116.

- **Biological controls** are natural ways of regulating populations. Providing or encouraging a native predator or parasite can be very effective in regulating pests. For example, birds and bats eat insects. *Bacillus thuringiensis* (Bt) is a bacteria that attacks larvae of some insect pests. To attract beneficial insects or wildlife to your yard, plant a variety of vegetation to provide shelter and food. Also limit your chemical applications to avoid killing beneficial species.



- **Chemical controls** are very effective but can be dangerous if not used properly. Read pesticide labels carefully and follow directions to avoid harmful effects. Do not apply on windy days, and check the product recommendations regarding other environmental conditions, such as temperature and rain. Most common pesticides are broad spectrum, so spray applications will likely kill beneficial insects and plants as well as undesirable ones. Pesticides may also runoff into the water, causing pollution that could harm humans and wildlife. Before using toxic pesticides, try these non-toxic, household remedies:

- * Mix a few drops of dishwashing detergent in water and spray on plants to control soft-bodied insects like aphids or whiteflies
- * Mix crushed garlic in water and spray on plants to control other insects
- * Fungal diseases can be controlled with a baking soda solution
- * Visit www.organicgardening.com for more ideas.



Photo courtesy of: NPIC