

Integrated Pest Management

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Mindful pest management for the home gardener

Unnecessary pesticide application occurs when we are intolerant of the slightest imperfection in a plant's appearance. Switching to an IPM (Integrated Pest Management) approach in your landscape will significantly reduce the amount of pesticides used without sacrificing the overall appearance of your plants.

Reducing pesticides, insecticides and herbicides are in the best interests of our health, our children and pets' health and the world in which we live. According to the Oregon State Department of Agriculture a pest is defined as:

1. An insect or other arthropod
2. A weed, moss, slime or mildew or a plant disease caused by fungus, bacteria or virus
3. A nematode, snail, slug, rodent or predatory animal
4. A bacterium, spore, virus or other microorganism that is harmful to human health
5. Other plant or animal life that may infest or be detrimental to vegetation, humans, animals, structures, managed landscaped or other human environments

The first step in implementing an IPM program in your landscape is to identify your plants, trees and shrubs. Most pests or diseases occur on specific types of plants, so knowing what you have in place is important. After all, how can you take care of your garden if you don't know the requirements of the individual plants? Go to your favorite nursery or attend one of WSU's Master Gardener Plant Clinics for some help in identification of unknown plants. Go to <https://extension.wsu.edu/skagit/mg/> to find when and where they are.

Keep track of all your plants and make a diagram of where each plant is situated in your garden. Use a spreadsheet to track individual requirements for each plant. This would include needed sun exposure, water, overall mature size, best kind of soil and any other factors that are important to each plant. When you have all the information listed, it's time to go into your garden and inspect your plants. This might seem overwhelming, but taken in small steps, it is manageable.

There is a lot of detective work at this point, even before you decide which IPM method(s) to employ. Record what you observe. Is there damage to the leaves or stems? Are there holes in the leaves or signs of something chewing on them? Are the leaves dry and crackly? Does the ground around the base of the plant look dry and have cracks in the soil? Is your plant an annual only surviving for one year?



Integrated pest management includes use of beneficial insects, such as lady beetles. *Photo by Nancy Crowell / WSU Skagit County Extension Master Gardeners.*

Indeed, there are four general methods used in IPM to manage insect, disease and weed problems. These methods are cultural, biological, mechanical and chemical. You can use one or more methods as needed. Correct diagnosis, regular monitoring and basic knowledge of pests' life cycles are critical to a successful IPM program.

Cultural management, the first method in IPM, means changing the plant's environment to deter pests. Choose plants that are disease resistant in the Pacific Northwest. Looking up information online is great but make sure it pertains to our area and not some other zone in another part of the country. Pruning is another cultural practice to decrease use of pesticides. Remove any diseased leaves and then open the center of the plant so that it improves better air flow and is less conducive to diseases caused by stagnant air.

The second control method of pest management is biological---using beneficial living organisms, like lady beetles or praying mantis, to control pest organisms. It is critical to pay attention to time of release and weather conditions for success. Read all of the information before buying; most beneficial insects have specific needs for how and when they are released.

The third option in IPM is mechanical management. This is the most labor intensive and best used when pest populations are low. Applying "stick-um" as a weevil barrier, pulling weeds when they are small, or adding mulch as a weed suppressant are examples.



Left: Mulching is a helpful way to manage pests in a garden. **Right:** Sometimes pruning is the best course of action. *Photos by Nancy Crowell / WSU Skagit County Extension Master Gardeners.*

The last option in IPM is the use of chemicals. It is vital to treat only the area or spot that's affected. Don't broadcast chemicals indiscriminately over a large area. For effective management, timing of the application is critical.

Many disease and insect pests are closely related to plant growth cycles such as timing of bud break or bloom. Read the directions on the label, have the right equipment and know exactly where to apply the chemical on the plant. Remember that the label represents a binding contract between you and the manufacturer stating that you will use the product exactly as directed.

Contact your local extension office, and/or talk to master gardeners about appropriate options for IPM. Ultimately the decision is yours. Regularly monitor your results to determine how well your IPM choices are working.

You can, of course, learn to accept a certain amount of insect and disease damage on plants. Usually healthy mature plants will tolerate this without being unduly stressed. We all need to be a little more forgiving when we consider how "perfect" a plant must be to maintain a place in our gardens.

By implementing an effective IPM you have taken the first step to a more environmentally sensitive approach when managing pests and disease in your landscape. IPM requires a little more effort on your part, but it is well worth your time. Everyone, especially your children and grandchildren, will benefit from your carefully considered choice of pest management.

RESOURCES:

- www.oregon.gov/IPM in schools
- www.ipm.ucanr.edu
- <http://jenny.tfrec.wsu.edu/opm/displaySpecies>