

# What is integrated pest management?

The style of gardening I practice is referred to as integrated pest management, or IPM. I have learned during the past 45 years of farming, advising and gardening that this system works with nature with measured thresholds to advise you when something is getting out of balance.

The goal of this system is to maintain pest levels below economically damaging levels while minimizing the impact to human health and the environment. Working within natural systems isn't always the easiest way to garden, as it requires a great deal of knowledge about soil, plants, insects, disease, weather, watering and more. However, I find using knowledge a lot more satisfying as a good gardener than exclusively using products to resolve problems.

IPM is a systems approach to pest management in gardening. It starts when you plan your landscape. You need to ask yourself "Which plants will do best in my yard?" given the soil, exposure and drainage. Think about which plants or varieties will best adapt to our climate and are the hardiest against insect and disease pests. Once you've chosen the plants for your site with IPM in mind, you have already reduced the potential amount of pest control that will be necessary.

The essence of IPM is a decision making process. Decide if, when, where and what mix of control methods are needed for



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your landscape or food crop. We often talk about the three R's of IPM: Resistance, resurgence and replacement.

Resistance is the genetically inherited ability of an organism to evolve and survive exposure to pesticides that were lethal to earlier generations. This is usually caused by repeated use of the same chemical on the same crop. For homeowners this can be an issue, since we often buy one product and use it exclusively until it is gone.

Resurgence is when a pesticide application initially works but after a time the pest comes back at a higher level. Aphids and mites often react this way to controls.

Replacement is the third "R," and occurs when we use the same product repeatedly and end up killing the pest and the natural predator of the pest. Without the predator around, another insect population will increase dramatically.

If you follow a few IPM principles while gardening or farming, you will have a more balanced environment to manage pests. One principle is to remember there are no silver bullets, no perfect products. When using controls, use a combination of complimentary practices. An example would be good pruning

practices that open plants to better light and air movement that reduces the potential for disease. Then only using a fungicide on occasion if needed.

A second IPM principle is to tolerate low numbers of insect pests. Low levels of pests help to maintain predator populations. You will need to learn about threshold levels of pests to know when to apply controls.

A third IPM principle is to treat the causes of pest outbreaks, not the symptoms. An example would be if you over fertilize your fruit trees you will often create so much luxuriant growth that aphids are attracted to them. Reduce the fertilizer application in the future and you won't need to spray the insects.

A fourth IPM principle is if you kill the natural enemies of a pest, you inherit their job. Predators, parasites and pathogens often will keep pests in check. So don't use broad spectrum insecticides that kill all insects and mites. Look for products that are more targeted to the pest you need to control. An example would be using Cyd-X to control codling moths. Cyd-X won't kill other insects.

If a problem does arise on your farm or yard, you should first look at the cultural methods you're using and learn to be patient with the chemicals. For example, if you're raising roses and struggling to control black spot or powdery mildew, you should find varieties that are resistant to the diseases. Plant your roses in full sun, not shade, to

minimize disease. And, it is a good idea to keep your sprinkler water off the foliage. By attacking a problem using this method, the need for fungicides can be dramatically reduced. You can use IPM methods for most insect and disease problems.

Whether you are a farmer or gardener, you will need to learn which types of disease and crop plants require you to prevent an infection. If your host plant does not have natural resistance to a disease like powdery mildew in a garden or a commercial vineyard, it will need to be prevented. You need to be proactive and

use fungicide spray as a preventative control. You will never need to use an insecticide as a preventative control. Always use insect trapping or visual inspections of your crop or garden before applying an insecticide.

If trapping or crop inspection demonstrates a need for a pesticide control, look for the softest, least toxic chemical control first. By using the least toxic control first, you create a safer growing method for you and beneficial organisms.

If you need help with any of these concepts, call the Master Gardener plant clinic for advice at

541-236-3052. Or consider registering for our IPM class held Nov. 1 at the OSU Extension office. We will be offering four ODA Pesticide Recertification credits for the program. For program information and registration, visit <https://extension.oregonstate.edu/douglas/> and scroll down to Upcoming Events.

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