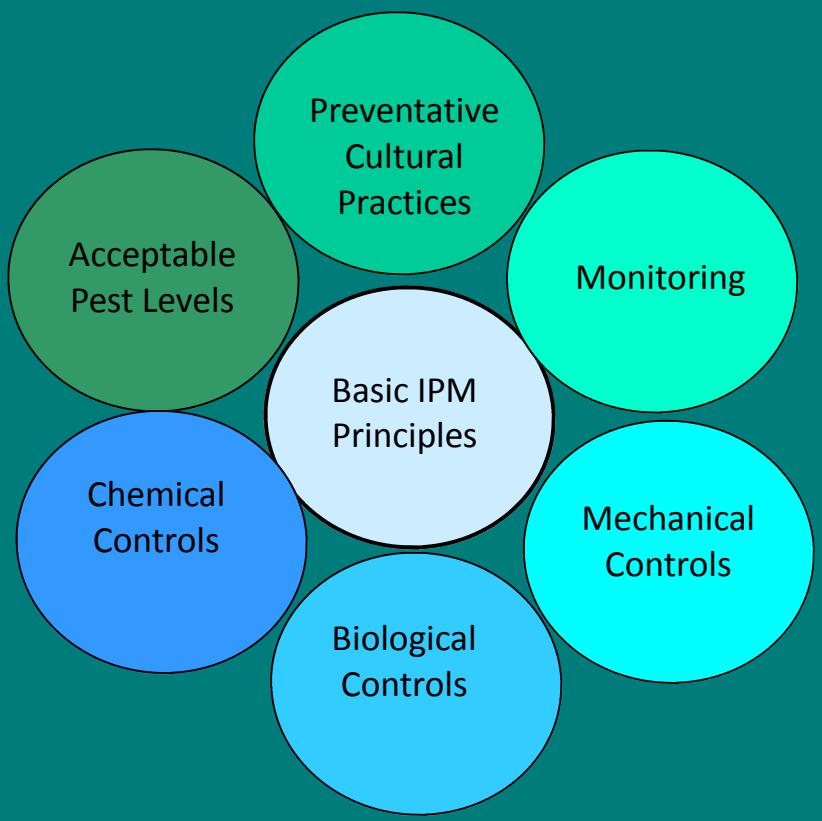
Integrated Pest Management

An alternative to pesticide use that can save you time and money

Why is integrated pest management important for our watershed?

Pesticides have been found in water samples collected from the Clackamas River and its tributaries. The United States Geological Survey (USGS) evaluated pesticides in the mainstem of the Clackamas River and eight tributaries from 2000 through 2005. In all, 119 water samples were analyzed, detecting the presence of 63 different pesticide compounds. Results revealed that 97% of all samples had 2 or more types of pesticides present. Since 2005, water quality monitoring performed by the Oregon Department of Environmental Quality (DEQ) has also shown exceedances in water quality standards for certain pesticides in Clackamas River tributaries. Although the levels of pesticides did not exceed human health benchmarks, it is a warning sign that the health of our waterways is threatened. To read the full report, you can visit http://pub.usgs.gov/sir/2008/5027.

Using Integrated Pest Management (IPM) techniques can be beneficial to you and to the Clackamas watershed, which provides drinking water for over 300,000 people and habitat for threatened salmon species. By employing IPM techniques, you can keep pest populations from establishing and getting out of hand, saving yourself time and money in the long run.



What is Integrated Pest Management?

Integrated pest management (IPM) is a philosophy of land care that stresses preventative care and using the least risky approaches possible. Landowners first decide **what level of damage is acceptable** to them. In some cases, that level might be "none at all." In others, it might be something like "losing 5% of my crop to pests." Determining this level will help you decide when to take action.

Much of IPM is also focused on prevention of large-scale outbreaks. Landowners are encouraged to use **preventative practices** such as crop rotation, planting natives, and increasing plant diversity. An integral part of IPM is **monitoring for pests** through visually inspecting plants for damage. Your local Master Gardener or OSU Extension office can often help you determine what's eating your plants.

A **least risk approach** means using pesticides as a last resort. Landowners are encouraged to use **mechanical controls first** (pulling or burning weeds), then **biological controls** (predatory insects, pheromones), and finally **chemical controls**. A practitioner of IPM will have identified the specific insect or weed plaguing the property, and can use a chemical targeted for that pest, avoiding a general broadcast spraying of pesticide. This method is seen as a last resort.

Implementing an IPM Program

Prevention is key to keeping ivy off your trees!

There are many easy, cost-effective ways you can implement the principles of IPM. Preventative practices are a keystone of IPM. The best prevention is to make sure that pests don't have a chance to get established in the first place. You can do this by planting **native trees and shrubs, improving soil before planting,** and using **disease-resistant** varieties of plants. If there's a certain plant that hasn't done well on your property, consider replacing it. Planting **many different varieties** of plants will help attract beneficial insects to your property, and if you do get a pest, it's less likely to become a full-fledged outbreak. Other keys to preventing pests include **mulching plants,** planting spreading **native groundcovers**, providing a **proper amount of water**, and raking and removing debris frequently. But what do you do if your best laid plans go awry and you identify a pest or weed? There are many different mechanical controls you can implement that go beyond weeding. If you've got a large infestation, you could try mowing and/or aerating or tilling the soil. You can also consider physical methods such as sticky board traps, or, if you've got a greenhouse, putting in a fan to improve circulation.

Biological controls are gaining in popularity. You can buy insects like ladybugs or praying mantises, or invest in pheromone traps or other biopesticides. Biopesticides are naturally occurring chemicals , microbes, or plant-produced chemicals that fight pests. Many are regulated by the EPA in the same way that pesticides are, so be sure to follow label instructions closely and only use them for their intended purpose.

If you do need to use a chemical control — for example, on a patch of Japanese knotweed — be sure to use one that's approved for the use you intend. Many chemicals cannot be used on or around water. If you have questions about pesticides or best-use practices, contact one of the partners listed below. Always read a pesticide label before applying the product!

We highly suggest contacting partner organizations for more information about anything you've read here.

Resources

Clackamas River Basin Council (pesticide reduction)
http://www.clackamasriver.org

Clackamas River Water Providers (drinking water quality)
http://www.clackamasproviders.org

Clackamas River SWCD (pest ID, land management)
http://www.conservationdistrict.org

Clackamas County Master Gardeners (pest ID, control)
http://clackamascountymastergardeners.org/

North Willamette Research and Extension Center (pest ID, control)
http://oregonstate.edu/dept/NWREC/resfac.php

OR Dept. of Agriculture (general pesticide questions)
http://www.oregon.gov/ODA/PEST

OR Dept. of Environmental Quality (toxics reduction)
http://www.deq.state.or.us/toxics/index.htm

OSU Extension (pesticide questions, land management)
http://extension.oregonstate.edu/

References

EPA: IPM Principles
http://www.epa.gov/opp00001/factsheets/ipm.htm

EPA: Pesticides and Food — What IPM Means
http://www.epa.gov/pesticides/food/ipm.htm

EPA: Biopesticides
http://www.epa.gov/pesticides/biopesticides/pips/index.htm

City of Portland: Portland Parks & Recreation IPM Program
http://www.portlandonline.com/parks/index.cfm?c=38296&a=116237

IPM Center: National Roadmap for IPM
http://www.ipmcenters.org/Docs/IPMRoadMap.pdf

OSU: IPM at OSU
http://www.ipmnet.org/IPM_at_OSU_Programs.html

UC Davis: Western Integrated Pest Management Center
http://www.wrpmc.ucdavis.edu/

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