

# Think Smart About Pesticides

## How Nurseries Can Make Our Waterways Healthier

### Are there pesticides in the Clackamas watershed?

Yes, 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. Pesticides were detected in all of the eight sampled tributaries, with Deep and Rock Creeks containing the highest pesticide amounts. Seven of the eight tributaries had pesticide levels that exceeded benchmarks that have been set to protect fish and invertebrates. To read the full report visit: <http://pubs.usgs.gov/sir/2008/5027>. 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. Pesticides can accumulate in land and run off with water, so it's difficult to pinpoint an exact source. To confound matters further, homeowners, golf course owners, agriculture users, and nurseries may use the same types of pesticides. Through working together, we can all help to keep our water clean, healthy, and drinkable!



### Understanding Important Statements on Product Labels

One of the most important actions a pesticide user can take is also one of the simplest: **always read and follow the label**. Labels provide important information on how, when, and where to use a particular product. They also keep pesticide users safe, pointing out risks, how to prevent problems, and requirements for using a particular product. Following a label's instructions is required by state and federal law.

Pesticide labels contain **signal words**, which indicate a product's toxicity. DANGER signifies the highest toxicity, followed by WARNING, then CAUTION. Information about how the product can affect the environment is found in the **Environmental Hazards** section of the label. Precautionary Statements often include important information on Personal Protective Equipment (PPE), Hazards to Humans and Domestic Animals and User Safety Recommendations.

The largest part of the label, the **Directions for Use**, includes specific information about topics such as how much pesticide should be mixed and applied, where the pesticide may be used, and how often applications may be made. Specific restrictions may include statements about not applying the pesticide within 25 feet of a water body, not applying the pesticide when rainfall is forecasted to occur within 24 hours, and not allowing the product to drift off-site.

Use the label to guide your decision-making about which pesticide to use, or if another management choice is available to control the pest you're targeting.

### Pesticides of Concern, and Pesticides of Interest

The following pesticides were listed for 2009-10 by the Inter-agency Water Quality Pesticide Management Team (WQPMT, composed of representatives from ODA, DEQ, ODF & OHA) as Oregon "Pesticides of Concern." A Pesticide of Concern (POC) has been evaluated by the WQPMT, which then determines if the pesticide is likely to approach or exceed a human health or environmental standard in a localized area of the State. The active ingredients of these POCs are listed below, along with one or two representative trade names. Always read a pesticide's label to determine the active ingredients.

- Atrazine- Aatrex®
- Azinphosmethyl—Guthion®
- Carbaryl — Sevin®
- Chlorpyrifos—Lorsban®
- Diazanone — Diazinon®
- Diuron — Direx®, Karmex®
- Simazine — Princep®, Sim-Trol®
- Ethoprop —Mocap®

Pesticides of Interest, which have the **potential** to occur in ground or surface water at concentrations that approach or exceed a human health or ecological reference point currently under evaluation by the WQPMT include 2,4-D, Chlorothalonil, glyphosate, imidacloprid, terbacil, triallate, triclopyr, and trifluralin.

## How to Keep Plants Green and the Clackamas Watershed Clean

**Prevention and Pest Monitoring:** Check plants often for pests and disease, using items such as sticky traps as well as visual monitoring cues. Catching an infestation early makes it more likely you'll be able to contain the problem as quickly as possible, and keep damage to a minimum. Time spent scouting should ultimately pay off in less chemical needed to clear up an infestation of pests or disease, which means your operation will be more cost-effective.

**Create a Vegetative Buffer:** One of the best ways to keep pesticides out of our waterways is to plant a vegetative buffer strip along the stream. Buffers act as a sponge trapping sediments, pesticides, and other pollutants carried by runoff. Buffers can also help minimize costs associated with repairing problems caused by stream bank erosion by holding soil in place. The establishment and implementation of retention ponds can also be effective tools for minimizing water contamination by pesticides.

**Pesticide Selection:** Always read the pesticide label for specific product information and proper disposal methods, and ask your local OSU Extension Office about new or existing products that may be more effective. When possible, select a product that has a lower toxicity, lower potential to be carried in runoff, and lower potential to leach into groundwater.



### Resources

Ag Container Recycling Council (container disposal procedures)  
[http://www.acrecycle.org/triple\\_rins.html](http://www.acrecycle.org/triple_rins.html)

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/>

National Pesticide Information Center (general pesticide questions)  
<http://npic.orst.edu/>

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

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

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



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