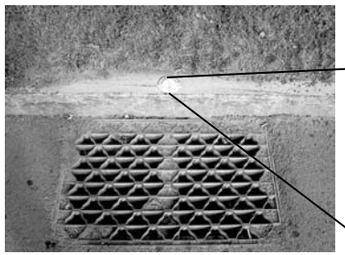
A healthy lawn can be beneficial to water quality because it filters and purifies water as it enters the soil and reduces runoff. However, misuse or overuse of fertilizers and pesticides can negatively impact our lake and other water resources through runoff and may lead to unhealthy conditions for your family and pets. Below are some tips for managing your lawn without compromising water quality or the health of you and your pets.

- **Know where your water goes**. Proximity to a streamside or lakeshore increases the negative impacts of human activities. In the city of Canandaigua, raw, unfiltered storm water enters storm



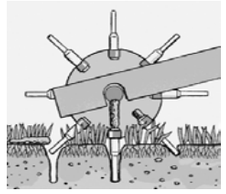
drains that lead directly to water bodies, carrying pollutants with it. Knowing the drainage pattern of your property helps you make informed decisions about appropriate land use. Avoid using fertilizers and pesticides in areas that are near impervious surfaces, streams or storm drains.

- **Test your soil.** Fertilizers, especially phosphorus, are the leading pollutant of concern because they can cause algae blooms and increased aquatic weed growth. If your soil test indicates fertilizing is absolutely necessary, apply in late May to early June **or** late August to early September. Many soil reports in the Canandaigua area indicate no need for phosphorus, so if you need to fertilize only use fertilizers with slow-release nitrogen and low phosphate (or zero if possible; see example at left). Be sure to carefully follow directions for all applications of fertilizer. **Contact the Cornell Cooperative Extension for information on soil testing: (585) 394-3977 ext. 436.**

- **Maintain a healthy lawn.** Protect your lawn from disease by planting disease-resistant seed and promoting healthy, dense growth. Cut grass no shorter than 3 inches, keep mower blades sharp to prevent shredding of grass, leave grass clippings on your lawn as a natural fertilizer and water in early morning instead of evening. These steps will improve the quality of your lawn and help you save money.

- **Keep soil where it belongs.** Use mulch or straw to stabilize soil in gardens or on bare ground until vegetation can be established. Exposed soils will wash away into streams and storm drains and end up in our lake. This extra sediment has a negative effect on aquatic life.

- **Manage thatch.** Thatch is a layer of dead and decomposing plant tissue made up mostly of stems and roots, not grass clippings. It forms above the soil and a thin layer (up to ½ in.) is beneficial. A thick thatch layer leads to increased disease and insect problems, drought stress and winter injury. Thatch usually occurs on lawns that have been heavily fertilized (over 3lbs. nitrogen/1000 sq. ft/year) and watered for constant lush growth. Compacted, poorly drained and low pH (below 5.8) soils also contribute to thatch problems. The use of pesticides is also a factor by potentially reducing or eliminating microorganisms that break down thatch. Mechanical removal can remove thatch temporarily, while core aeration and topdressing are effective in managing thatch.



Core aeration allows more oxygen, water and nutrients to reach the root system which promotes healthy grass growth.

- **Properly dispose of yard waste.** Keep leaves and grass clippings away from impervious surfaces and out of storm drains, ditches, streets, and streams. This organic material adds excess nutrients to water. Instead, leave grass clippings on your lawn and compost leaves.

Polluted water from a storm sewer draining into Sucker Brook, which flows through the City of Canandaigua and into Canandaigua Lake. Pollutants found included excess nutrients, bacteria, hydrocarbons, heavy metals and pesticides.

- **Clean up after pets.** Animal wastes contain nutrients and bacteria that can enter our lake through runoff. Discard pet waste in your garbage collection.

- **Know your pests.** Look regularly for pests to find problems early. Decide which species of pests you can live with, and which you need to control. Try non-chemical alternatives to pesticides first, such as manual selected removal, control with other organisms (biocontrol) or Integrated Pest Management. Contact the Cornell Cooperative Extension for more information on these alternatives: (585) 394-3977 ext. 436. If you choose to use chemical pesticides, carefully follow the directions printed on the label.

Some insects are important for streams and your yard!

PESTICIDES

*** * * What You Should Know * * ***

The table on the back of this pamphlet reviews currently known impacts on a limited set of commonly used pesticides based on government sponsored research. Young children, pregnant women and the elderly are at a higher risk for pesticide poisoning. Improper use of pesticides can also result in contamination of drinking water resources and environmental damage. It is important to note that pesticide research is an evolving science with new studies documenting undiscovered impacts. If you are going to use pesticides please follow the directions carefully and follow the latest research to make the most informed decision.

Healthy Lawns for Canandaigua Lake

Manage Your Yard While Protecting Your Health and the Health of Our Lake and Community

City of Canandaigua
Canandaigua Lake Watershed Council
Ontario County Cornell Cooperative Extension
Canandaigua Lake Watershed Alliance

April 2007

www.CanandaiguaNewYork.gov
www.canandaigualake.org
http://counties.cce.cornell.edu/ontario
www.canandaiguawatershed.org

Common Residential Pesticides. **This table does not in any way replace or supersede the information on the product label or other regulatory requirements. This table includes only a few of the chemicals used in pesticides, and only some of the products they are found in. Only some symptoms of poisoning and long-term expo-sure are listed - carefully read the label and understand the risks for all products you use. Be aware that many of these chemicals can be absorbed through skin, inhaled or ingested.** For further information on toxicity and other chemicals, please contact or visit our sources: The National Pesticide Information Center (1-800-858-7378), the EPA (www.epa.gov) and the Extension Toxicology Network (www.extoxnet.orst.edu). For more information regarding lawn care and pesticide use, contact the Cornell Cooperative Extension: (585) 394-3977 ext. 436. Ontario County will host a Household Hazardous Waste Disposal Day in September. Please call to register: (585) 526-4420

Active Ingredient	**Trichlorfon (Insecticide)**	**Malathion (Insecticide)**	**Bifenthrin (Insecticide)**	**Carbaryl (Insecticide)**	**Glyphosate (Herbicide)**	**2,4-D (Herbicide)**	**Mecoprop-p (MCPP) (Herbicide)**	**Dicamba (Herbicide)**
Common Products	Bayer Advanced	Ortho	Ortho and Scotts	Sevin, Bayer Advanced, GardenTech and Eliminator	Roundup	Spectracide, Sta-Green and Scotts	Spectracide, Sta-Green and Scotts	Spectracide, Sta-Green and Ortho
Symptoms of Poisoning	nausea, dizziness, confusion, irritation of skin, blurred vision, weakness, cramps, convulsion, loss of muscle control	numbness, incoordination, , dizziness, tremor, nausea, cramps, blurred vision, difficulty breathing, slow heartbeat	tingling, incoordination, tremors, vomiting, diarrhea, irritability to sound or touch	dizziness, confusion, burning, nausea	mild eye or skin irritation, congestion, increased breathing	eye or skin irritation, coughing, dizziness, loss of coordination	skin or eye irritation	irritation, nausea, dizziness, shortness of breath, muscle spasms, exhaustion, depression, excitement
Effects of Long-term Exposure	affects nervous system, may cause mutation of cells, may impact lungs, liver and bone marrow	affects nervous system, immune system, adrenal glands, liver and blood, suggestive evidence for carcinogenicity	classified by EPA as possible carcinogen (class C), can cause paralysis	affects nervous system and respiratory, may affect immune system	potential to cause kidney damage and have reproductive effects at high doses	may cause liver dysfunction, may cause kidney, thyroid, adrenal or eye dysfunction at high doses	may cause kidney failure and birth defects at high exposure	may cause changes in liver cells at high doses
Effects on Environment	moderate to high toxicity in beneficial insects, aquatic invertebrates, fish and birds	highly toxic to beneficial insects, aquatic invertebrates and amphibians and some fish; moderately toxic to birds	highly toxic to beneficial insects and aquatic organisms; moderately toxic to birds	highly toxic to beneficial insects and aquatic organisms	slightly toxic to birds and aquatic invertebrates	highly toxic to aquatic and terrestrial plants, beneficial insects and aquatic organisms; slightly toxic to birds	highly toxic to aquatic and terrestrial plants	slightly toxic to beneficial insects and aquatic organisms; highly toxic to aquatic and terrestrial plants