

Protecting Water Quality (published 2025-03-15)
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As avid gardeners, we do a lot of things to our yards and gardens that can impact water quality. We can also be stewards for keeping water safe by following a few important practices.

Pesticides

Integrated Pest Management (IPM) was covered in a series of articles over the past 6 months. A very important take-away from those articles is that using pesticides is a last resort for controlling unwanted insects. Before using pesticides, be sure you identify the cause of plant distress. It may not be due to a pest but may be related to adverse growing conditions or susceptible plants. The Virginia Cooperative Extension recommends asking these questions:

- “Is the injury severe enough to require control? If so, what options are available? Is chemical control the best option?”
- Can the pest be controlled by a pesticide at this stage of its life cycle?
- Is there a pesticide labeled for use on the plant involved and effective against the pest?”
<https://www.pubs.ext.vt.edu/426/426-723/426-723.html>

If you are unsure what to do, contact your county's Extension Agent. You can find your agent at <https://www.netmga.net/ut-county-extension-offices-in-ne-tn/>.

Fertilizer

Over or improper use of fertilizers can also contaminate ground water. Rain washes whatever is on your lawn and garden into streams, rivers and lakes. Fertilizers should be used based on the results of soil testing which is recommended every 2 to 3 years. It is not always necessary to add fertilizer to your trees, shrubs or gardens. If fertilizer is needed, make sure it is applied at the appropriate rate.

Yard and Garden Waste

It sounds contradictory, but allowing yard and garden waste to wash into storm drains is a problem. It is not uncommon to see people rake leaves and grass clippings into gutters and storm ditches. Unfortunately, when these break down, they add nitrogen and phosphorous to the water just like fertilizers do.

Creating compost is a great way to prevent yard and garden waste from adding to water pollution. It also provides you with a free, rich soil amendment. Compost improves soil structure and can enhance water absorption.

Soil Erosion

Another way to help keep water safe is to prevent soil erosion. We can prevent erosion by using groundcovers in areas where grass won't grow or covering the area with mulch. Cover bare soil with mulch even between rows of vegetable crops. Delay tilling if heavy rain is forecast. Plant slopes with grasses, groundcovers, or shrubs. After the vegetable garden is finished for the season, plant a cover crop or cover it with mulch. Cover newly sown grass seeds with straw.

Water Runoff

Purdue University describes 6 ways to help water stay on your property.

- First, use materials that will allow water to drain through rather than concrete for walkways, patios or pool decks.
- Next, select plants that will thrive in your conditions. For slopes, use plants with deep roots for both better water retention and erosion control. Native plants are always a good option.
- Third, keep your lawns healthy. Mow grass to 3 to 4 inches tall. Taller grass has deeper roots and is healthier. Also, mow when needed rather than on a set schedule. Leave clippings on the lawn to help return nutrients back to the soil.
- Catch water using a rain barrel. You can save money by using rainwater rather than running up your water bill. To learn more about rain barrels and how to make one, go to <https://irrigation.tennessee.edu/wp-content/uploads/sites/176/2020/08/Rain-barrels-make-good-sense-W276.pdf>.
- Here's a very clever way to retain water, install a rain garden. There are a number of plants that will grow in wet and dry conditions and are perfect for a rain garden. There are many helpful internet sites on building a rain garden. One example is "Start-to-Finish Rain Garden Design A Workbook for Homeowners" at https://www.hamiltonswcd.org/uploads/3/7/2/3/37236909/rain_garden_design_a_workbook_for_homeowners.pdf. For native plants, refer to "Landscaping with Native Plants – East Tennessee" at <https://tnps.org/wp-content/uploads/2022/10/landscaping-east-tn.pdf>.
- The final way to protect water quality is to properly maintain your septic system if you don't have city sewer service. Remember to have the system checked and pumped out periodically.

We gardeners have the power to make a difference to protect our water. We can retain water on our sites and make sure the water that does leave is clean.

Resources

"A Gardener's Guide to Protecting Water Quality" <https://content.ces.ncsu.edu/a-gardeners-guide-to-protecting-water-quality>

"Homeowner Conservation Practices to Protect Water Quality" <https://www.extension.purdue.edu/extmedia/ID/ID-523-W.pdf>

"Home Landscape Practices to Protect Water Quality" <https://www.pubs.ext.vt.edu/426/426-723/426-723.html>

"An Introduction to Rain Gardens" <https://extension.psu.edu/an-introduction-to-rain-gardens>

For more information about gardening, visit UTHORT's YouTube site for helpful videos: <https://www.youtube.com/channel/UCjS3d1kIH1OZ1Z2qPvhgfQ>

Or Washington County's YouTube site: <https://www.youtube.com/@utextensionwashingtoncounty>

How do I ask a question?

If you have a question for the Master Gardeners, submit them to us on our website at www.netmga.net. Click the link at the top of the page, "ASK A MASTER GARDENER" to send in your question. Questions that are not answered in this column will receive a response from a Master Gardener to the contact information you provide.