Kalamazoo River Watershed Phosphorus Overload

The Kalamazoo River watershed is a major geographic feature of southwest Michigan. Today, nutrient enrichment is threatening this resource. The Michigan Department of Environmental Quality (DEQ) has developed a Total Maximum Daily Load (TMDL) for phosphorus, which specifies the maximum amount of phosphorus that the river can receive, and still meet water quality standards.

Local citizens have worked together to develop strategies for reducing phosphorus into the river system, and for restoration of the watershed. This TMDL Implementation Plan recognizes that the source of most non-point phosphorus pollution is the land. Occasionally, phosphorus gets into our waters from lawns when there is too much phosphorus for the turf to use. As phosphorus adheres to soil particles, it and other pollutants are often carried directly into our waters when the soil erodes. Healthy turf grass, stable soils and appropriate fertilizer use, are all critical to reducing phosphorus into the Kalamazoo River and its waters.

For additional information, contact your local MSU Extension office, Conservation District or Groundwater Specialist. You may also contact the MSU W.K. Kellogg Biological Station at 269-671-2412.

A healthy lawn has the ability to:

- ✔ **filter contaminants from rainwater and the atmosphere.**
- ✔ **absorb nutrients and prevent losses to the groundwater.**
- ✔ **reduce runoff and erosion.**
- ✔ **absorb heat, light and noise.**

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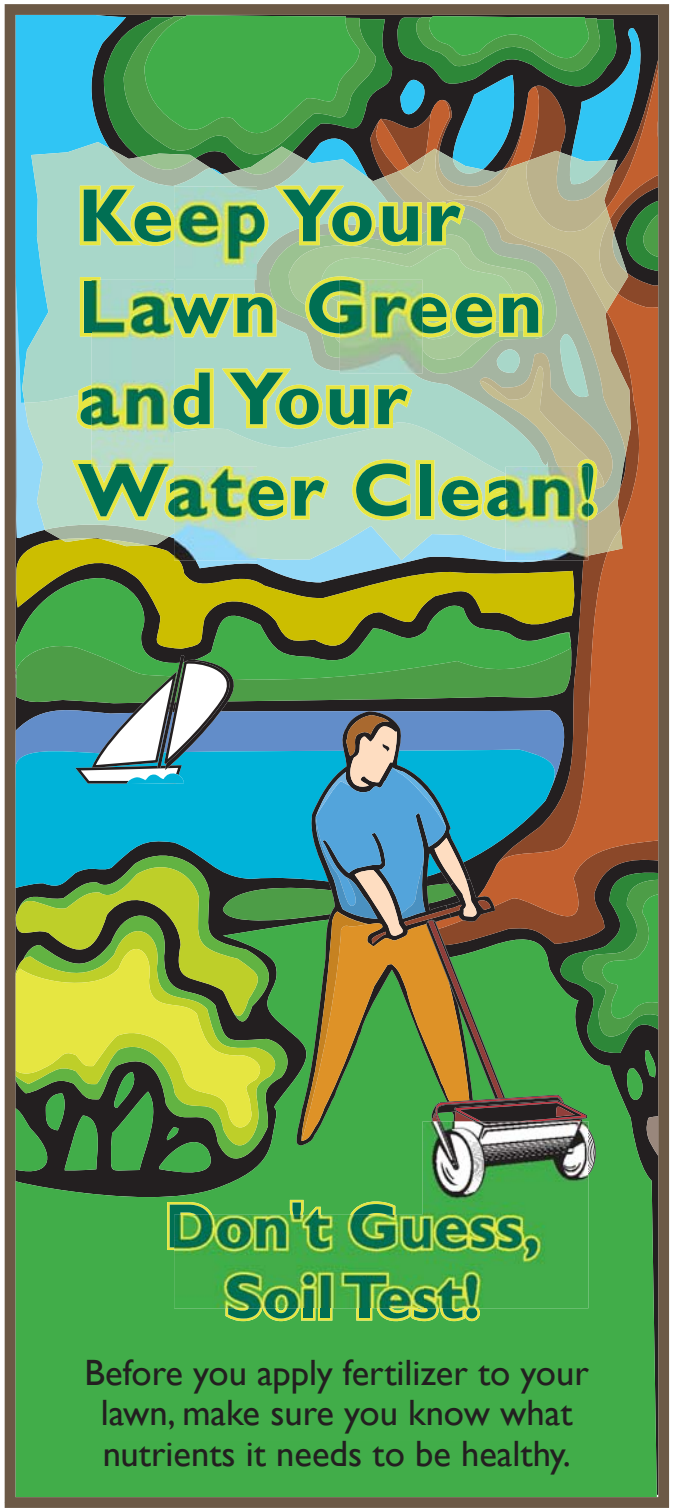

Do your part to protect water quality – handle and use fertilizers with care.

Here are some homeowner tips for the proper use of fertilizers.

Timing

Wait until the lawn is actively growing before applying fertilizer. Fertilizer applied when grass is not growing wastes your money and time, and can contaminate your water. If you choose to fertilize only once a year, the best time is late summer or early fall.

Slow-release or timed-release fertilizers

Including manure, sulfur-coated pellets or IBDU™, may seem more expensive, but actually they are more efficient; more fertilizer goes to the plants instead of being washed away by rain.

Water quality can be affected by runoff

Consider using a fertilizer with low or no phosphorous to help protect your water quality.

Measure

Don't guess! Know the amount of fertilizer your lawn needs by calculating the size of your lawn and reading directions on the fertilizer bag before applying the product. For free technical assistance and fertilizing advice, call your local Groundwater Stewardship Program or MSU Extension representative.

Knowing the condition of your soil is one of the most important factors in growing a healthy lawn. Contact your local MSU Extension office or area Conservation District for help with soil testing.

What does 30-3-15 on a bag of fertilizer mean?

Those numbers on the bag represent the percent of nitrogen (in this case 30 percent), phosphorus (3 percent) and potassium (15 percent) contained in the fertilizer. The rest of the bag (52 percent) contains inactive ingredients.

Nitrogen is an essential nutrient for plant growth. Because nitrogen makes grass green, it is often used in excess of what the grass needs. Nitrogen not used by the plants can leach through the soil into the groundwater, threatening drinking water supplies, or it may run off into surface water. Do not apply more than one pound of nitrogen to 1,000 square feet of lawn at each application.

Phosphorus is important for seed development, root growth and for maturation of your turf. It is, however, a primary water quality concern in Michigan. An excess of fertilizer on lawns, sidewalks and driveways, can make its way to lakes and streams by storm sewers or over land when it rains. As phosphorus adheres to soil particles, erosion can carry it directly into surface waters. This can cause nuisance aquatic weed growth and algae blooms, effectively choking area waters. Please, DO NOT apply phosphorus on lawns adjacent to lakes, rivers, streams or wetlands. Just one pound of phosphorus can support the growth of about 750 pounds of algae.

Potassium is important for root development, and resistance of your lawn to wear and climatic stress. Applied from one-half to the full rate of nitrogen, it does not typically cause water quality concerns.

GENERAL LAWN CARE TIPS

- ✔ Use your grass clippings as a source of nutrients – when mowing, return the grass clippings to your lawn through mulching (this reduces the need for fertilizer).
- ✔ To maximize root growth, mow grass no shorter than three inches. Don't cut more than one-third of the lawn's height when mowing.
- ✔ Do not fertilize if there is a chance of heavy rain.
- ✔ Sweep or blow excess fertilizer from paved surfaces back onto your lawn.
- ✔ All lawn chemicals should be stored in a safe, dry place, away from children and pets.

ATTENTION WATER-FRONT OWNERS

Additional steps you can take to protect water quality

- ✔ Plant a buffer strip of native or hardy pest-resistant plants between the water and yard. This protects against erosion and filters out contaminants.
- ✔ Never burn yard waste along the shoreline – ashes contain phosphorus.
- ✔ Use landscape plants that minimize the need for pesticides and fertilizers, and that are well adapted to water frontage.
- ✔ Consider reducing the amount of turf that needs to be heavily maintained.
- ✔ Do not feed wildlife along the shore, as it increases the amount of animal waste in the water.