

# Using Fertilizers and Maintaining Healthy Lawns, Shrubs and Trees

A guide to improving water quality in Redford



## Why be concerned?

Landscape practices affect the environment, especially streams and rivers. Homeowners often over-fertilize their lawns, apply too much herbicide and spray pesticides as a preventative measure even when pest problems do not exist. It is estimated that homeowners use ten times more pesticide per acre than farmers. The problem with these activities is that the excess chemicals often run off the property into storm drains and ultimately nearby creeks and streams.

Lawn fertilizers that are washed off by rain increase nutrient levels in waterways and promote algae growth. Algae “blooms” are a problem in the Rouge River because they deplete the dissolved oxygen in the water, which ultimately affects the types and numbers of fish that can survive. Minimizing chemicals also makes good economic sense. You may be able to reduce your landscape maintenance costs by using less chemicals and less water as a result of replacing lawn areas with shrubs and groundcovers that are native to Michigan.

## Three steps to a strong soil foundation

1. Have the pH and fertility of your soil tested by MSU Extension. Your soils may not require any fertilizer. Contact the local MSU Extension Office for more information (see “Getting Help”). A small fee is charged for the soil-testing service.
2. Test soil compaction. Compacted soils are unhealthy for plants and can cause rainwater to run off like it does on pavement. To test for soil compaction, try sinking a screwdriver into the



ground without pounding. If the screwdriver doesn't penetrate easily, aerate the soil with a hand or mechanical corer.

3. Examine soil texture. Neither very sandy nor heavy clay soils provide a good foundation for lawns or other plantings. To examine soil texture, squeeze a handful of soil into a ball. If the soil falls apart, it's too sandy; if the soil stays in a clump, it has too much clay. Good textured soil will form a ball when squeezed, but can be broken apart with minimal force.



Add compost or other organic matter lightly on top of your lawn and rake in. Over time, repeated “top dressing” will improve soil texture.

## Water with care

Heavy soils composed of clay are common in Wayne County, including Redford Township, and are easily saturated. Overwatering clay soils can cause plants and beneficial insects to drown. Water lightly and frequently, every day if possible. Watering daily for 15-20 minutes during dry weather is usually sufficient. Grass roots are short (often less than four inches long) and can't use excess water. Light, frequent watering also reduces the stress to the grass plant which, in turn, reduces the potential for disease and insect damage. Light watering keeps beneficial microorganisms active on the soil surface.

### Watering tips:

- Use drip irrigation or soaker hoses to get water directly to the root zone.
- Capture rain water in a barrel and use it for flowerbeds.
- Adjust timers on automatic sprinkler systems every week or so depending on the weather.
- Maintain irrigation systems to minimize leakage and maintain efficient application patterns.

## Use mulch

Shredded leaves, grass clippings, compost and other yard materials can be recycled as mulch. Mulching flower beds, shrubs, newly planted trees, and vegetables helps support plant growth. A couple of inches of mulch retains soil moisture, improves the texture of soil, and helps control weed growth.

## Convert lawns to low-maintenance plantings

Reduce the need for fertilizers, herbicides, mowing and watering by replacing turf grass with lower-maintenance plantings. Steep slopes and areas that are wet or shaded may not be suited for growing grass.

## Sources and Funding

- *The Community Partners for Clean Streams program (Janis A. Bobrin, Washtenaw County Drain Commissioner) and Southeastern Oakland County Resource Recovery Authority (SOCRRRA). Original graphics by David Zinn. Revisions by Canton Township Engineering Services and JJR Incorporated (Fall 1997).*
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Examine your lawn for opportunities to replace it with other plantings. These can range from expanding flowerbeds and other plantings, to using turf only where it's the best plant to fulfill a particular function, such as active recreation.

### Growing tips

- High mowing keeps lawns thick and healthy, and helps shade out weeds.
- Adjust mowers so that only the top one-third of the grass blade is cut and/or leave grass at least 3" high after cutting. Taller grass helps promote strong root development.
- Use a sharp mower blade. A dull blade will tear the grass and provide an entry port for diseases.
- Keep the mower deck clean by washing the underside of the mower after each use. A clogged deck won't mulch or discharge well.

### Recycle clippings

If left on the lawn, clippings provide important moisture and nutrients (clippings can provide up to half the nitrogen needed by your lawn). Since they're about 85% water, clippings quickly break down and don't cause thatch.

If your grass grows vigorously, you may need to periodically collect clippings. If they haven't decomposed before the next mowing, remove clippings and recycle them by using them as mulch or adding them to a compost pile.

### Manage thatch

Thatch is the woody remains of grass. Thatch builds up when there aren't enough microorganisms in the soil to break down woody grass remains.

To encourage microorganisms that reduce thatch, keep soil aerated and don't use insecticides. If thatch builds up over one

half-inch, aerate the soil and sprinkle compost or sifted topsoil over the lawn instead of fertilizing.

### Composting

Compost is decomposed organic material such as lawn clippings and leaves. Consider starting a home compost pile.



### Choose the right fertilizer

To help protect water quality, follow these three important steps when choosing a fertilizer:

1. Choose a slow-release fertilizer. Overusing fertilizers can promote excessive lawn growth and create extra waste. Excessive nutrients may move past the root zone and reach rivers and lakes. Threats are greater if "quick release" chemical fertilizers are used. Slow release fertilizers promote steady, uniform growth and protect water quality. These include organic fertilizers, timed-release coated products, and products with water-insoluble nitrogen (marked "WIN"). To be considered slow-release, Michigan State University specialists suggest that 25% of the nitrogen should be WIN.
2. Choose a fertilizer with little or no phosphorus. It is important to select fertilizers that contain the right amount of nutrients, including nitrogen (N), phosphorus (P), and potassium (K). The amount of phosphorus placed on lawns is a concern because it is a major pollutant within the Rouge River Watershed.
3. Fertilize in the fall, not in the spring. Fall fertilizing promotes deep, healthy root systems, and minimizes weed and disease problems. Spring applications can actually harm lawns by promoting more blade growth than root growth, making the lawn more susceptible to drought.

### Fertilizing trees and shrubs

Healthy trees and shrubs do not require annual fertilizing. If woody plants appear unhealthy, it may be due to poor soils, insects, disease or current weather patterns. Fertilizers should be applied only when a tree or shrub is growing poorly and the problem can't be traced to other causes. If trees or shrubs do need fertilizer, apply it when the plants are dormant, in late fall or early spring.



### Applying fertilizers, herbicides and pesticides

If you use lawn care chemicals, follow the label directions exactly and keep them off paved areas. Sweep them off the street or sidewalk and put sweepings back on the lawn. Avoid overspraying liquid chemicals.

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### Getting Help

MSU Extension Office for Wayne County	313.833.3412
MSU Extension Office for Washtenaw County	313.971.0079
Wayne County Dept. of Environment 24-Hour Hotline	888.223.2363