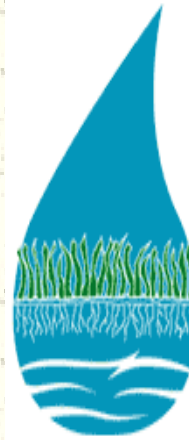


Healthy Lawn Care



**Gary Eichen – Plant Health Care/Bio-Turf Lawn
Mgr. Mikes Tree Surgeons, Inc**

Healthy Lawn Care



HEALTHY LAWN CARE PROGRAM FOR WATERSHED PROTECTION

Sponsored by the Michigan Green Industry Association
for the Lawn Care Professionals of Michigan.

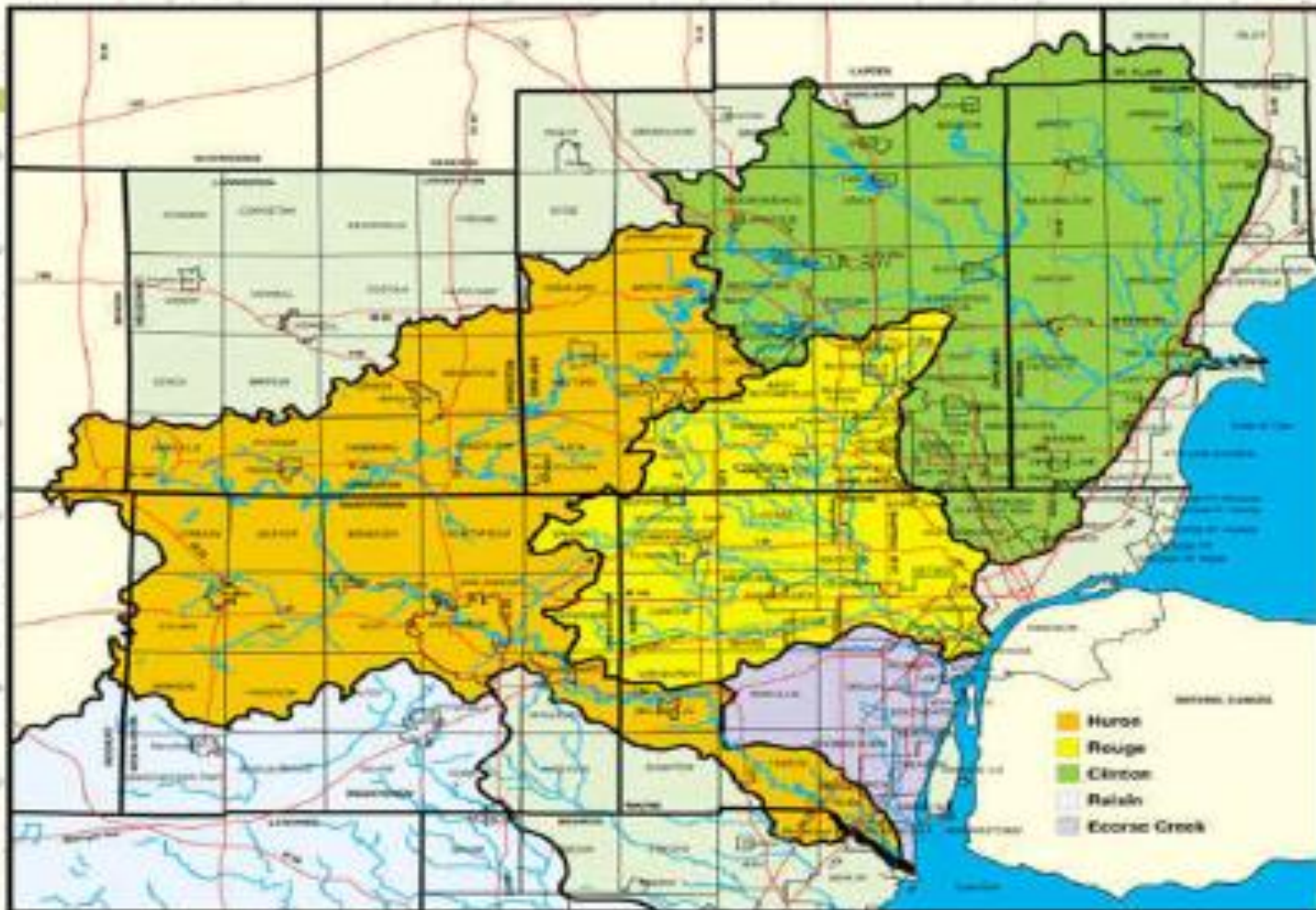


What is a “Healthy Lawn”, and how do I get one?

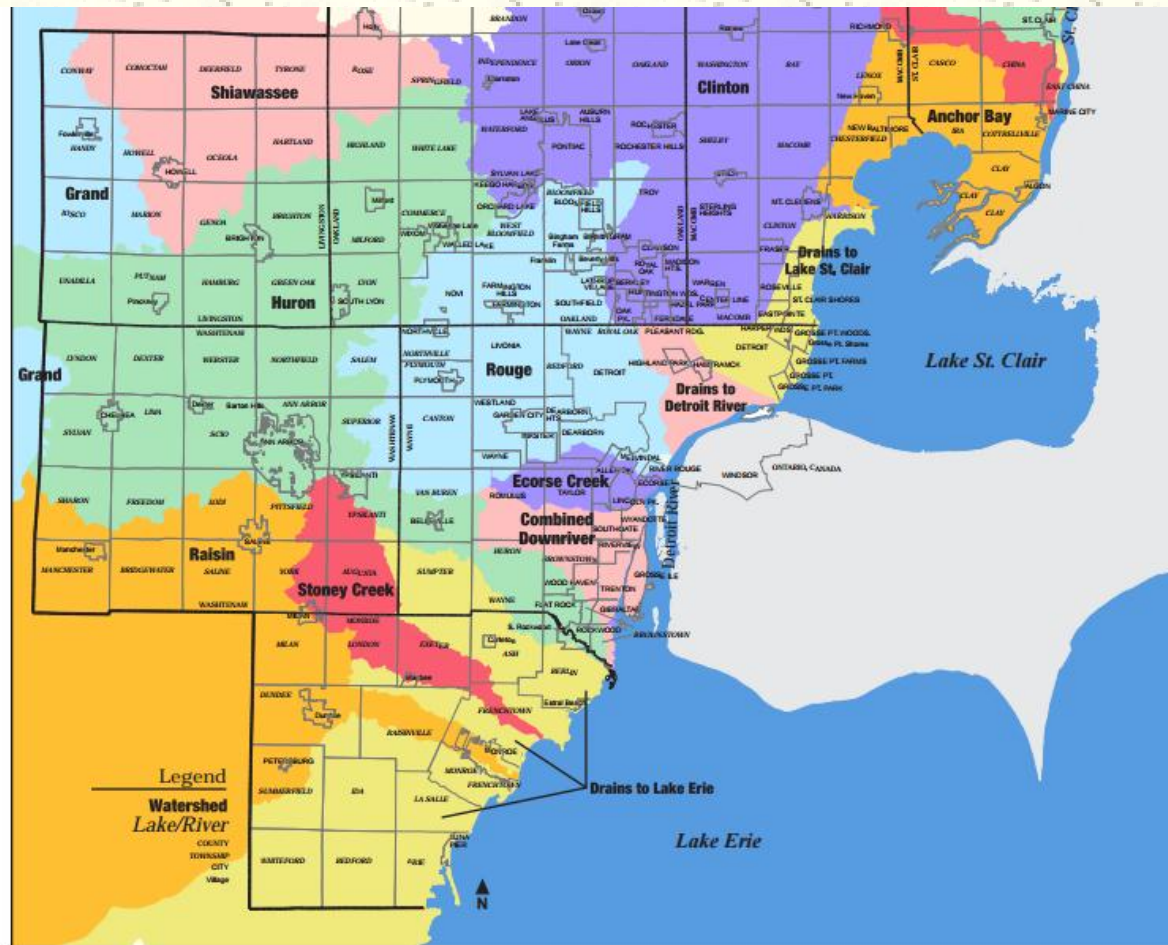


Some people over do it. The more you do to your lawn, the more you need to do. Your lawn learns to expect it.

There are 5 Watersheds in S.E. Michigan



Everybody lives in a watershed . Everybody is down stream of somebody (and upstream of somebody else).



SEMCOG

Southeast Michigan Council of Governments
 535 Griswold, Suite 300, Detroit, MI 48226-3602
 313-961-4266 • Fax 313-961-4869
www.semco.org

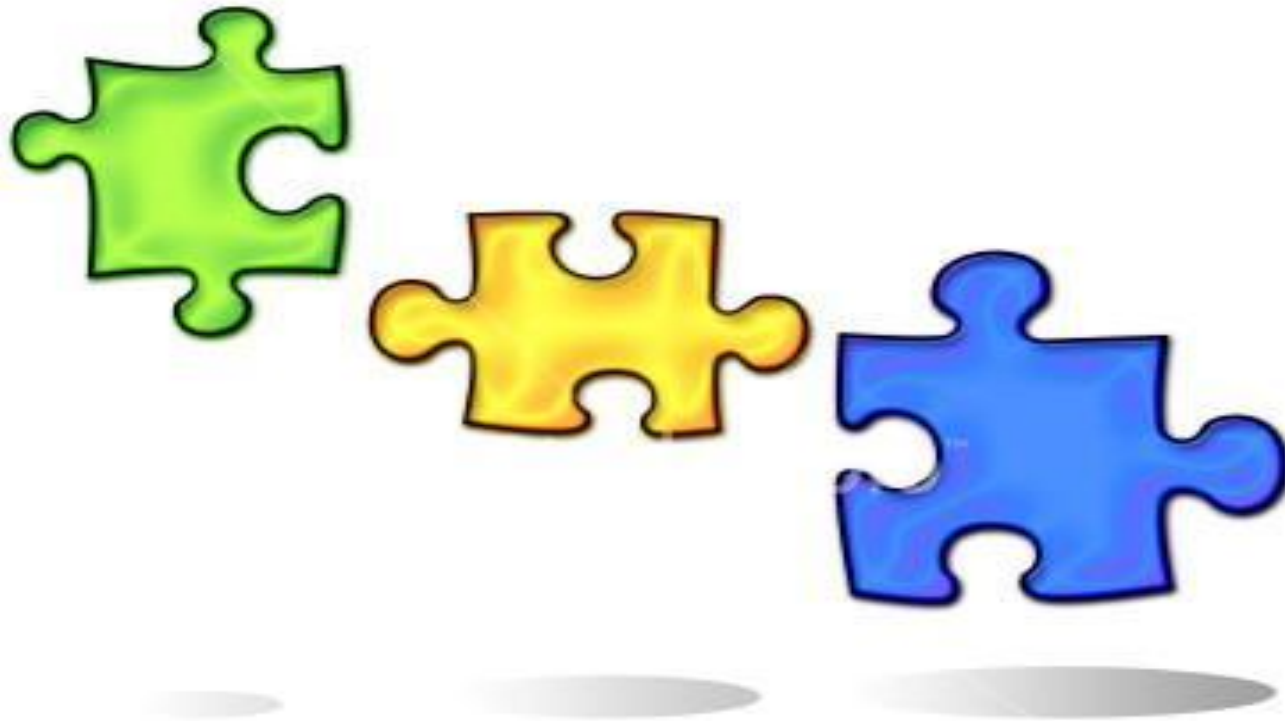
© SEMCOG, 2004

According to SEMCOG (Southeast Michigan Council of Governments), Grosse Ile is part of the Combined Downriver Watershed



Don't be this guy, fertilizing the water. Don't pollute the water. Don't waste your money. Don't get pulled over by the Fashion Police.

Lawn Care is Understanding and Putting Together a Puzzle



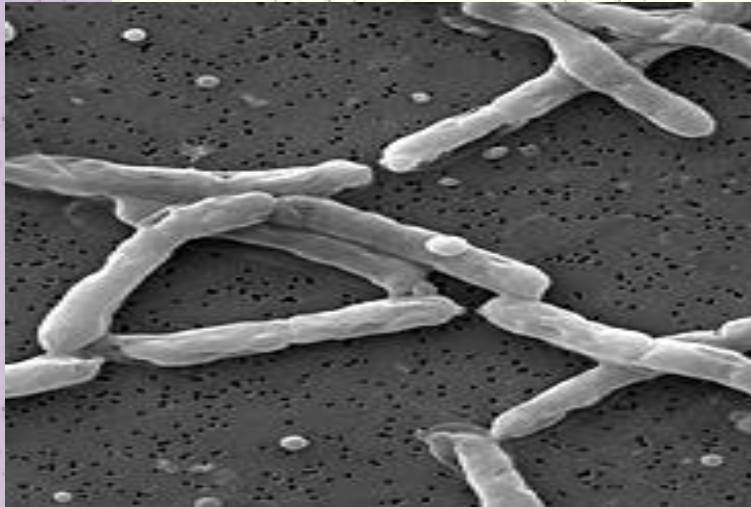
Grass grows in a LIVING Substance...

- ✦ Soil is the naturally occurring, unconsolidated or loose covering of broken rock particles and **decaying organic matter** on the surface of the Earth, capable of supporting **life**.

Soil is not just dirt.


Over 1 ton of bacteria can live in a single acre of soil

(A teaspoon of productive soil usually contains
between 100 million and 1 billion bacteria)



There are 5 nonillion (5×10 to the 30th power)
known bacteria on the Earth.

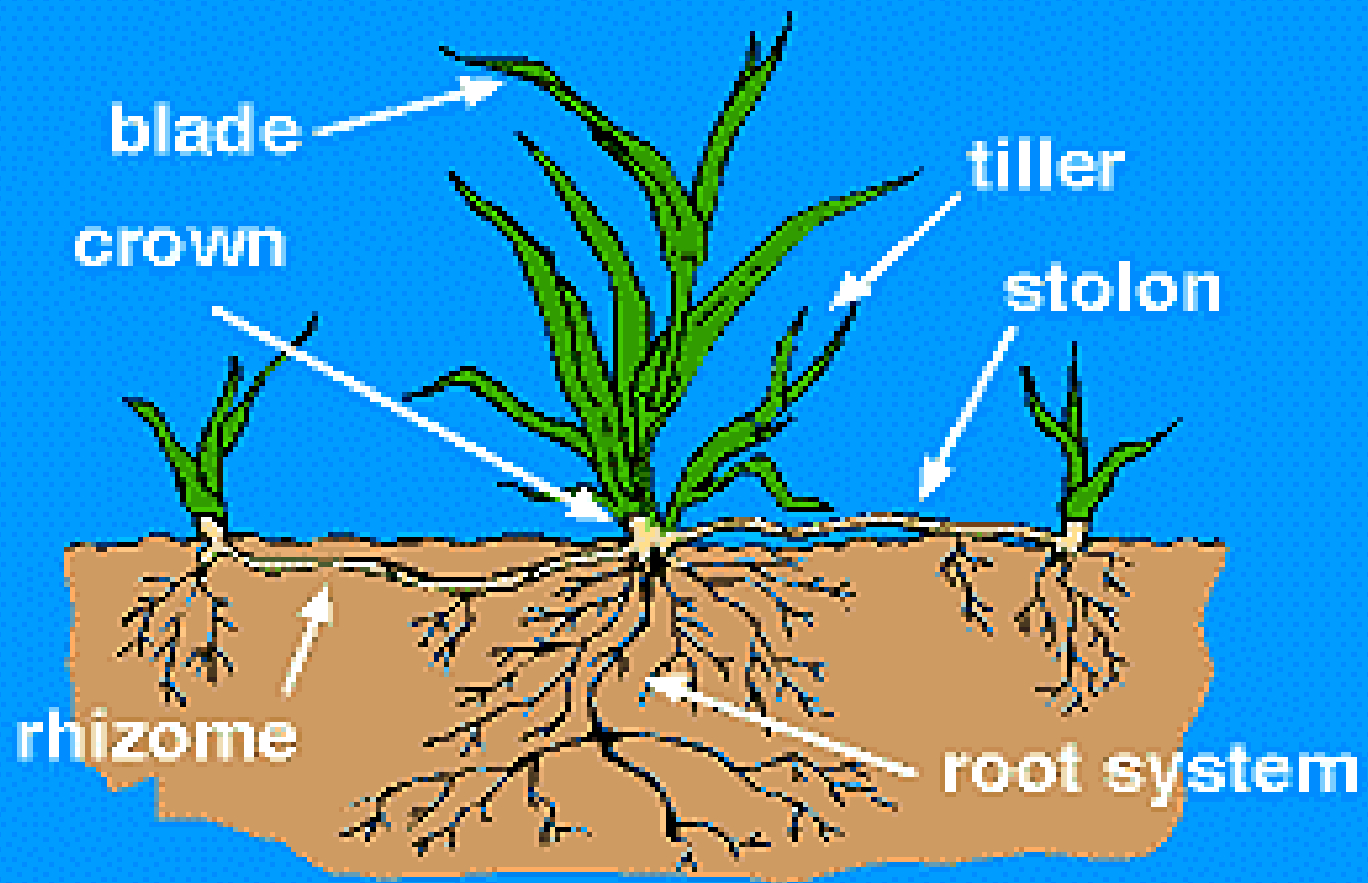
There are lots of beneficial bacteria. Your lawn needs these bacteria.



Understanding the need for *Soil Health* is very important.

- # Our goal should be to help create a soil profile that is conducive to the improvement of the root structure. Thereby allowing the plant to increase its health and vigor naturally.

Key Parts of a Grass Plant



Stolons are above the ground. Rhizomes are below ground. Baby grass plants can develop from rhizomes or stolons.

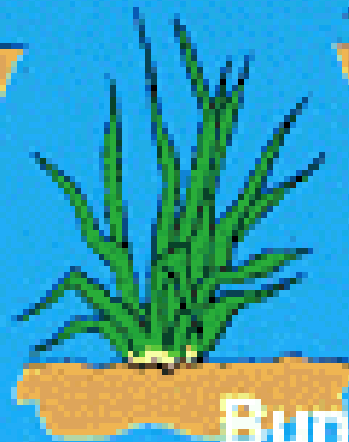
Growth Habits of Grasses



Rhizomatous



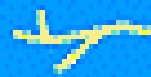
Stoloniferous



Bunch-type

Grass grows by rhizome or stolon or bunch. Weeds spread by seeds.

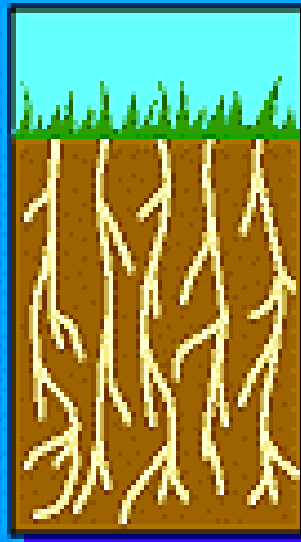
Natural Cycle of Cool-Season Grass Root Systems



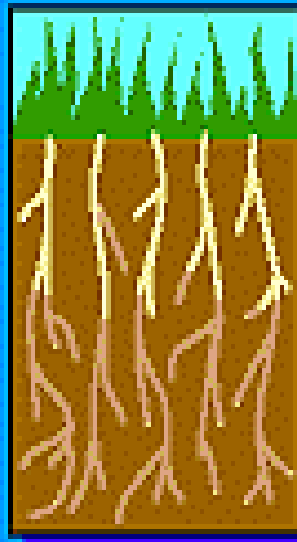
GROWING ROOTS



DYING / DEAD ROOTS



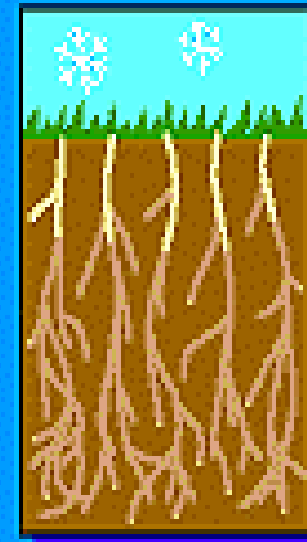
Late Winter--
Early Spring



Late Spring--
Early Summer



Late Summer--
Late Fall



Winter

Grass only grows twice a year. It builds up a reserve of energy in the roots before growing.



Michigan is in the Cool Season Grass Zone.

“Cool Season” Grass Types

- # Bluegrass
- # Fescues
- # Ryes



Proper Maintenance Practices are the Key to Lawn Health

- # Proper Mowing
- # Proper Watering
- # Fertilization
- # Core Aeration
- # Controlling Weeds

Proper Mowing...



(Gary's idea of the coolest lawn mower, and many people agree, all guys.)

From MSU, OSU + Purdue...

2.5 to 3.5" in summer stress periods

2.0 to 2.5" in spring and fall.

This applies to ALL "cool season" grass.

Never remove more than 1/3 of the blade during a single cut.

Never mow when grass is wet.

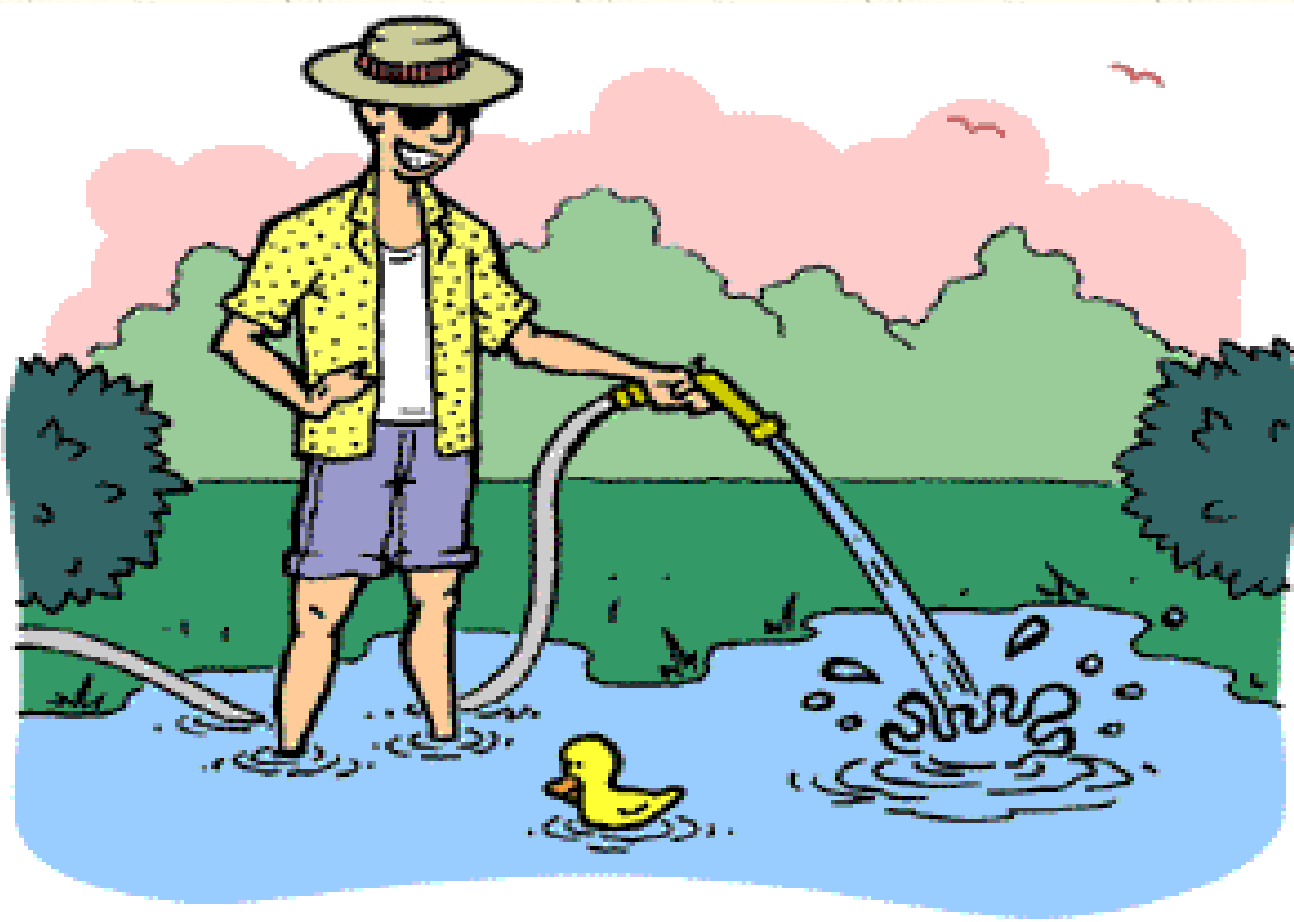
Let the clippings fall.

Mowing at 3" vs. 1.5"



This is Gary's back yard. As an demonstration he cut part of his lawn down to 1.5 inches. The crowns of the grasses are yellow. Too much of the grass blades were cut and it took weeks for the lawn to recover. Longer grass blades mean less stress on the grass when it's cut, and longer grass blades also crowd out the weeds.

Proper Watering...



Don't drown your lawn and make a pond for the ducks, no matter how cute they are.

Watering Instructions (MSU)...

- # First, choose a level of quality or maintenance that is compatible with your objectives and choose a range of total water needed (0.5 to 1.5 inches per week).
- # Pick a specific amount after making adjustments for weather and soil conditions. Then split that amount up into several light, frequent waterings. During dry, hot periods, this will be daily irrigation.

Gary knows he wants a healthy green lawn, but not a perfect lawn or a lawn that requires constant attention. He waters an inch per week during dry weather.

One can measure the amount of water applied by placing an open, straight sided container on the lawn. The container can be marked with the desired water application rate (0.5, 1.0, 1.5 inches). Keep track of the time during your test so you can water for the same amount of time in the future to get your desired amount of water on the lawn.

Water between 10 am and 2 pm. That way any excess water will evaporate and avoids ponding. Watering will cool the grass on hot days. Overly wet grass can develop mold and mildew.

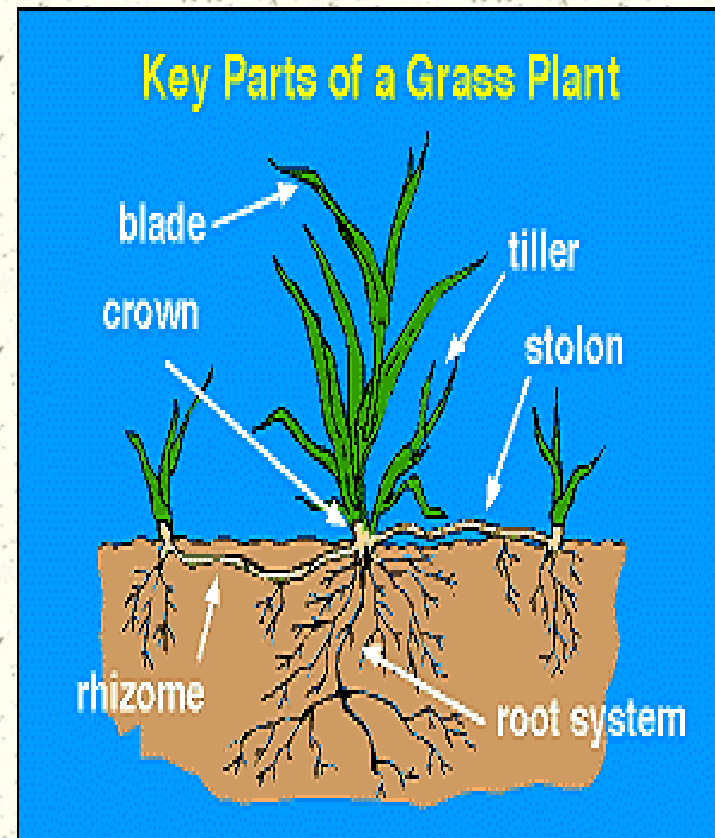
Lawn Fertilization



First thing, do not fertilize when the ground is frozen. It is illegal and stupid. Many lawn companies will come out and put fertilizer on your lawn when the ground is frozen. They should be fired immediately (or worse). Ground temperature should be 60 degrees before any fertilizer is applied.

We Do Not “Feed” Lawns, They Feed Themselves...

Grass plants are **autotrophs** they utilize the elements in fertilizer to produce glucose, proteins and other materials but, **they manufacture their own food.** Fertilizers supply some of the elements necessary for plants to produce food, **but fertilizer is not grass food.**



The plant uses photosynthesis to manufacture its own food using sunlight. Don't use weed and feed. You don't need to feed. You don't need to broadly spread the herbicides.

Fertilizer Tips

- # Fertilizer is labeled w/ 3 numbers, representing N-P-K. The first number (N) is nitrogen, the second is phosphorous (P) and the third is potassium (K).
- # Use fertilizer that is low in the second number, or better yet “0”.
- # Use fertilizer that has a slow release component, expressed on the packaging as S.R.N. / W.I.N.

It is important to get a soil test to see what you actually need for your lawn. (see specifics of healthy lawn care program)

If your lawn service company does not offer a soil test, you can do it yourself. Visit the Wayne County Extension Service website for more info http://msue.anr.msu.edu/news/soil_testing_instructions_using_msu_extensions_home_lawn_and_garden_soil_te

Beginning January 1, 2012, **except as provided...** a person shall not apply to turf a fertilizer labeled as containing the plant nutrient available phosphate (P_2O_5). The 2nd number should be zero.

Use Fertilizers that are earth friendly for water quality protection. Lists can be obtained from MSU, Michigan Green Industry Association or the South Oakland County Water Authority. Look for low phosphorus, Slow Release Nitrogen (SRN) or Water Insoluble Nitrogen (WIN) and free of pesticides.

Earth Friendly Fertilizers for Water Quality Protection – Recommended by Michigan Green Industry Association, South Oakland County Water Authority, and local partners, with advice from MSU Extension - Feb 2015

Criteria for designation as an earth-friendly fertilizer:

Low-phosphorus or no-phosphorus:

- Zero phosphorus
- Low-phosphorus natural fertilizer, biosolid, manure or manipulated (composted) manure as defined in the Michigan Fertilizer Act

Slow-release nitrogen:

- Natural organic fertilizer, or
- Synthetic fertilizer with 40% or more water insoluble nitrogen (WIN), or 40% of another controlled-release component

Free of all pesticides (including herbicides); no weed-and-feed.



Earth Friendly Fertilizers for Water Quality Protection cont'd - Feb 2015



BRAND NAME	N-P-K	% Slow-Release Nitrogen
ACO Fall Lawn Food	21-0-4	50%
Espoma Organic Lawn Food	9-0-0 or 8-0-0	84%
Fertrell Lawn Fertilizer - Custom Blend	5-0-5	70%
Grass Magic	15-0-7	70%
Jonathan Green Organic Lawn Fertilizer	10-0-1	95%
Milorganite	5-2-0	66%
Safer Lawn Restore	10-0-6	76%
Soil Science	5-0-7	High
Turf Nurture	15-0-7 or 15-4-7	75%
<u>CORN GLUTEN PRODUCTS:</u>		
Bradford Organics - Luscious Lawn	9-0-0	85%
Espoma Organic Weed Preventer	9-0-0	91%
Jonathan Green Organic Weed Control	9-0-0	76%
Organica Lawn Booster	8-0-1	94%
Safe Lawn	9-0-0	91%

These brands have been approved by the Michigan Green Industry Association's members who have developed the Healthy Lawn Care Program for Water Quality Protection

Fertilizer Tips

- # More is NOT better...
- # Target your applications to when the grass plant is growing, spring and fall.
- # Remove all fertilizer from paved surfaces.
- # Create a 15 ft.* to 25 ft. buffer zone from lakes.
- # Water after the application for best results.
- # When applying fertilizer I recommend a broadcast spreader.

* State law minimum.

Broadcast

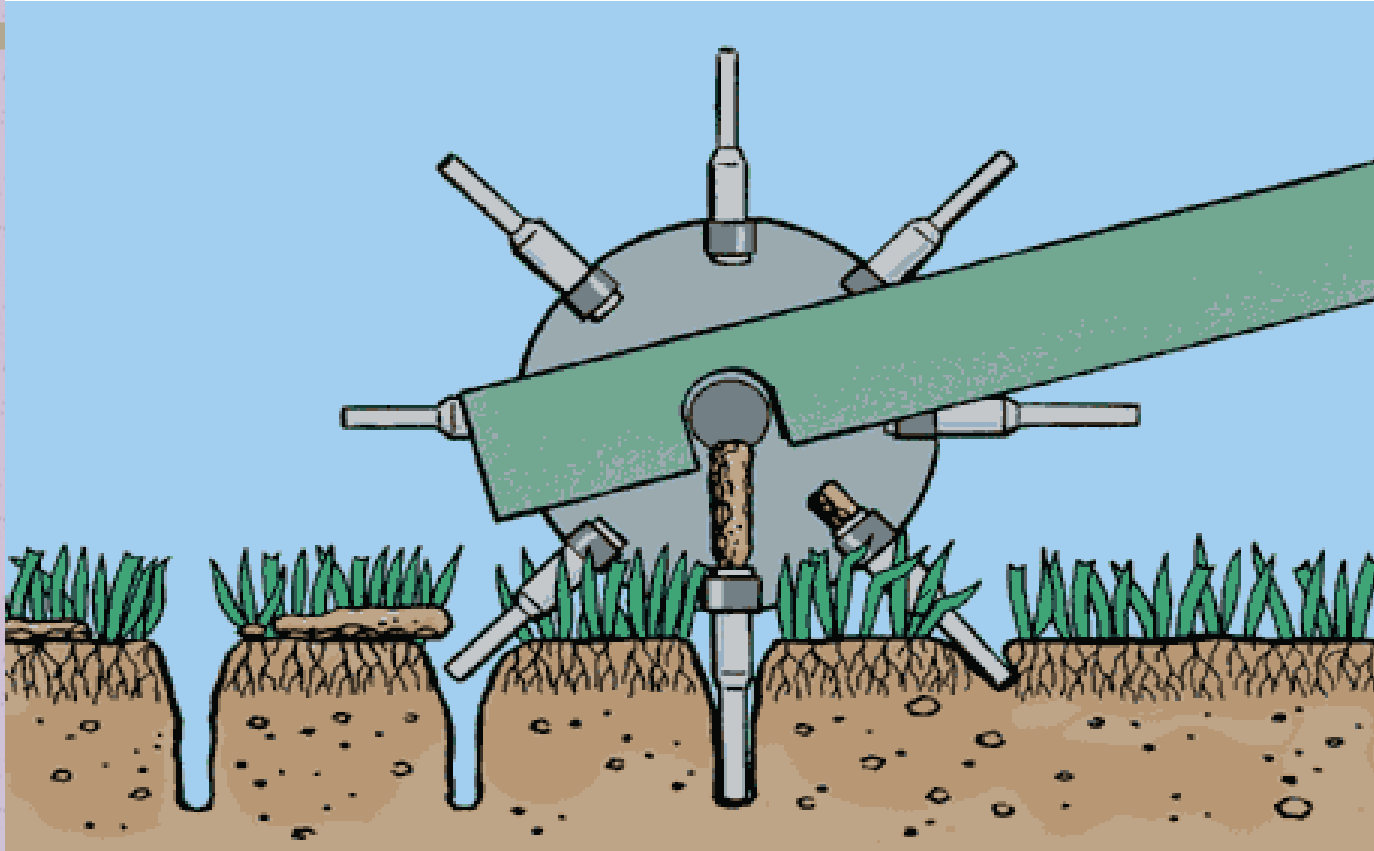
Drop





This photograph shows the result of improper use of a drop spreader and uneven application of the fertilizer. Too much fertilizer will burn out the lawn. A broadcast spreader is easier for the homeowner to use.

Core Aeration



Core Aeration is one of the best things you can do to help your lawn.

The Benefits of Core Aeration



- # Reduces soil compaction.
- # Increase oxygen levels.
- # Reduces thatch.
- # Increases microbial activity by extracting a core, bringing it to the surface where it breaks down allowing the soil microbes to “work”.

You can live in the desert for days without water, but you won't live very long without air. Our lawns need oxygen. Golf shoe spikes are not effective. Leave the cores on the lawn, they will break down.

What is Thatch?

- # Thatch is an intermingled layer of living and dead stems, leaves and roots which accumulates between the layer of actively-growing grass and the soil underneath. Thatch is a **normal component of actively growing turfgrass**. As long as the thatch is not too thick, it can increase the resilience of the turf to heavy traffic. Thatch develops more readily on **high-maintenance** lawns than on **low-maintenance** lawns.

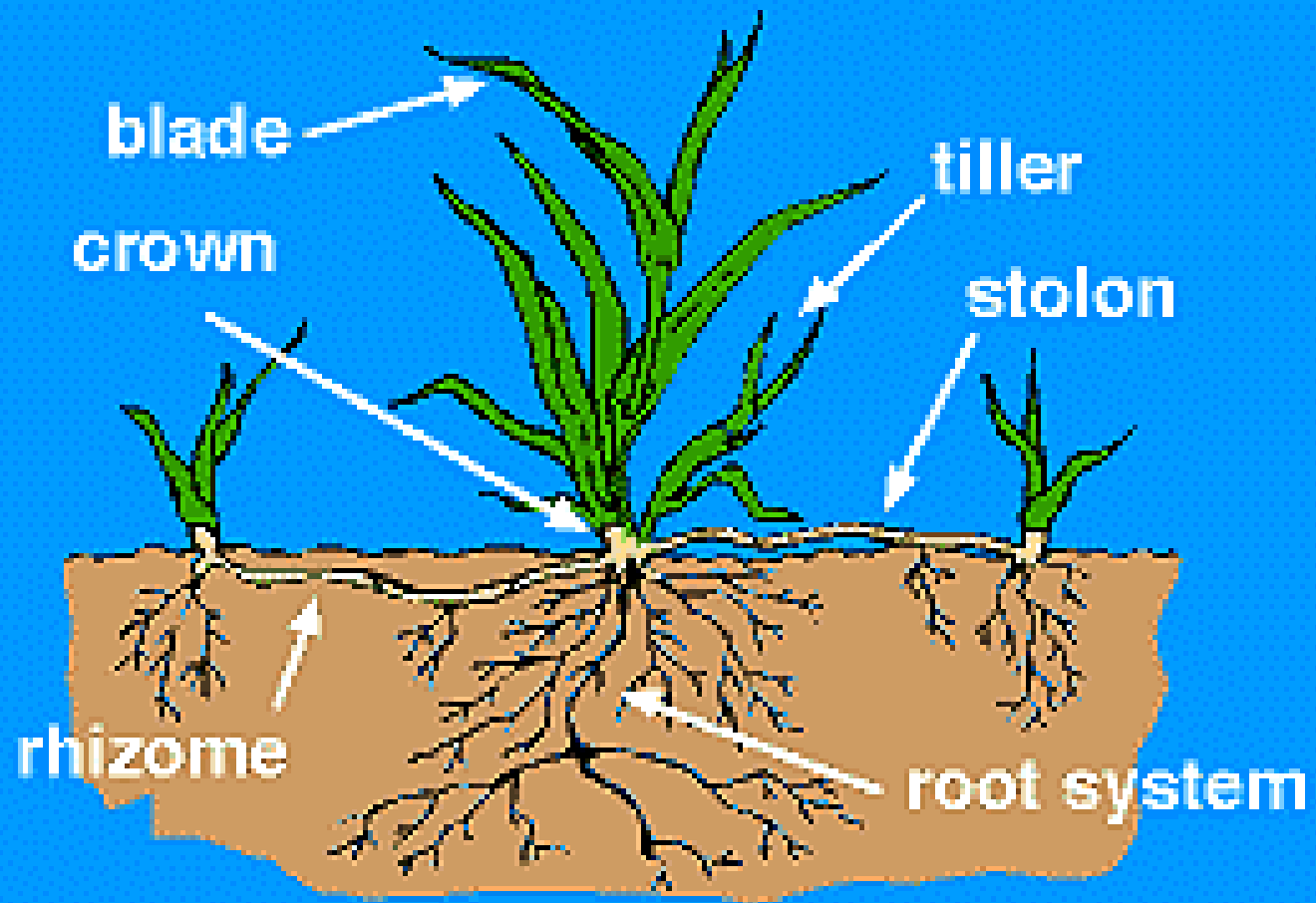
The thatch also helps keep weed seeds from reaching the soil. Thatch up to one inch is beneficial.

“De-Thatching” Devices (*WMD’S*)

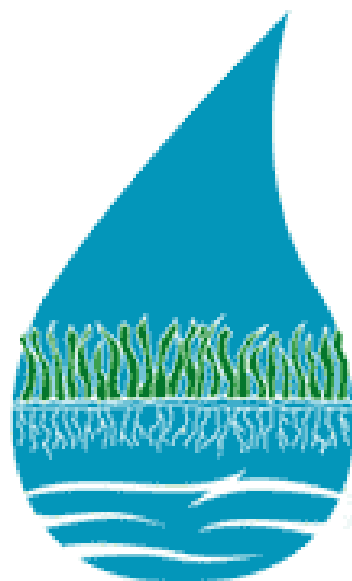


WMD=Weapons of mass destruction.

Key Parts of a Grass Plant



Using those WMDs can damage your lawn. Dethatching cuts the rhizomes and stolons and will cause the young grass shoots to die. Dethatching can actually cause your lawn to thin out.



HEALTHY LAWN CARE PROGRAM FOR WATERSHED PROTECTION

Sponsored by the Michigan Green Industry Association
for the Lawn Care Professionals of Michigan.



Ask your lawn service if they are certified (by MGIA) to provide the healthy lawn care program for watershed protection. They can contact MGIA about training to get certification. Certified lawn services can also be found by contacting MGIA at <http://www.landscape.org/>

Healthy Lawn Care Program

- # An initial on-site consultation
- # Offers soil nutrient testing
- # Slow-release fertilizer (40%)
- # Low (w/soil test) or NO phosphorus
- # Fertilizer quantities of 2, 3 or 4 pounds/ 1000 sq ft of nitrogen per growing season
- # Pesticide use options

The MSU extension offers soil testing service. Go to MIGARDEN.MSU.EDU Soil testing will reveal what fertilizer levels are needed. Nitrogen should be 40% or more slow release. Look for it on the bag. On site consultation will tell you what pesticide/ herbicide options are appropriate. Spot treat weeds, do not broadcast herbicides.



#248-646-4992

#www.landscape.org

*Healthy Lawn Care Program
For Environmental Protection*

A Guide To Selecting A Lawn Service

Questions To Ask

*Brochure prepared by SOCWA
(Southeastern Oakland County Water Authority)
in cooperation with the
Wayne County Department of Environment and the
Michigan Green Industry Association
Updated – February 2005*



WHY BE CONCERNED?

Rain and melting snow carry small amounts of oil, grease, soil, debris, and other pollutants to rivers, lakes, and wetlands. Lawn fertilizer and pesticides are among the pollutants that have been found in storm water runoff.

Lawn service providers throughout Southeast Michigan are being asked to minimize fertilizers and pesticides – but chemical use reduction depends on customer interest. This brochure will help local residents find lawn care services that meet their own goals – and protect water quality.



Program recommended by: SOCWA, Wayne County Department of Environment, Friends of the Rouge, Clinton River Watershed Council, Huron River Watershed Council, Oakland County Drain Commissioner's Office, Washtenaw County Drain Commissioner's Office, and Rouge River municipalities.



Why Ask Questions???

- # 7 application program that applies a $\frac{1}{2}$ lb of N per 1,000 per visit = **3.5 lbs of N per year**. However if each application is \$35 X 7 = **\$245**
- # 4 Application program that applies 1 lb of N per 1,000 per visit = **4 lbs of N per year**. Cost would be \$35 X 4 = **\$140**

The unscrupulous lawn care companies will try and sell you a program that includes 6 or 7 applications of fertilizer. Obviously they make more money that way. A program of 4 applications of a slow release nitrogen delivers more fertilizer for less money.

Questions to ask...

- # Are your employees Certified Pesticide Applicators/Do they follow IPM techniques?
- # Does your fertilizer have a “slow-release” component/does it comply with state law?
- # Do you clean off paved surfaces?
- # How much nitrogen is applied at each visit?

IPM=Integrated Pest Management.

Clean off paved surfaces so residual fertilizer does not wash into the storm drains and into our rivers.

Zero Phosphorus Fertilizer Law

(Act 451 Part 85 Amendment PA 299)

- # Beginning January 1, 2012,
except as provided... *a person shall not apply to turf a fertilizer labeled as containing the plant nutrient available phosphate (P_2O_5).*

30 – 0 – 10

“except as provided...”

- # *If a tissue, soil, or other test performed within the preceding 3 years... indicates ...phosphate... is deficient to support healthy turf grass growth or establishment.*
- # *If new turf is being established...it is the first growing season...a person may apply fertilizer to the turf at a rate not exceeding the standard...specified by the director... after consultation MSU extension.*
- # *Finished “sewage sludge” at a rate of .25lb per 1,000 sq ft.*
- # *Golf courses...*

These are the only conditions under which it is legal in Michigan to apply a fertilizer containing nitrogen.

Zero Phosphorus Fertilizer Law

(Act 451 Part 85 Amendment PA 299)

- ✦ *A person SHALL not apply fertilizer to less than 15 feet from any surface water, unless 1 or more of the following apply:*
 1. *A continuous natural vegetative buffer at least 10 feet wide...*
 2. *A spreader guard, deflector shield or drop spreader is used...*

More important info. It is **illegal** to apply fertilizer within 15 feet of any surface water (Lake Erie, the Detroit River, a stream or pond ...) unless there is a 10-foot-wide strip of native plants at the water's edge, and/or, you use a spreader guard or deflector shield. This is a good reason to plant native plants along the shoreline. That also deters geese from hanging around.



So...

We work too hard...

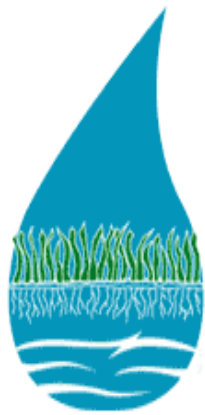
We work too much...

We use too much “stuff”...

1. Fertilizer
2. Weed Control
3. Water!!!

*LEARNING how to have a healthy lawn,
is the first step to having one!!!*

The End



HEALTHY LAWN CARE PROGRAM FOR WATERSHED PROTECTION

Sponsored by the Michigan Green Industry Association
for the Lawn Care Professionals of Michigan.



East River Rd HD Grosse Ile Mi House C by Andrew Jameson -
Own work. Licensed under CC BY-SA 3.0 via Wikimedia Commons

Gary Eichen – Plant Health Care/Bio-Turf Lawn
Mgr. Mikes Tree Surgeons, Inc.

mtsmgr@gmail.com

Many thanks to Gary Eichen for his excellent presentation on Earth Day, April 22, 2015, and for permission to post this on the Grosse Ile Nature & Land Conservancy website.