Environmentally-Sensitive Turf Management Practices and Water Quality

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Existing Research

Under ideal conditions, there's little runoff/leaching from vigorous, mature turf

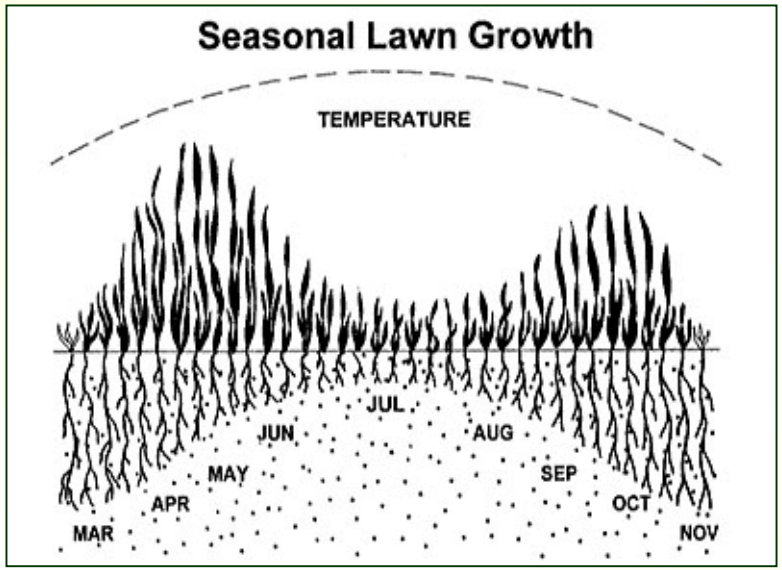
On the other hand, nature isn't blameless when it comes to reduced water quality!

Site/Turf Condition Reality Check

The question is . . . . . ., how much of the turf we're managing is growing under ***ideal*** conditions, how much if it is growing ***vigorously***, and how much of it is ***mature***?

Cool-Season Turf Growth Cycle

With adequate moisture, cool-season turfgrasses thrive when temperatures are between 55°F and 75°F.



Turf Establishment

Goal is to cover the ground as quickly as possible with dense, permanent cover that reduces runoff/enhances infiltration.

There are places where turf is unlikely to thrive – alternatives are appropriate.

Turf Establishment

Seed and sod protocols are well-established based on growth cycle.

On-demand mixing and delivery of even small seed quantities removes barrier to establishment with diverse, modern genetics.

Sod provides immediate cover, but genetics should be considered.

Turf Management - Mowing

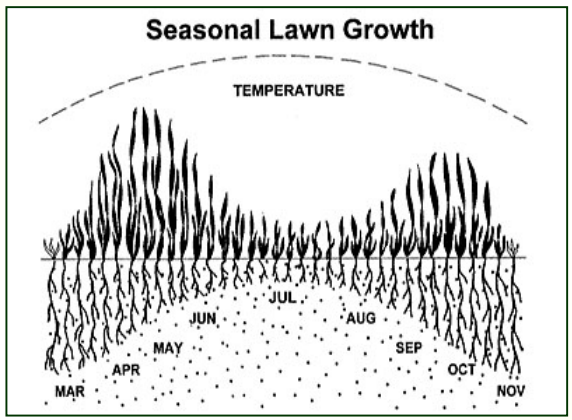
The highest impact management practice because it's (should be) done twenty-five to thirty, or more times per growing season.

As we know, but clients sometimes resist, "high, frequently and often" is critical for a dense stand of turf.

Turf Management - Fertilization

Goal is to deliver just enough nutrients at just the right time to maximize turf density without stimulating excessive top growth at the expense of root growth - and risking the movement of nutrients out of the root zone.

- Research has thoroughly documented best times of year for nutrient application – (Memorial Day), Labor Day and Veteran's Day
- Difficulty is applying appropriate fertilizer on hundreds of lawns in a very short period of time.



Turf Management - Cultivation

Core aeration enhances root growth by reducing thatch accumulation which, in turn, can increase movement of water and oxygen to the root zone. Dethatching *<u>is</u>* *<u>not</u>* recommended, except for turf renovation.

Turf Management - Irrigation

The long-term average rainfall amounts for Syracuse are:

April – 3.39 in., May – 3.39 in., June – 3.71 in., July – 4.02 in.
August – 3.56 in., September – 4.15 in., October – 3.20 in.

Turf Management – Weed Control

Managing weeds is about survival of the fittest. A dense stand of vigorous turfgrass will outcompete “weeds” for water, nutrients and sunlight.

Weeds don’t “overrun” turf, rather they move in to fill the void left as desirable grasses decline.

Turf Management – Insect Control

Unlike weeds that take advantage of weak turf, some insect pests search out vigorous stands of turf as a food source.

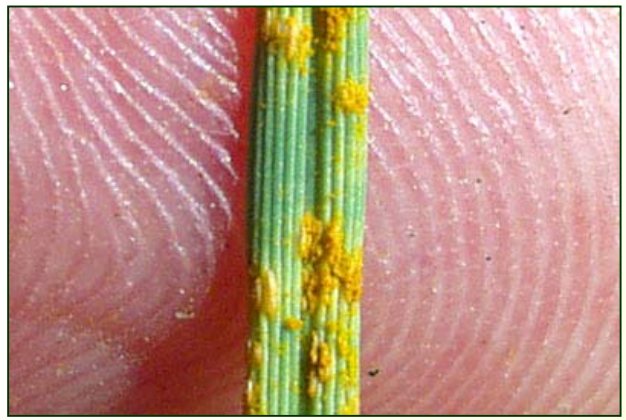
The key is to recovery from infestations is to keep turf as vigorous as possible so as to speed recovery.

Turf Management – Disease Control

Intensively managed turf (golf courses and sports turf) tend to be most at risk from diseases.

Lawn disease symptoms can be dramatic, but tend to pose limited risk.

Best protection from disease in lawns is genetic diversity and management practices that enhance vigor.



Turf Management – Critter Control

The damage caused by most critters is aesthetic – but can be dramatic and severe.

Damage often occurs after the ideal window for repair has past.

Turf Management – Recognize Site Variability

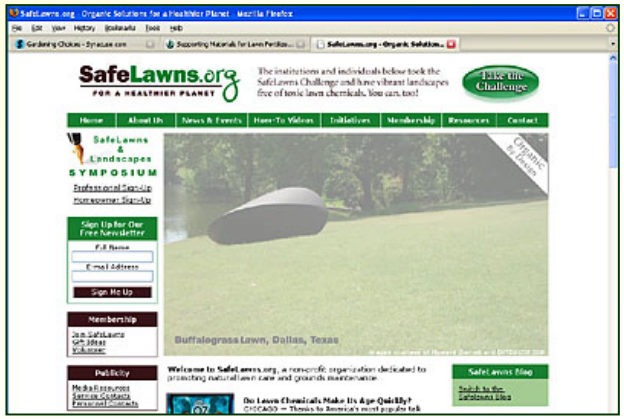
Almost every managed turf grows on top of a moderately to severely modified soil profile.

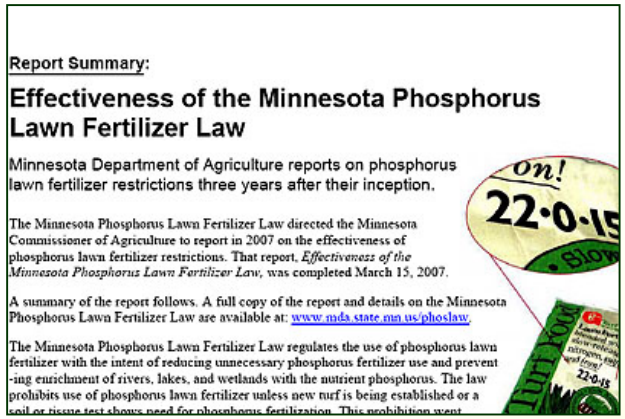
This must be respected when developing management strategies.

Turf Management – The Future is Now

We're kidding ourselves if we think that times haven't changed.

The products and services we provide are critical to society's connection to nature, but the way we deliver them must change!





Summary

- Strong evidence indicates that there's relatively little environmental risk associated with vigorous turf growing in appropriate locations.

- Generations of research exist that show us how to manage turf in such a way as to reduce environmental impact and, in fact, enhance the environment by ***improving*** water quality in many instances!

- We need to prepare ourselves to communicate to clients alternative landscape options – which may ***not*** include turf in some instances!

- We need to prepare ourselves to communicate to clients that the pest turf management option in some instances is to apply ***nothing*** – and ***get paid*** for the recommendation!

- We cannot defend the status quo and not expect to get run over by a freight train! We are the ultimate environmentalists – all day, every day – and need to lead by example!