



Sustainable Lawn Care for the Terravessa Community

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O.J. Noer Turfgrass Research and Education Facility



A dense ground cover can be good for the urban environment



- Reduced water runoff and increased infiltration/recharge
- Reduced sediment losses
- Reduced nutrient losses
- Soil carbon sequestration

Potential environmental issues with lawns

- Herbicides and insecticides harming non-target organisms or contaminating water
- Monoculture limiting habitat
- Nitrogen leaching to groundwater
- Irrigation water use puts pressure on drinking water supply
- CO₂ emissions associated with maintenance



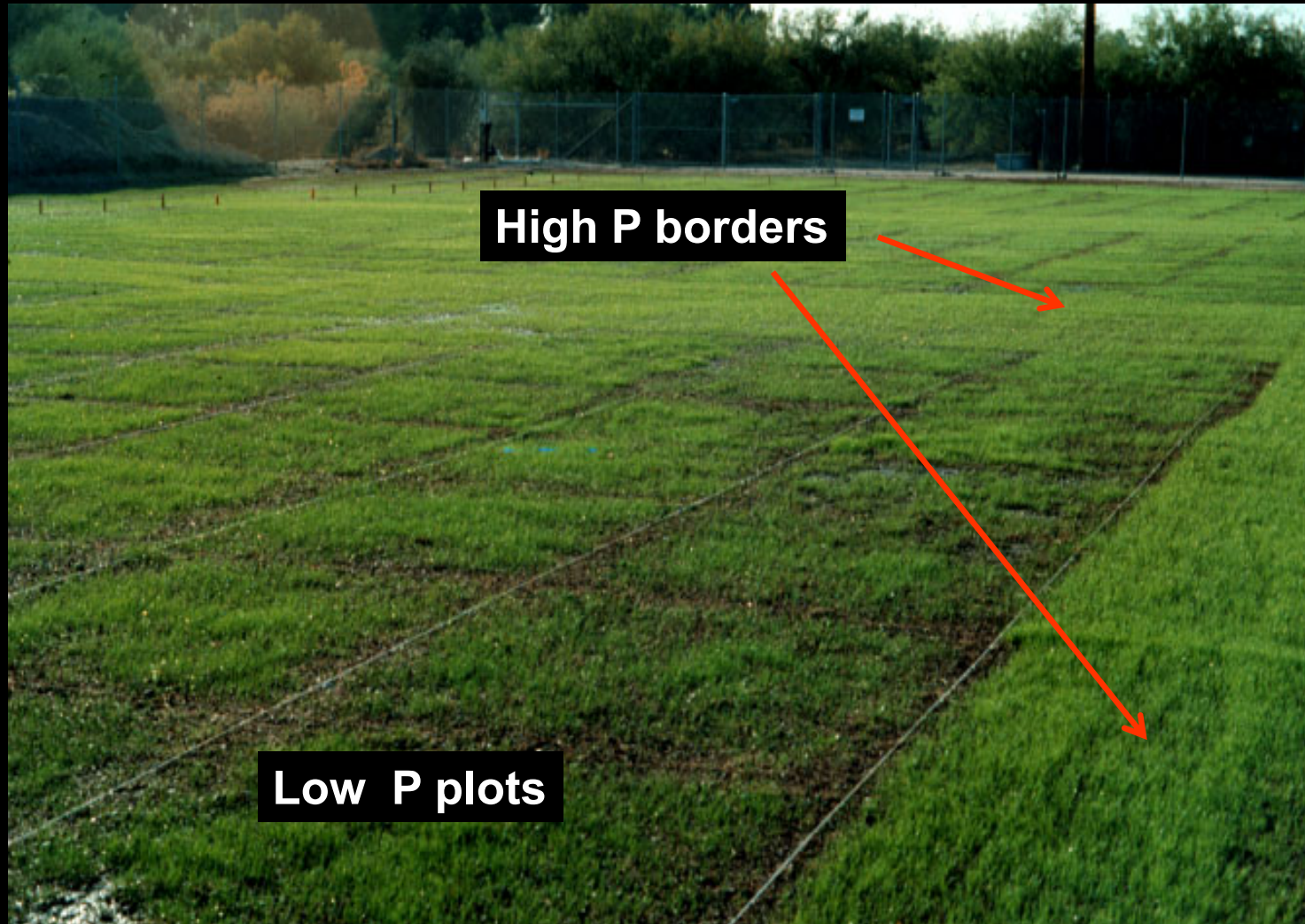
Things that stood out during my tour of the neighborhood

- Many relatively new lawns, which need more care than well established lawns
- Lawns are small, so wear and compaction can become problematic, but soil improvement is achievable
- Some lawns are being mown too short
- Crabgrass
- Nitrogen deficiency
- General damage/stress from summer, need for TLC in fall

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Newly Seeded Lawns Often Benefit from Application of P-containing Fertilizer





Fertilization of new lawns

- You can soil test to determine if your soil phosphorus P is low
 - [UW Soil and Forage LAB](#)
- State and county laws prohibit application of P-containing fertilizer after lawn is 12 months old. Exemption for Milorganite. Compost is also allowable (and often contains P)
- Nitrogen fertilization will improve lateral growth (thickening) of the lawn, which will crowd out weeds and cover bare soil areas

Fertilization

- Fertilize now to encourage growth and recovery
- Follow the bag instructions
- Most lawns will not need phosphorus or potassium, just nitrogen – but you can soil test to be sure.
- Purchase a fertilizer that lists settings for the spreader you own



SPREADER SETTINGS

BROADCAST SPREADER

Brand/Model of Spreader	Calibration Settings at 3.4 lb./1,000 sq.ft.
AgriFab (0-10)	4
Craftsman (0-10)	4
Earthway EV-N-Spread(0-30)	12
Scotts Basic Lawn Pro (0-15)	4.5
Scotts Standard (0-15)	4.5
Scotts EdgeGuard (0-15)	4.5
Scotts Speedy Green	5.75
Scotts Elite (0-15)	5
Chapin (0-30)	12
Chapin (0-5)	1.75
Yardworks YSB10M (0-15)	4.5
Yardworks (0-10)	4

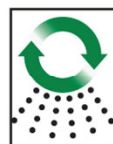
DROP SPREADER

Brand/Model of Spreader	Calibration Settings at 3.4 lb./1,000 sq.ft.
AgriFab	4
Craftsman	4
Earthway EV-N-Spread	9.5
Precision Pro	1.5
Scotts AccuGreen 1000	6
Scotts AccuGreen 2000	6
Scotts AccuGreen 3000	6
Scotts Classic Drop	6
Yardworks	4



FILL & SET SPREADER

Llene y ajuste el esparcidor



Scotts® 3½
Broadcast / Rotary Spreaders
Esparcidores por voleo / giratorios Scotts®



Scotts® Drop Spreaders 6½
Esparcidores por goteo Scotts®

Scotts® products are designed to work with Scotts® spreaders.

Los productos Scotts® están diseñados para funcionar con los esparcidores Scotts®.

This package applies 2.5 lb of product per 1,000 sq ft.

Con este paquete se aplican 1.1 kg de producto por cada 93 m².



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Professional Spreader Settings

Classic Milorganite - Spreader Settings

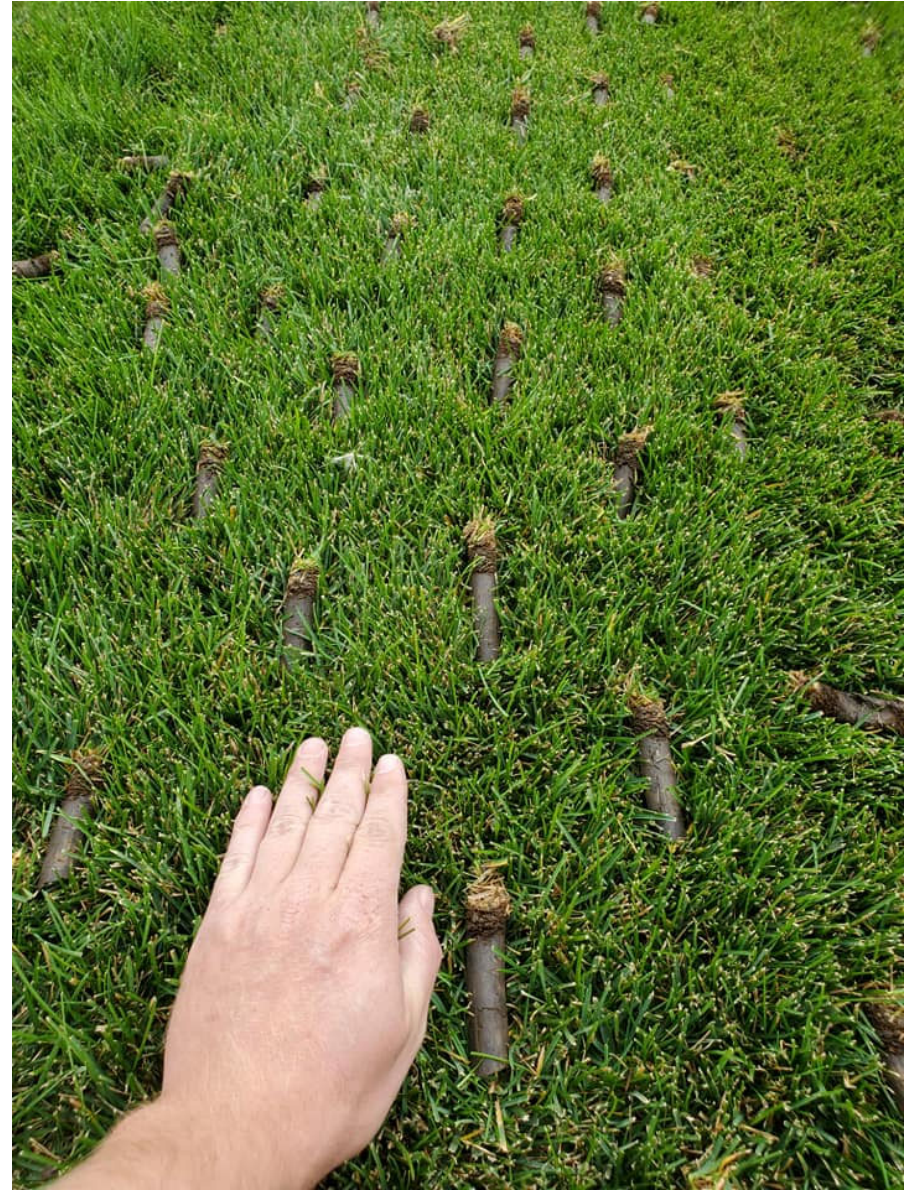
Spreader	Width (ft)	0.33 lbs N/1,000 sq ft	0.5 lbs N/1,000 sq ft	1.0 lbs N/1,000 sq ft
Earthway	10	15	18	27
Lesco	10	H	J	Q
Prize Bigfoot	11	K	N	W
Scotts R8-A	11	M (Cone 5)	P (Cone 5)	X (Cone 5)
Andersons SR2000 & AP2000	11	M (Cone 5)	P (Cone 5)	X (Cone 5)
Spyker	11	5	6	9
Lely (Hole 6, 4½ mph)	20	—	5	8
Lely (Hole 3, 4½ mph)	40	—	8	8-2X

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Core aerate, seed into the soil left on the surface

- Pull cores by going over the lawn at least twice.
- Break up cores using power rake.
- Apply seed to lawn.
- Rake seed to cover with soil.
- Irrigate to keep moist



Lawn soil preparation and maintenance



- Need six inches of good topsoil
 - >50% silt
 - <10% clay
 - >3% organic matter
- Add drainage first, if necessary
- Core cultivate twice per year to alleviate compaction if needed
- Add compost twice per year
 - ¼ inch in spring and fall

Compost spreaders



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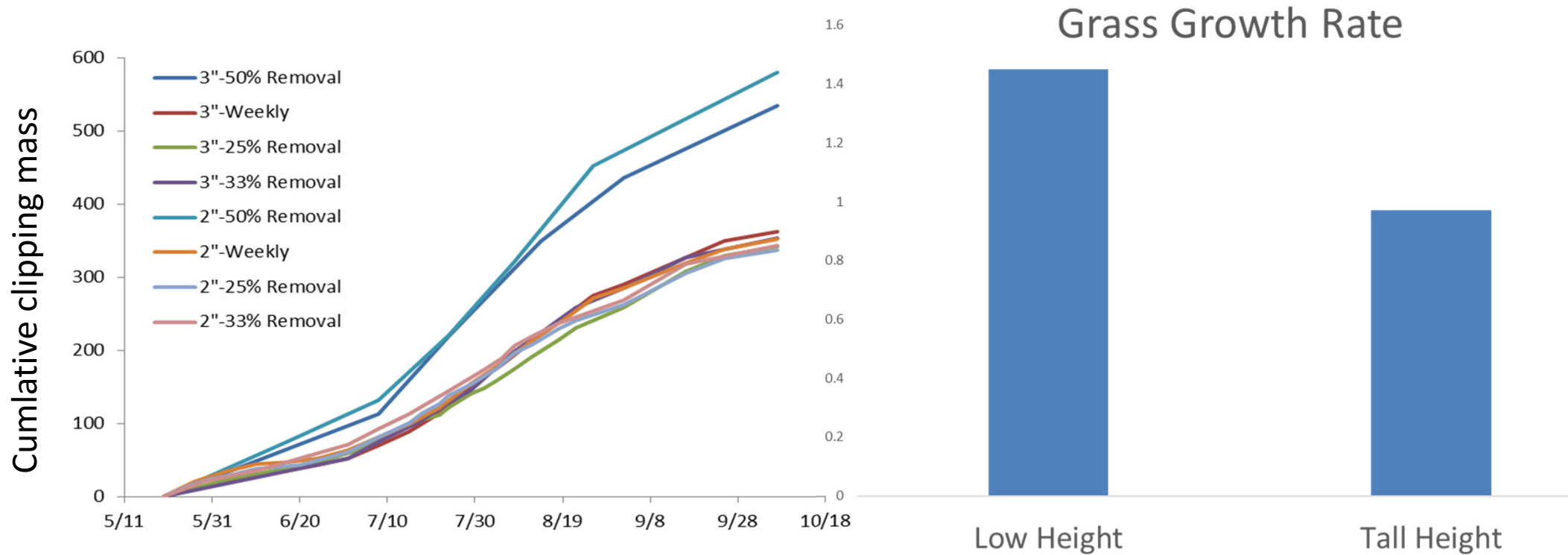
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Mowing Best Practices

- **Choose the proper height**
 - Lawns: 2.5 to 3.5 inches
 - Stimulate dense turf
- **Follow the 1/3 rule**
- **Use sharp mower blades**
 - Turf heals faster
 - Less disease
 - Better appearance
- **Return the grass clippings**
 - Mulch of side discharge is fine



Grass grows more if you don't follow the one-third rule



Mulch your leaves into your lawn

- Mulching tree leaves allows more sunlight to reach lawn
- Increases soil health and water holding capacity
- Decreases weed invasion



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**Crabgrass is an environmentally
problematic weed**



Crabgrass

- Thrives in low N situations
- Thrives in poor soils
- Thrives in thin lawns
- Dies at first frost
- Leaves bare soil in fall and spring
- Creates water quality problems
- Important to prevent crabgrass in your lawn





Crabgrass Prevention

- Annual weeds like crabgrass can be prevented using a pre-emergent herbicide when forsythia are in full bloom, or when soil temps are about 55 F (mid-April in Madison)
- Mark your calendar now, so you don't forget



Crabgrass control is difficult after it emerges Look for active Ingredients: Quinclorac or Fe-HEDTA



- Post-emergent herbicide, safer on young seedlings than most other herbicides
- Grassy weeds (crabgrass) and broadleaf weeds
- It is too late to control crabgrass in fall

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Clover provides nitrogen and great mid-summer pollinator

31





Kentucky bluegrass/clover mix



Kentucky bluegrass



Pink root nodules on a clover plant

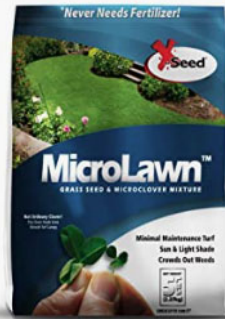


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Planting and maintaining a bee lawn

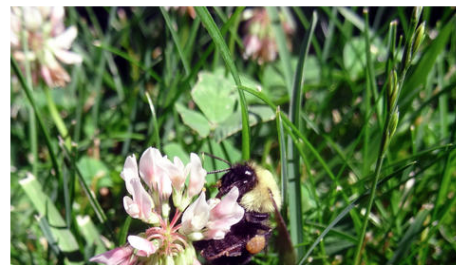
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Quick facts

- Bee lawns have flowers mixed in with turfgrasses such as fine fescues and Kentucky bluegrass.
- The flowers of a bee lawn provide food (nectar and pollen) for pollinators.
- Bee lawns are environmentally friendly because they are managed using low-input methods that generally use less fertilizer and pesticides.
- Bee lawns can still be used recreationally by your household like a regular lawn.
- A bee lawn can attract over 50 species of native bees.

Are you interested in doing more to help our native pollinators? You can make your lawn do double duty! A bee lawn can not only provide a recreational space for you, your family and your pets, it can also provide much-needed food resources for bees and other beneficial pollinators.

While turfgrasses can provide some environmental benefits, they don't provide much food for pollinators.



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Nitrogen

- The “Goldilocks” nutrient
 - Too much
 - Too little
 - Just right



Too Much Nitrogen

- Reduced root growth
 - Decreases stress tolerance - esp. water
- Excessive thatch development
- Increased mowing requirement
- Increases incidence of many diseases
 - brown patch, snow mold, gray leaf spot, take-all patch
- Groundwater contamination

Not Enough Nitrogen

- Reduced shoot density
 - Increased weed invasion – esp. crabgrass (and clover)
 - Increased reliance on pesticides
- Unsafe playing conditions
- Unattractive
- Increases incidence of certain diseases
 - Rust, red thread, dollar spot
- Surface water contamination via soil erosion and P loss

Just right?

Conventional Program

Fertilizer applied around:

- Memorial Day
- 4th of July (if not brown)
- Labor Day

Organic/Alternative Program

- 20 lbs of corn gluten meal per 1000 square feet in late April
- Compost in early June or September or organic fertilizer around Labor Day

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Fall is a key time for improving your lawn

- **Things working in your favor:**

- Weather conditions are ideal for recovery of lawn grasses
- New seed can establish with little competition from weeds
- New sod won't dry out as quickly after planting
- Broadleaf weeds are easy to control

- **Things working against you:**

- You are sick of doing lawn work



Fall is a great time to sod



Fall is the best time to control broadleaf weeds

- Most herbicide applications are made in spring
- Fall is the most effective time for weed control because plants are translocating sugars to their root systems.
- Optimal timing in fall is Sept – early Nov. in WI
- In spring, peak bloom is the worst timing for dandelions (Raudenbush and Keely, 2014), but the second-best timing for ground ivy



EPA biopesticide - FeHEDTA



Best results:

- 2 applications
- 14 days apart
- spring and fall

Untreated Control



Trimec Classic
Contains: 2, 4-D, MCPP, Dicamba



Fiesta Weed Killer
Contains : Iron HEDTA





Wisconsin Lawn Care Calendar

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How and When to Take Care of your Lawn

Planning ahead is important when caring for your lawn. Timely maintenance practices coincide with favorable growth and development stages of lawn grasses and help prevent many common lawn problems. Fertilizer and if necessary, pesticide applications, should be made at specific times during the season to be most efficient. Furthermore, properly timed lawn care practices reduce weeds and other problems, thus potentially eliminating need for pesticide applications. Pesticide

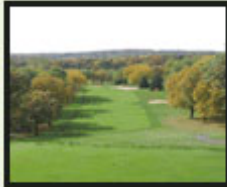
Turfgrass Diagnostic Laboratory

<http://tdl.wisc.edu/>



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**O.J. Noer Turfgrass Research
and Education Facility**
2502 County Highway M
Verona, WI 53593

Directions

Office Hours:
M - F 8 a.m. - 4:30 p.m.

The Turfgrass Diagnostic Lab (TDL) provides fast and accurate diagnostic information and management recommendations for all turf health issues concerning both commercial turfgrass managers and homeowners. Proper diagnosis and management can

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For More Information:

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Organic and reduced-risk lawn care

Doug Soldat, John Stier, Jim Kerns, Chris Williamson

People who wish to move in the direction of creating an organic lawn, or what some people call a natural lawn, have two options: organic lawn care or reduced-risk lawn care.

Organic lawn care

Navigating the sea of possible organic lawn care plans and coming up with a workable one is made difficult by a number of obstacles, including the lack of any

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Lawn maintenance

John C. Stier

Maintaining a beautiful lawn can be an enjoyable recreation and add significant value to your home. The amount of time spent will determine the quality, with results ranging from high-maintenance lawns that are lush, watered throughout the summer, and virtually weed free to medium-maintenance lawns that have some weeds and may be allowed to go dormant during the summer to low-maintenance lawns that receive little

For example, if the turf is 4 inches tall, set the mower to cut it no lower than 2 1/2 inches tall. Removing more than one-third of the leaf tissue at one time makes the turf more susceptible to environmental stresses and pest damage, slows regrowth, and exposes the soil to light, which promotes germination of weeds.

Mowing frequency

A plant's rate of growth is constantly changing depending on tempera-

Depending on the amount and roughness of use, mower blades need to be sharpened every 1-3 years. Many hardware stores and turf equipment dealers offer this service for a nominal charge.

Mow when the turf is dry

Cutting wet turf causes the clippings to form clumps on the lawn and can be dangerous for the operator, especially on wet slopes.