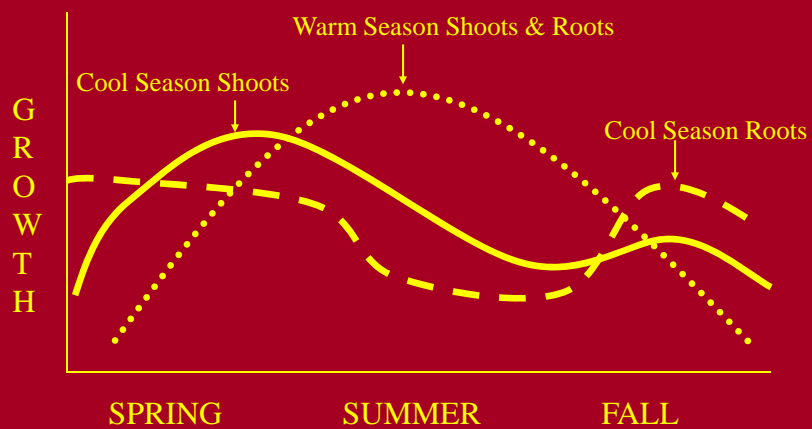


## Fall & Winter Lawn Care

Tim Schnakenberg  
Agronomy Specialist  
Galena, MO 417-357-6812

Thanks to Brad Fresenberg for some slides in this presentation

## GROWTH OF GRASSES



## Mowing

Higher mowing heights encourage greater root growth of grasses.



## Mowing Heights & Frequency

	Mowing Height	Frequency (weekly)
Tall Fescue Blend	3 – 4”	1 to 2
Ky. Bluegrass Blend	2.5 – 3.5”	1 to 2
Tall Fescue + Ky. Bluegrass	3 – 4”	1 to 2
Fine Fescues	4”	1
Zoysiagrass	1 – 2”	1 to 3
Buffalograss	3 – 4”	1

## Soil Testing



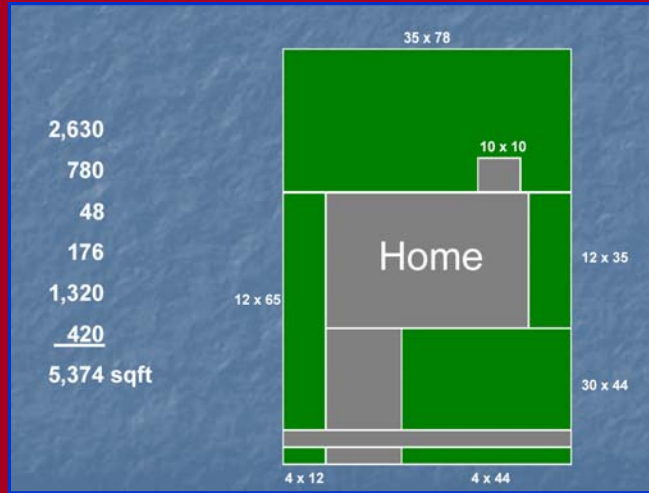
- Sample prior to new turf establishment or about every 4 years.
- Soil Tests are only as good as the sample.
- A 1 lb. soil sample represents 92 tons of soil in a 4000 sq. ft. lawn!

## Soil Testing Procedure

- Using a soil probe or small shovel, sample to a 4-6 inch depth
- Take 10 to 15 samples randomly from each area; sample problem areas separately
- Remove thatch and live plant material; break up cores and place in a bucket
- Take 1 pint to local County Extension Center
  - Ozark, Galena, Springfield, Forsyth

# Measure Your Lawn

## Necessary for Fertilizing and Lawn Renovation



SOIL TEST INFORMATION		RATING					
		Very low	Low	Medium	High	Very high	Excess
pHs	5.6	*****					
Phosphorus (P)	168 lbs/a	*****					
Potassium (K)	307 lbs/a	*****					
Calcium (Ca)	3310 lbs/a	*****					
Magnesium (Mg)	514 lbs/a	*****					
Organic Matter:	1.2 %						
	Neutr. acidity: 3.5 me						
	CEC: 14.3 me						

FERTILIZER & LIMESTONE SUGGESTIONS

Nitrogen (N): 1.0 Phosphate (P2O5): 0.0 Potash (K2O): 0.0 Lime: 90.0

Fertilizer rates are given in pounds of actual nutrient per 1000 square feet to be applied. See additional comments below.

The soil should be tested every two to three years to determine the effects of your fertilization practices and to develop a new set of fertilizer and limestone guidelines.

Apply suggested agricultural or horticultural limestone rate one time. Do not apply additional limestone unless soil tests indicate further need.

The soil needs additional organic matter. See UMC Guide 6930, "Steps in Fertilizing Garden Soil" and 6936, "Making and Using Compost," for suggestions.

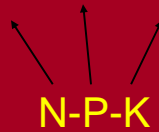
Area Extension Specialist: TIM SCHNAKENBERG Phone: (314) 683-6129 *T. Schnakenberg*  
MP 552 2/17/92 Signature

University of Missouri, Lincoln University, U.S. Department of Agriculture & Local University Extension Councils Cooperating  
An equal opportunity institution

# Reading a Fertilizer Bag

Guaranteed Analysis (%)

**6 - 24 - 24**



## EXAMPLE

2 lbs K/1000 sq ft recommended:

$$2/.24 = 8.3 \text{ lbs } 6-24-24 \text{ needed}$$

## Nitrogen Application Scheduling

	SEPT	OCT	NOV	MAR to MAY	JUNE to AUG
Standard Cool	1	1	1	0.5	---
Low Cool	1	---	1	---	---
Standard Warm	---	---	---	---	3
Low Warm	---	---	---	---	1-2

\*All rates are in pounds of N per 1000 ft<sup>2</sup>; the Spring application may be made in combination with a PRE

## Natural Organics:

A slow-release source of N, other essential nutrients, and organic matter

- Organica (8-2-4) – Corn gluten
- Bradfield (3-1-5)
- Ringers (6-1-3)
- Sustane (5-2-4)
- Richlawn (6-3-2)
- Milorganite (6-2-0 w/5% Fe)

## Lime

- Fall is the best time to apply
- Use hydrated, agricultural or pelletized lime





**After Four Years of  
Mulching Maple Leaves**  
*Purdue University*

- No effect on turf visual quality or color
- No effect on turf growth measured by clipping weights
- No effect on mat or thatch depth
- No effect on soil pH or nutrient availability
- No effect on incidence of red thread, pink patch or dollar spot
- No effect on weed infestation

Photo courtesy of Virginia Master Gardeners

# Thatch

Thatch →

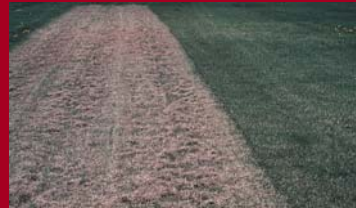
Soil →



## Thatch Removal & Aeration

Power Rake (Aug – Sept; Mar)

Core Aeration (Aug – Nov)



Dandelion in turf

## Dandelion

*Taraxicum officinale*



Perennials

## Plantains

*Plantago spp.*



Buckhorn plantain



Broadleaf plantain



Perennials

## White clover

*Trifolium repens*



Perennials

## Common chickweed

*Stellaria media*



Winter annual broadleaves

## Henbit

*Lamium amplexicaule*



## Purple Deadnettle



Henbit



Deadnettle



## Wild garlic

*Allium vineale*



Grassy and grass-like weeds

## Winter Annual Broadleaf Weed Control

- A well maintained, vigorous and competitive turf goes a long way.
- Wait until warm temperatures arrive.
- Mow if flowering during early spring.



## Broadleaf Weeds



Best time to kill broadleaf weeds: Oct/Nov on a warm, sunny day.



- Dandelion
- Plantain
- Deadnettle
- Chickweed
- Henbit
- Ground Ivy

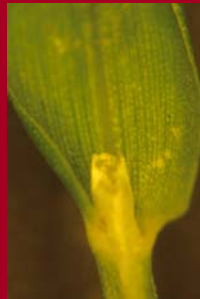
For preemergence control, use Gallery in September for annuals

## Weeds and their control

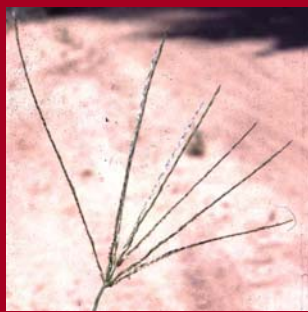
### Postemergence Broadleaf Herbicides

<u>Common Name</u>	<u>Trade Name(s)</u>
2,4-D	2,4-D Amine or Ester; Dymec; Weedone LV4
2,4-D + Triclopyr	Turflon II Amine; Chaser
2,4-D + MCPP + Dicamba	Broadleaf Trimec
2,4-D + Dichlorprop	Weedone
MCPP	MCPP-4; Mecomec
Clopyralid + Triclopyr	Confront
Triclopyr	Turflon Ester

## Moss, Algae and Slime Mold in Lawns



**Crabgrass**  
*Digitaria spp.*



Grassy and grass-like weeds



## Preemergence Chemical Control of Summer Annual Grasses

### ■ Application timing

**By April 15**



**By April 1**



## Soil Improvement



- Compost or till in remaining residue
- Take steps to build organic matter
- Best time is at lawn establishment

## Building Organic Matter

- Peat
- Compost
- Composted Manure



## Turfgrass Establishment

### *Best Time to Seed:*

**Cool-Season Grasses: Fall Seeding**  
Best time to seed is between August 25 and October 1 (Sept. 1 to 15<sup>th</sup> – optimum).

- Cooler Temperatures
- Better Rainfall
- Less Weed Competition
- Less Disease Potential
- Less Insect Damage

Bluegrasses, Fescues, Ryegrasses

## Turfgrass Establishment

### *Next Best Time to Seed:*

Cool-Season Grasses: Spring Seeding  
Best time to seed is early as possible  
until May 1 (late Feb. to March 15<sup>th</sup> –  
optimum).

- Warmer Temperatures
- Excessive Rainfall
- Weed Competition
- Greater Disease Potential
- Greater Insect Potential

Bluegrasses, Fescues, Ryegrasses

## Turfgrass Establishment

### *Turfgrass Fertilization:*

### Use “Complete” Starter Fertilizer

### Time of Seeding

- However, no need to add extra P and K unless soil test indicates a need; high levels of P and K are generally not toxic
- Starter Fertilizer Examples: 10-24-18, 6-24-24, etc.
- Recommended ratios after establishment: 4:1:3 or 3:1:2

## **Turfgrass Establishment**

### *Basic Steps:*

- **Soil test**
- **Spray existing vegetation – Roundup, Finale, etc.**
- **Apply lime as needed**
- **Fertilizer as needed**
- **Apply organic amendments**
- **Till materials 4 to 6 inches**

## **Turfgrass Establishment**

### *Basic Steps:*

- **Level seedbed**
- **Plant seed, sprigs, or sod**
- **Lightly rake and/or roll**
- **Mulch**
- **Water**
- **Mow**
- **Weed control**

## **Turfgrass Establishment**

### *Turfgrass Selection:*



## **Turfgrass Establishment**

### *Turfgrass Selection:*

#### **Shade Considerations:**

**Tree thinning**

**Alternative ground covers**

**Shade tolerant tall fescues**

**Shade tolerant Kentucky bluegrasses**

**Fine fescues**

**Rough bluegrass**

## **Turfgrass Establishment** *Soil Preparation & Tillage:*



**Seed/Soil Contact**

## **Turfgrass Establishment** *Vertical-slicers or Slit-seeders*



**Key to good seeding is  
good seed/soil contact.**

## Turfgrass Establishment

*Slit-seeding*



## Turfgrass Establishment

*Core Aerification:*



**Another  
method  
for  
seeding!**

## Turfgrass Establishment Straw Mulch:



1 bale per 1,000 sqft recommended or hydro-mulch

## Turfgrass Establishment Benefits of Mulches:

- Prevents erosion (slopes)
- Conserve soil moisture
- Delay weed seed germination due to shading

## Turfgrass Establishment Problems with Straw:

- Blowing Straw from Winds
- Weed Seed in Straw
- Can Wash with Heavy Rains

## Turfgrass Establishment



**When Do  
You Mow?**

**Just as  
soon as it  
reaches  
mowing  
height!**

