

# Florida-Friendly Lawn Management

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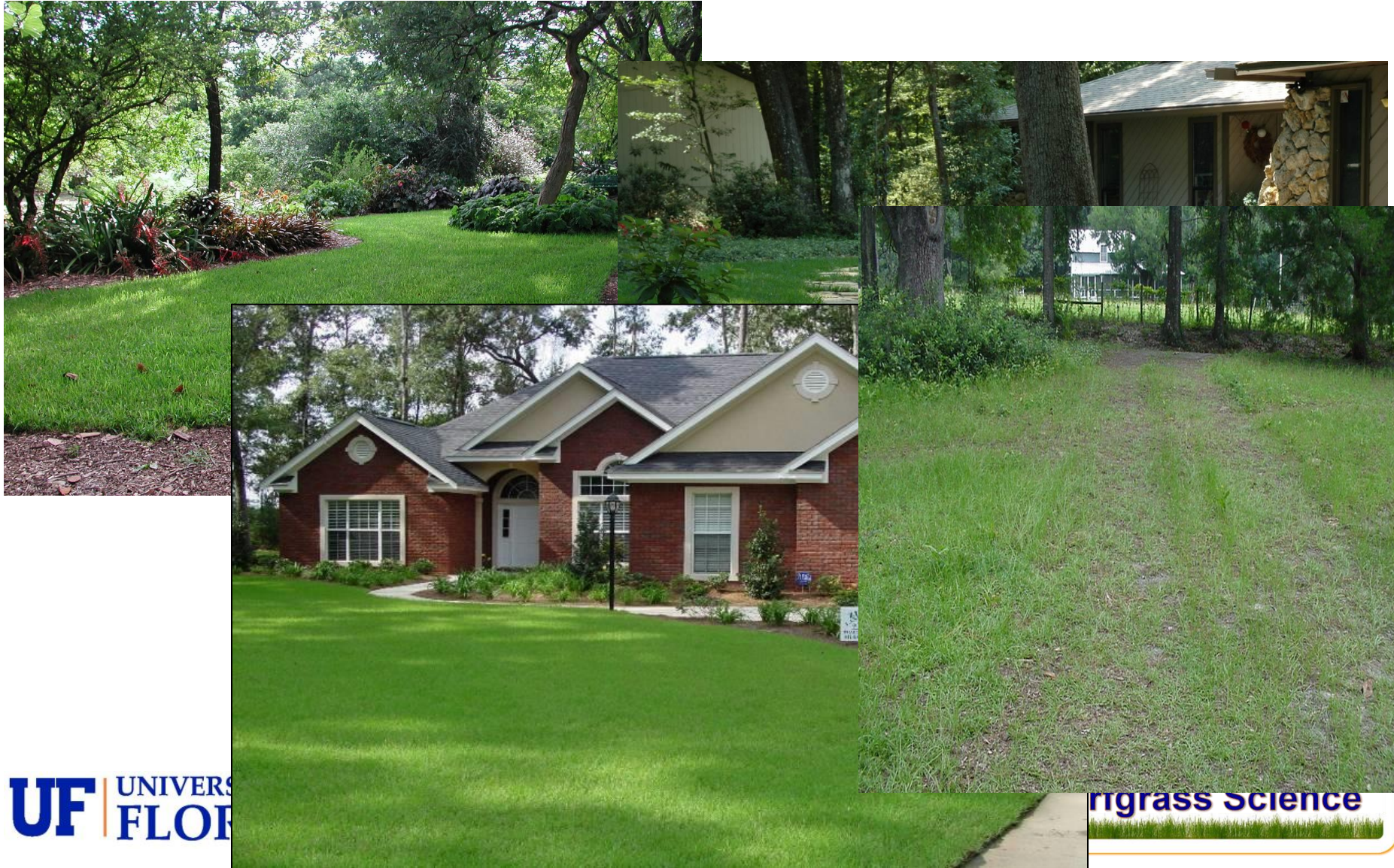
Urban Turfgrass BMP Specialist

UF-IFAS





# Our Florida Lawn Grasses





# Bahiagrass

*(Paspalum notatum)*

- **Advantages**
  - Good drought tolerance
  - Low fertility requirements
  - Low maintenance
  - Tolerant of sandy, infertile soils
  - Establishes from seed



# Bahiagrass

- **Disadvantages**
  - Produces abundance of seedheads
  - Open growth habit encourages weed competition
  - Susceptible to mole crickets
  - Coarse stems are difficult to mow
  - Not wear tolerant







# Centipedegrass

- “Poor man’s grass” – very low input
- Watch your fertilizer- too much leads to decline
- Few insect and disease problems
- Light green color
- Slow growing and prostrate
- New cultivar ‘Hammock’ developed primarily for use in south FL



# St. Augustinegrass

(*Stenotaphrum secundatum*)



# St. Augustinegrass

- Best shade tolerance of warm-season grasses, but varies by cultivar
- Good salt tolerance
- Tolerates wide range of soil pH
- Establishes quickly from sod
- Deep green color
- Requires irrigation much of the year to stay green and healthy
- Chinch bugs becoming resistant to pesticides



# St. Augustinegrass Cultivars

- Floratam
- Bitter Blue
- Palmetto
- Delmar
- Seville
- Captiva

# New Zoysiagrass Cultivars

- Empire
- UltimateFlora
- Jamur



# Empire Zoysiagrass



# Empire Zoysiagrass



- Low-growing, dense
- Very responsive to nitrogen
- Shade tolerance similar to Floratam
- Slower growth than St. Augustinegrass – faster than old zoysias
- Hunting billbug pests
- Susceptible to brown patch
- Tends to get thatchy
- Nematode tolerance?



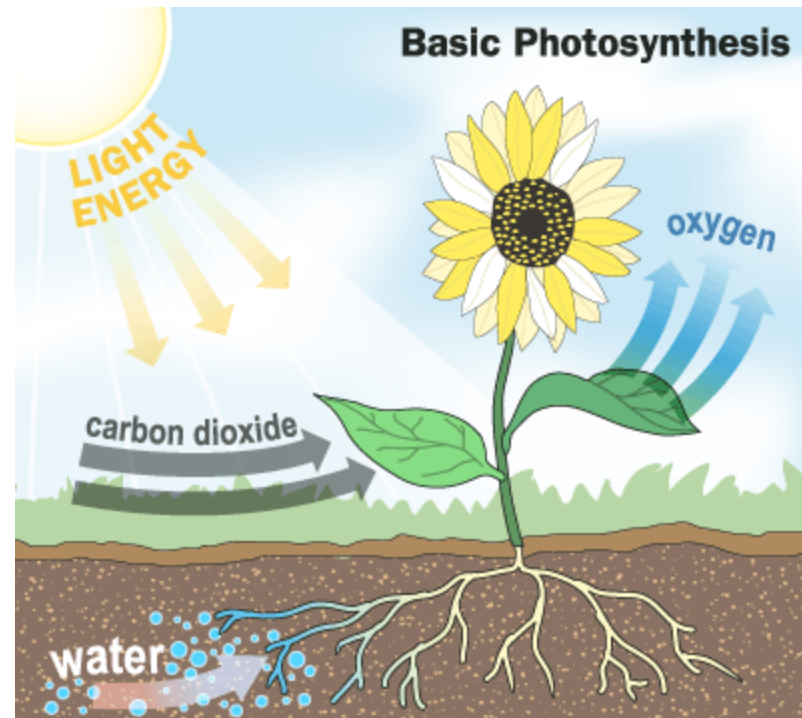
# Nutrients Required for Turfgrass Growth

From  
Environment:

Carbon

Hydrogen

Oxygen



# Nutrients Needed From Soil or Fertilizer

## Macronutrients:

### Primary:

**Nitrogen**

**Phosphorus**

**Potassium**

### Secondary:

**Calcium**

**Magnesium**

**Sulfur**

## Micronutrients:

**Iron**

**Manganese**

**Boron**

**Copper**

**Molybdenum**

**Zinc**

**Nickel**



# Current UF/IFAS Fertility Recommendations (lbs. N 1000 ft<sup>-2</sup> yr<sup>-1</sup>)

## St. Augustinegrass:

North FL: 2-4

Central FL: 2-5

South FL: 4-6

# Current UF/IFAS Fertility Recommendations (lbs. N 1000 ft<sup>-2</sup> yr<sup>-1</sup>)

## Bahiagrass:

North FL: 2-3

Central FL: 2-4

South FL: 2-4



# Current UF/IFAS Fertility Recommendations (lbs. N 1000 ft<sup>-2</sup> yr<sup>-1</sup>)

## Zoysiagrass (Empire):

North FL: 2-3

Central FL: 2-4

South FL: 2.5-4.5

**NEW!!!**

# Current UF/IFAS Fertility Recommendations (lbs. N 1000 ft<sup>-2</sup> yr<sup>-1</sup>)

## Centipedegrass:

North FL: 1-2

Central FL: 2-3

South FL: 2-3

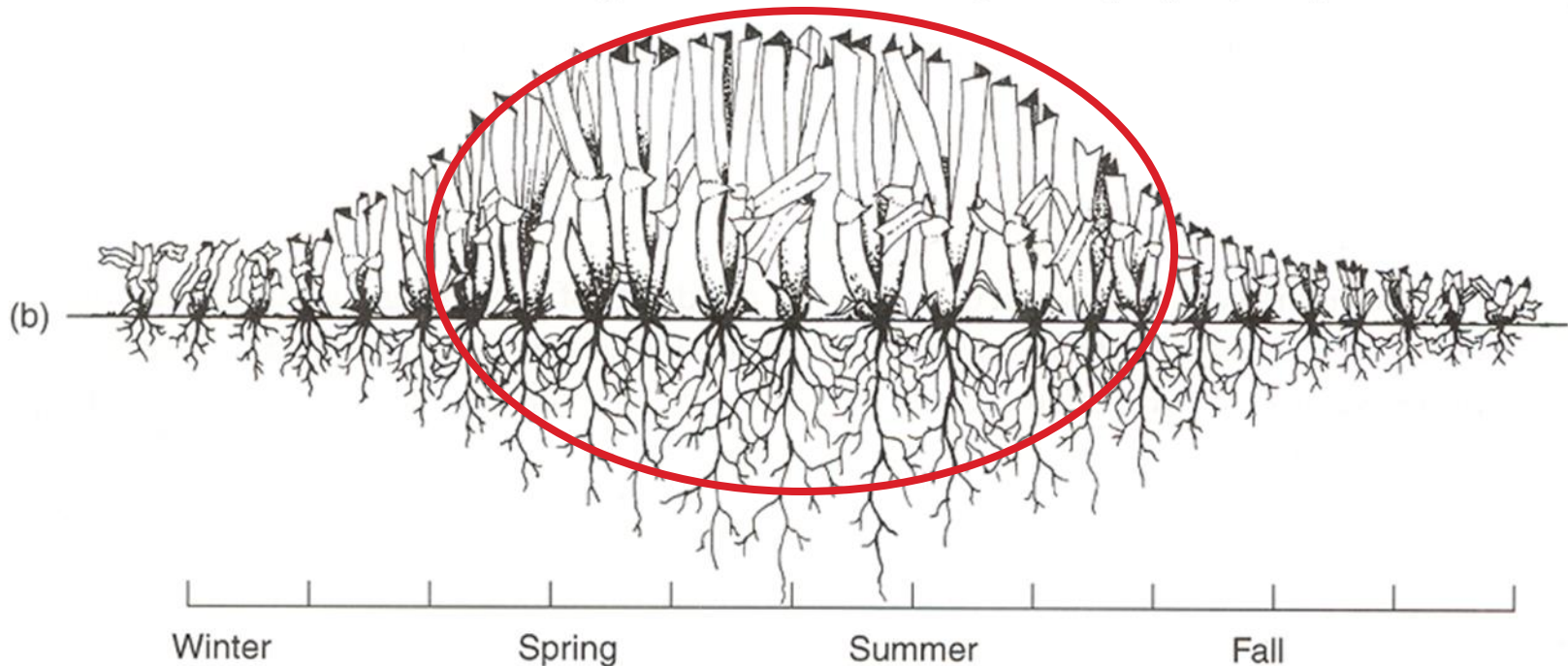
# How Much to Apply Each Time

- Frequency of application: 1-4 times yearly
- Each application: maximum amount to apply is 1 lb N per 1,000 sq. ft. if fertilizer has slow-release N
- Only fertilize during the growing season
- April - September



# Warm Season Grass Growth

Seasonal shoot and root growth of warm-season turfgrasses. (Turgeon, 2002)



# When to Fertilize?

- 2-6 times a year:
  - Spring when growth begins
  - Summer – apply iron or low amounts of nitrogen fertilizer – **fertilizer important during times of growth**
  - Fall – potassium beneficial
  - Winter- depends on location in state – **DO NOT** fertilize dormant grass with nitrogen
- South Florida may fertilize year-round

# Why Fertilize?

- Lawns need nutrients to grow in a healthy condition
- Grasses grow and turn green in response to fertilizer
- A properly fertilized lawn is your best defense against weeds
- A properly fertilized lawn is your best protection against storm water runoff
- This does not mean overfertilization!

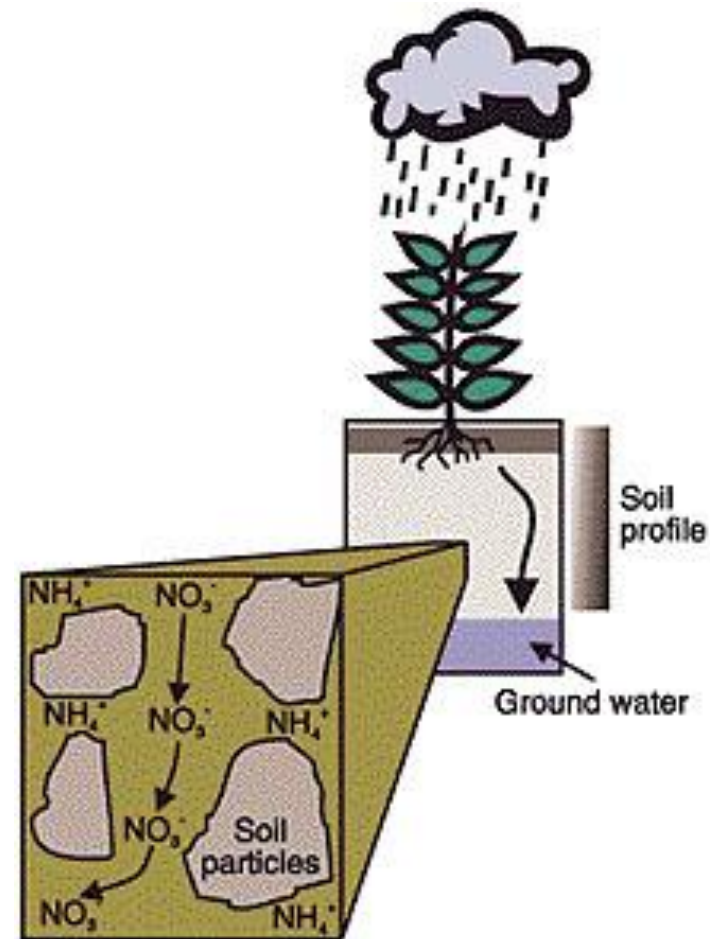


# What About Other Nutrients?

- Soil test can tell you what is needed
- Turf need for calcium & magnesium low
- In high pH soils, iron & manganese may be limiting- these should be applied in a chelate or soluble form (not oxide form)

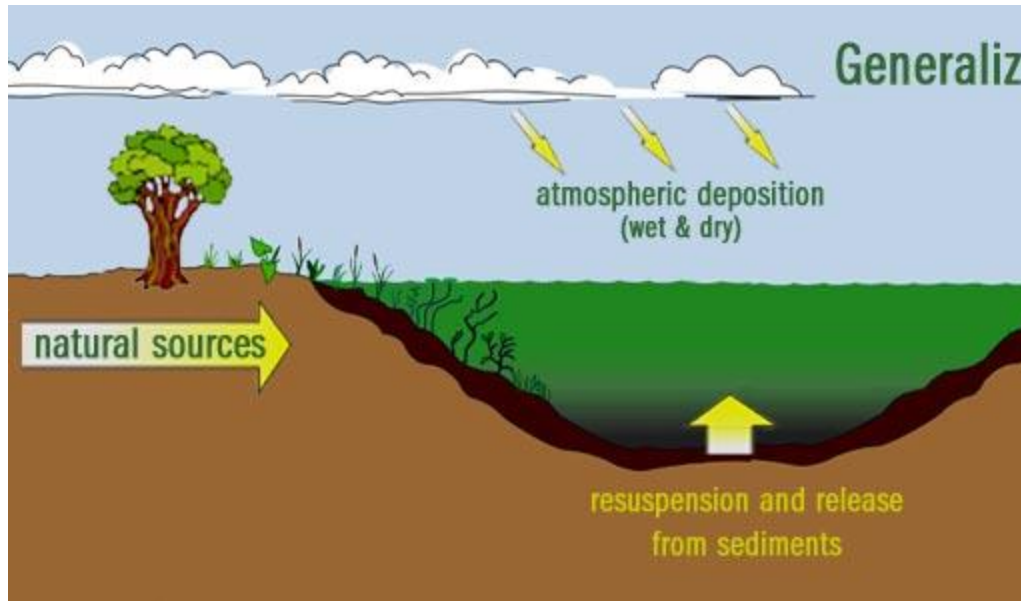
# Two Ways That Fertilizers Can Pollute

1. Leaching through soil profile – this is what nitrogen will do in sandy soils



# Two Ways That Fertilizers Can Pollute

## 2. Surface water run-off





# Green Industries Best Management Practices

- Educational program to reduce nonpoint source pollution
- Required for commercial fertilizer applicators in many counties and by state law by 2014
- Partnership between FDEP and UF-IFAS

# The Statewide Fertilizer Labeling Rule

- Went into effect in 2007 through Department of Agriculture and Consumer Services (FDACS)
- Limits what fertilizers can be sold for lawns in Florida by targeting labeling of fertilizers for use on “urban turf”
- Requires that labels conform to specific language on rates of N and P

# Turfgrass Fertilizer BMPs

- Keep fertilizer and grass clippings off impervious surfaces
- Maintain a buffer zone around water bodies
- Apply only the correct amount
- Soil test – know your pH and nutrient concentration
- Low phosphorus!
- Only fertilize during the growing season
- Irrigate fertilizer in with about  $\frac{1}{4}$ " of water



# Sweep Up Fertilizer Spills



# Is This Where We Want Fertilizer?

There is no place for this fertilizer to go but down the storm drain

Does not matter if nitrogen is in quick or slow release form if it is left on impervious surfaces





# Fertilizer BMPs for Turfgrass

- Do not apply nitrogen fertilizer at excessive rates – stick to the UF-IFAS recommendations





# Fertilizer Calculations

- Divide your yard up (front, back, sides)
- Determine square footage of each area

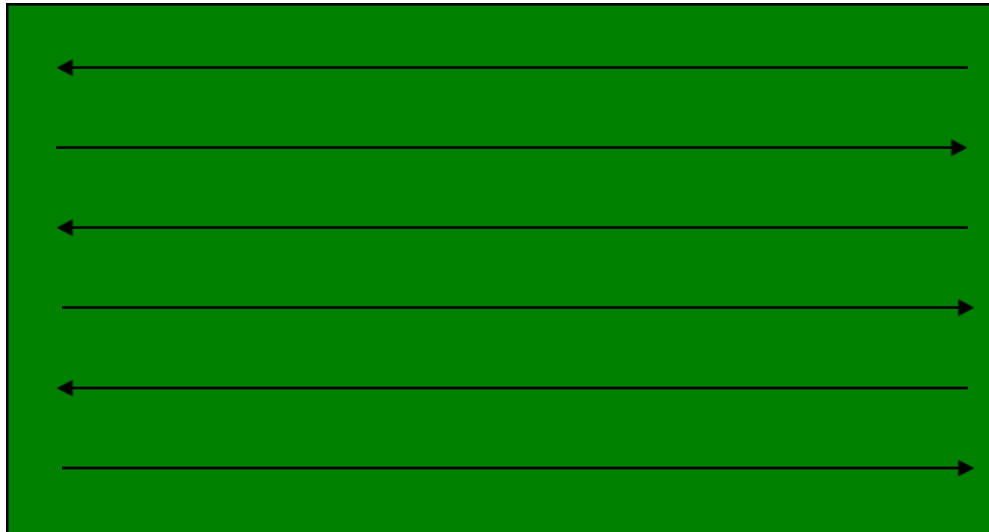


# Fertilizer Calculations

- Look at fertilizer analysis on bag (ex. 15-0-15)
- Take the amount of N (15% in this case) and divide it into 100.
- This gives you 6.6 – this is the pounds of fertilizer that you need for 1,000 sq. ft. to apply 1 lb. N
- This works for ANY fertilizer analysis

# Fertilizer Calculations

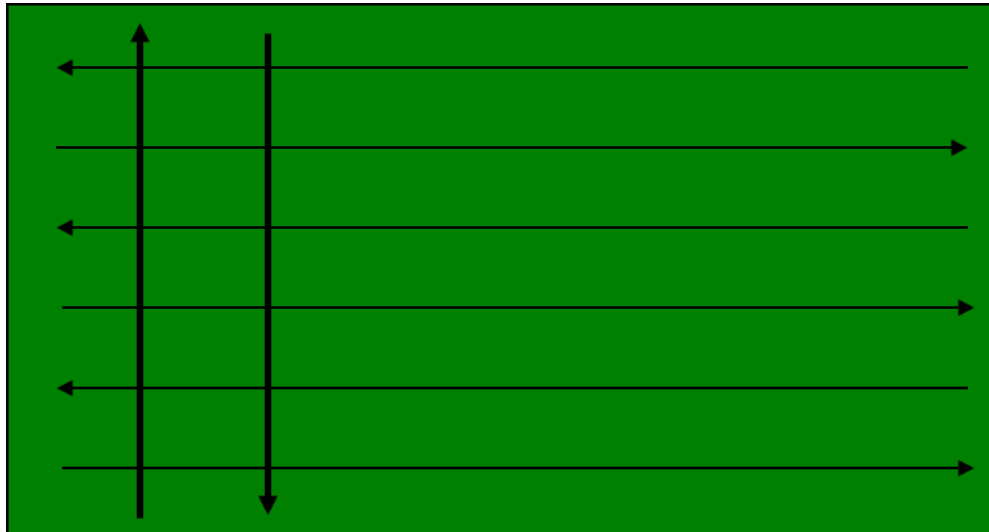
- To apply the correct amount:
  - Take half of the total amount of fertilizer:
    - 15% = 6.6 lbs fertilizer per 1,000 square feet
    - Half of this = 3.3 lbs fertilizer in spreader





# Fertilizer Calculations

- **To apply the correct amount:**  
Take the remaining 3.3 lbs, put in spreader and go back and forth at 90° angles



# It's raining out- should we leave the sprinklers on?



***Irrigation frequency varies seasonally***  
***Amount applied is constant year round***

# How Frequently to Water

**Varies due to:**

- Season**
- Soil type**
- Shade**
- Rooting depth**
- Insect or other pests**
- Other stresses**



# Seasonal Frequency of Irrigation

- Zazueta, Miller, and Zhang\*:

Winter	4.5-11.6
Spring	2.7-6.9
Summer	2.7-2.9
Fall	4.8-11.6

\*For St. Augustinegrass with a 6" root system under low irrigation regime in the Tampa Bay area



# Irrigation Frequency

- **Watch grass for signs of stress**
- **Follow watering restrictions!**
- **You may water “hot spots” with hose if needed and if not prohibited by local restrictions**

# How Much to Water

**Do not water past point of runoff – this only wastes water**

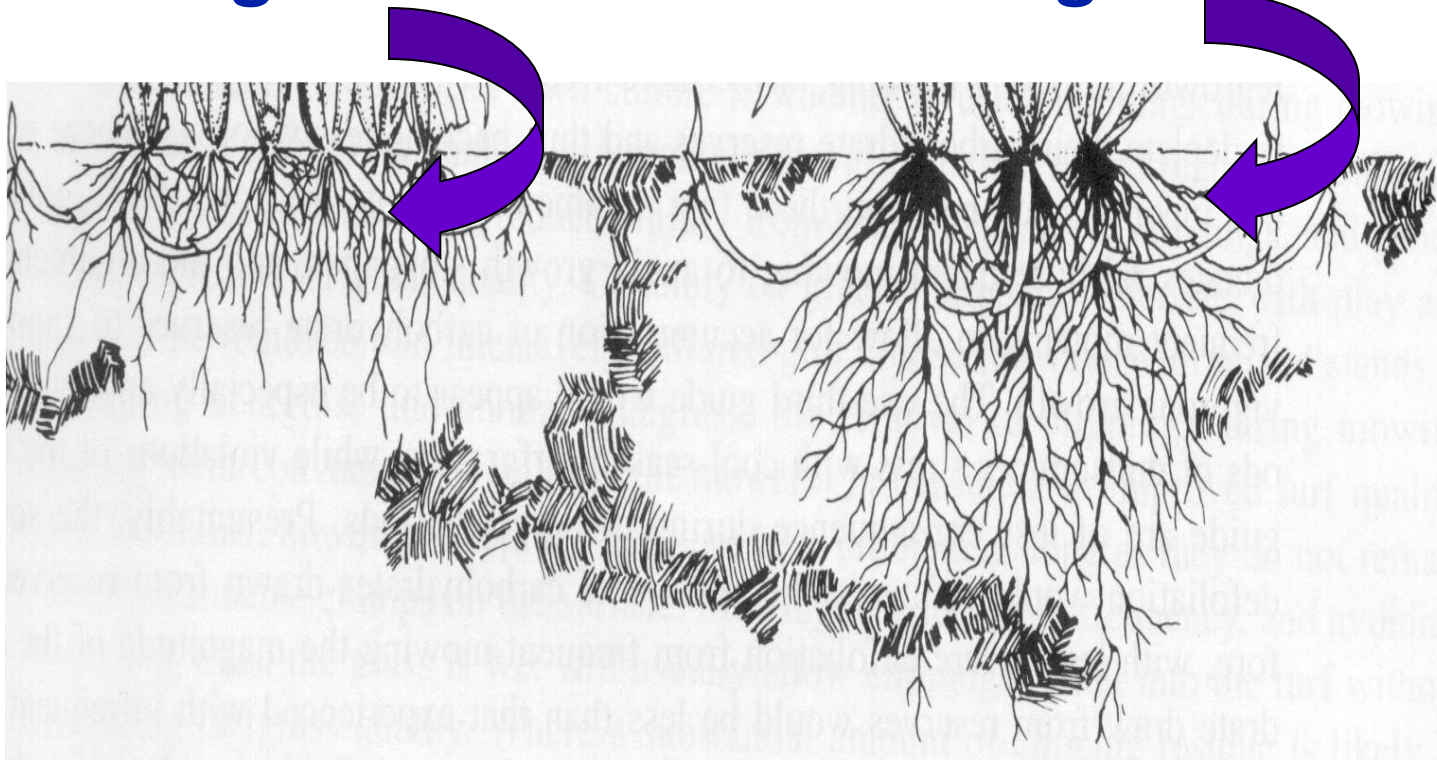


# How Much to Water

- Apply 1/2" to 3/4" when turf shows symptoms of wilt
- This should not vary- only frequency varies!

**Short, frequent  
irrigations**

**Longer, less frequent  
irrigations**





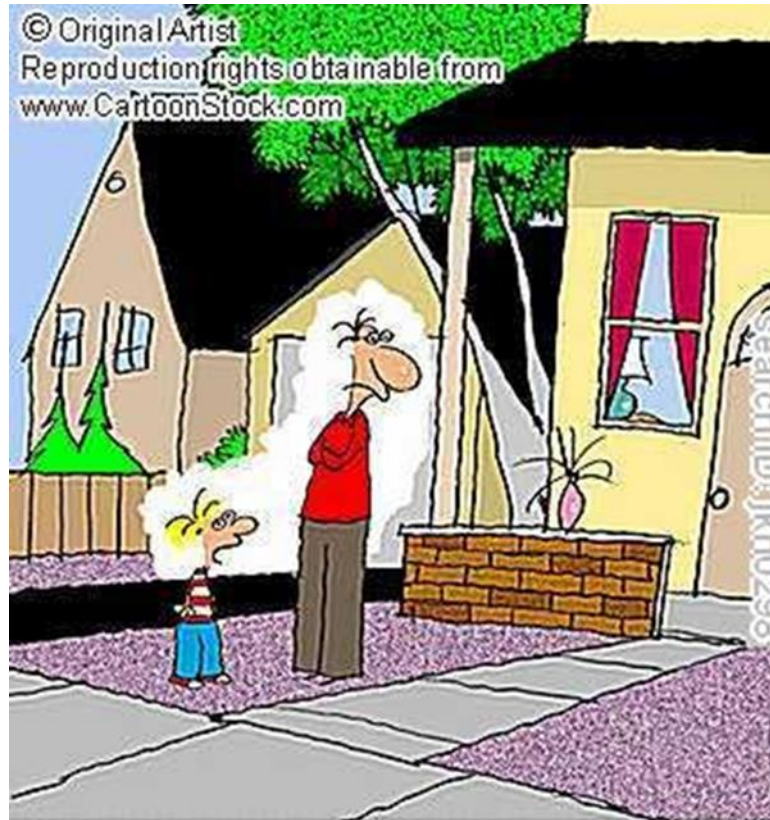
# Time Line for Irrigation for New Sod Plantings

<b>Time</b>	<b>Frequency</b>	<b>Duration</b>
<b>First 7-10 days</b>	<b>2-3 times daily</b>	<b>Short (5-10 mins)– try to keep plant material from drying out</b>
<b>7-10 days after planting</b>	<b>Once a day</b>	<b>Apply ~ ¼” water – more will be wasted due to short roots</b>
<b>Next 7-10 days</b>	<b>Every other day</b>	<b>Apply ~1/4 to ½” of water</b>
<b>3-4 weeks after planting</b>	<b>1-2 times weekly</b>	<b>Apply ~ ½” water</b>

# Which Grass Has Better Drought Tolerance?

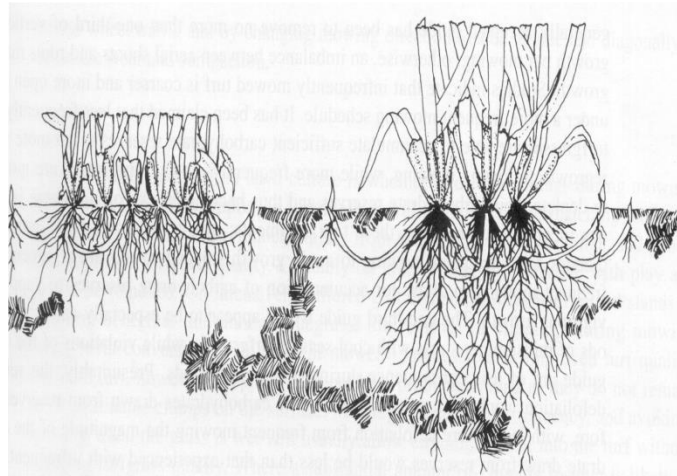
- All of our grasses need water to stay green (about the same amount!)
- Survival often depends more on soil organic matter, shade, rooting depth than species

# Mowing



*"I didn't have time to cut the lawn, so I used your credit card to have it carpeted. Do you like the cool color I picked out?"*

- **Mow at the correct height for the species**
  - Mowing too low stresses the grass and forces it to use up all saved reserves for shoot growth
  - Mowing high increased root depth





# Mowing Heights

- **St. Augustinegrass Standard Height Cultivars:**
  - Floratam, Bitter Blue, Classic, etc.
  - 3.5 – 4”
- **St. Augustinegrass Dwarf Cultivars:**
  - Captiva, Delmar Seville
  - 2-2.5”
- **Bahiagrass: 3-4”**
- **Zoysiagrass: ~2”**

# Mowing

- Only remove 1/3 of the leaf blade at any one time
  - Grass at 6” should have no more than 2” removed
- Keep mower blades sharpened
- Do not mow wet grass
- Commercial mowers should be washed off between properties (*do you ever see this?*)

# Scalping is a Major Stress









# How Do I Manage Turf in the Shade?

- Remove shade sources (trimming trees)
- Reduce traffic in shaded areas
- Increase mowing height if possible – more shoot tissue for photosynthesis will help turf perform better
- Reduce irrigation in shaded areas
- Reduce fertilization – trying to promote shoot growth with high fertility will further stress the grass

# Shade Tolerant Turf

St. Augustinegrass = zoysiagrass

Centipedegrass

Bahiagrass

Bermudagrass = Seashore  
paspalum

# St. Augustinegrass Shade Tolerance

- **Seville, Delmar, Captiva**
  - **Bitterblue**
    - **Palmetto**
      - **Floritam**

# Questions About Turfgrass?

- [letr@ufl.edu](mailto:letr@ufl.edu)
- <http://hort.ufl.edu/yourfloridalawn/>
- <http://turf.ufl.edu>
- <http://fyn.ifas.ufl.edu/>

**Thank you for your interest!**