FLORIDA-FRIENDLY

BEST MANAGEMENT PRACTICES

FOR PROTECTION OF WATER RESOURCES
BY THE GREEN INDUSTRIES

GREEN INDUSTRIES BEST MANAGEMENT PRACTICES (GI-BMP)

MODULE 3: LAWN AND LANDSCAPE

6/2016

TRAINING OBJECTIVES

At the end of this module you will be able to:

1. Describe the components of a Fertilizer Management Plan.
2. Describe how turfgrass reduces effects of urban nonpoint source pollution.
3. Describe four common lawn grasses used in Florida.
4. Describe how environmental stresses affect plant health and how they can be managed.
5. Describe four landscape best management practices to protect water resources.

LAWN AND LANDSCAPE NUTRIENT BMPS

Fertilize lawn and landscape plants appropriately.

WHY FERTILIZE?

To supply nutrients to achieve a defined objective or response such as:

1. Increasing growth
2. Enhancing appearance
3. Correcting or preventing nutrient deficiencies

FERTILIZER DEFINED

Any substance that:

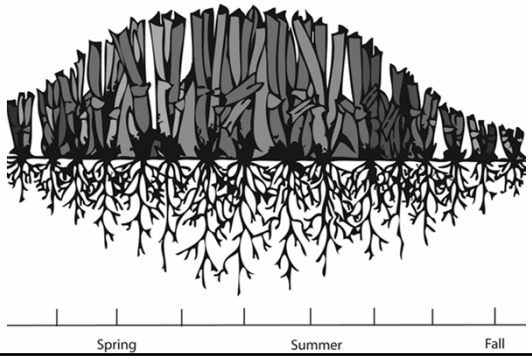
- Contains one or more recognized plant nutrients
- Promotes plant growth
- Controls soil acidity or alkalinity
- Provides other soil enrichment
- Provides other corrective measures to the soil

CORRECT NUTRIENT DEFICIENCIES

- Plants that have chronic deficiencies may not be suitable for the site.
- Select plants better adapted to the site conditions.

WHEN TO FERTILIZE

MAXIMIZE PLANT USE / MINIMIZE ENVIRONMENTAL ADVERSE IMPACTS



NEWLY PLANTED SOD AND SPRIGS

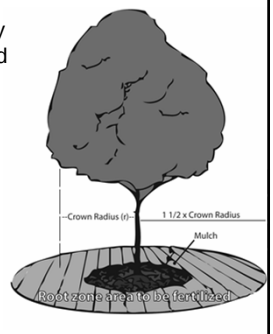
WHEN TO FERTILIZE?

- After plant establishment 30-60 days.
- High leaching potential due to lack of root system.
- Do not apply fertilizer pre-plant or until establishment root system, regardless of fertilizer source.

When and where to fertilize Trees and Shrubs

- Nutrients applied to lawn may meet the needs of shrubs and trees.
- Adding fertilizer to healthy mature trees may not accomplish anything.
- When mature trees have mature green foliage, little reason to add fertilizer.

(E.F.Gilman http://hort.ufl.edu/woody/fertilizing.shtml)



FERTILIZER MAY NOT BE REQUIRED

- If appearance is that of a healthy specimen
- If plants are established
- If plants are flowering & fruiting
- For trees, unless nutrient deficiencies exist.

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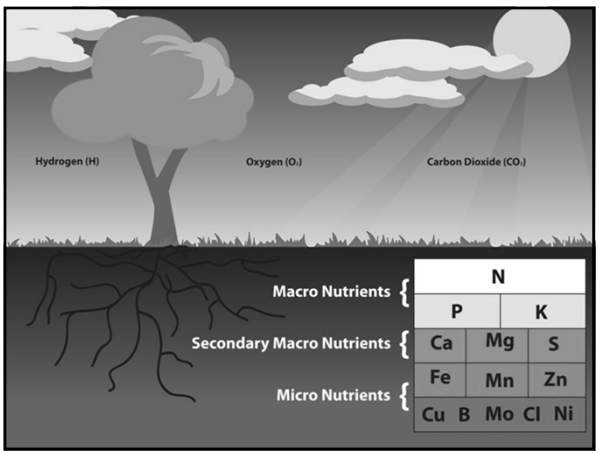
NUTRIENT ANALYSIS



BASIC SOIL TESTING
DETERMINING A FERTILITY PROGRAM

Soil Test
- pH
- Phosphorus
- Potassium
- Magnesium
- Calcium
- Lime and fertility requirements

TISSUE TESTING

Tissue Test
- Nitrogen
- Phosphorus
- Potassium
- Calcium
- Magnesium
- Iron
- Copper
- Manganese
- Zinc
- Boron

TURFGRASS CHARACTERISTICS AND CULTURE

BENEFITS OF A FUNCTIONAL TURFGRASS

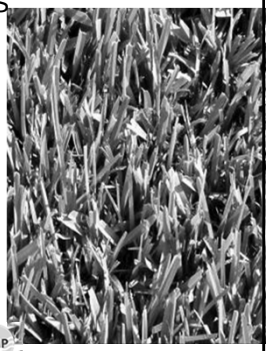
Healthy turfgrass:

- Slows stormwater from moving to water bodies
- Filters and removes contaminants
- Reduces leaching
- Reduces erosion
- Protects groundwater

ST. AUGUSTINEGRASS

Advantages

- Good shade tolerance (relative)
- Good salt tolerance (coastal areas, reclaimed water)
- Tolerant to wide range of soil pH
- Establishes quickly from sod
- Grows vigorously under many conditions



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Optimal Mowing Height (inches)
Cultivar Dependant: 3.5 – 4.0
Dwarf Cultivars: 2.0 – 2.5

ST. AUGUSTINEGRASS

Disadvantages

- May require supplemental water
- Poor wear tolerance
- Forms excessive thatch
- For most cultivars, chinch bugs are difficult to control
- Lack of herbicides for grassy weed control

ZOYSIA JAPONICA
COARSE LEAF TYPE

Advantages

- Can be maintained with less nitrogen than St. Augustine
- Dense growth habit
- Low mowing height
- Rotary mower
- Moderate shade tolerance
- Faster establishment than previously available types

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Optimal mowing height (inches)
Cultivar Dependant: 1.5 – 2.5
'*Empire*' : 2 – 2.5

ZOYSIA JAPONICA
COARSE LEAF TYPE

Disadvantages

- Same water requirements as St. Augustinegrass
- Hunting billbug pests
- Susceptible to large patch
- Thatch forming

BAHIAGRASS

Advantages

- Good ability to survive drought
- Resumes green growth when watered
- Lower fertility/maintenance requirements
- Low maintenance
- Tolerant of sandy, infertile soils
- Establishment: seed, sod

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Optimal Mowing Height (inches)
3.0 – 4.0

BAHIAGRASS

Disadvantages

- Produces abundance of seedheads during summer
- Open growth habit encourages weed competition
- Susceptible to mole crickets
- Coarse stems wear out mower blades
- Not wear tolerant

CENTIPEDEGRASS

Advantages

- Low fertility and water requirements
- Grows well in acidic/infertile soils
- Fewer insect and disease problems
- Slow growing above ground roots (stolons)
- Survives drought by going dormant

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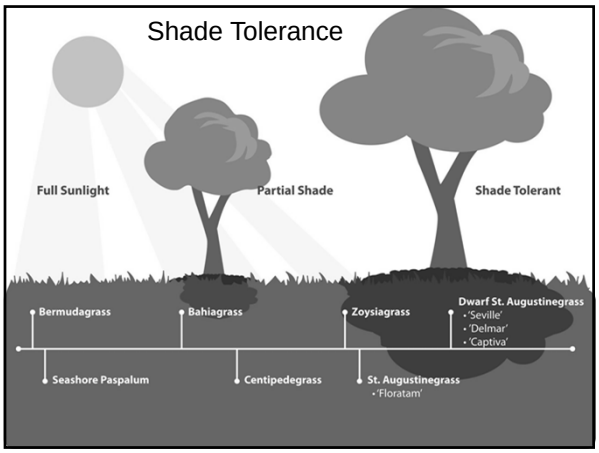
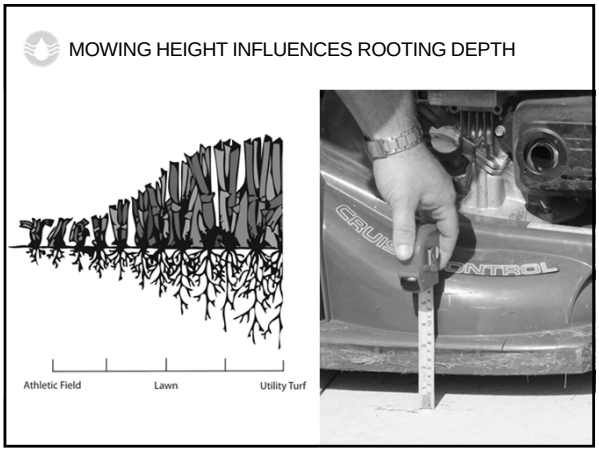
Optimal Mowing Height (inches)
1.5 - 2.5

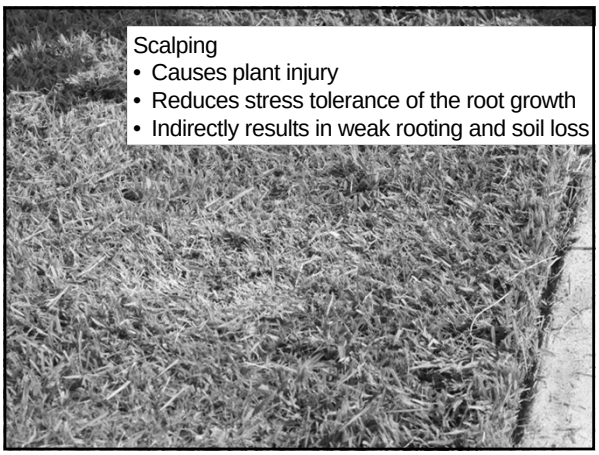
CENTIPEDEGRASS

Disadvantages

- Susceptible to nematodes and ground pearls
- Naturally pale yellow - green color
- Does not perform well in alkaline and saline soils
- Prone to Centipedegrass decline (TAR)
- Low wear tolerance

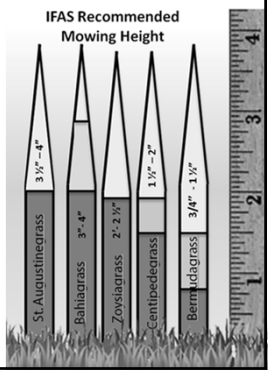

Shade Tolerance
Full Sunlight
Partial Shade
Shade Tolerant
Bermudagrass
Bahiagrass
Zoysiagrass
Dwarf St. Augustinegrass
• 'Seville'
• 'Delmar'
• 'Captiva'
Seashore Paspalum
Centipedegrass
St. Augustinegrass
• 'Floratam'


MOWING HEIGHT INFLUENCES ROOTING DEPTH
Athletic Field
Lawn
Utility Turf


Scalping
• Causes plant injury
• Reduces stress tolerance of the root growth
• Indirectly results in weak rooting and soil loss

MOWING CULTURAL PRACTICES

- Pick up stones, sticks, and other debris before mowing to avoid damaging the mower or injuries.
- Mow at highest recommended height for species.
- Don't remove more than 1/3 of the leaf blade at any one time.
- Leave clippings.



MOWING CULTURAL PRACTICES

- Keep mower blades sharp!
- Don't mow grass when wet
- Blow/remove clippings and weed seeds from mowers between properties
- Use Protective Safety Equipment

Tips of grass blades ripped by dull mower blade

DIRECT ENVIRONMENTAL CONSEQUENCES
INAPPROPRIATE CULTURAL PRACTICES

Excessive Nutrient loading may harm aquatic life:

- Lower oxygen levels
- Clogs gills
- Disruption of food chain
- Increase turbidity
- Blocks sunlight

INDIRECT ENVIRONMENTAL CONSEQUENCES
INAPPROPRIATE CULTURAL PRACTICES

Loss of vegetative cover results in:

- Erosion and sediment buildup
- Increased pests
- Wasted water and nutrients
- Reduced water quality

MOWING BMPS VIDEO

ENVIRONMENTAL TURFGRASS STRESS

WEAR TOLERANCE

Shoot injury due to wear, abrasion, scraping, and improper mowing height

Modify cultural practices during extended periods of drought

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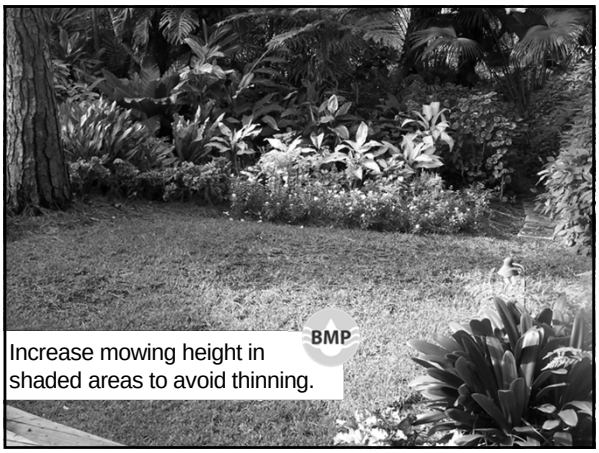

OVERCOMING SHADE

- Allow more light
- Use shade-tolerant groundcover or mulch bed
- Reduce traffic
- Reduce irrigation
- Reduce nitrogen

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MORE INFORMATION

This concludes the Turfgrass culture and species section.

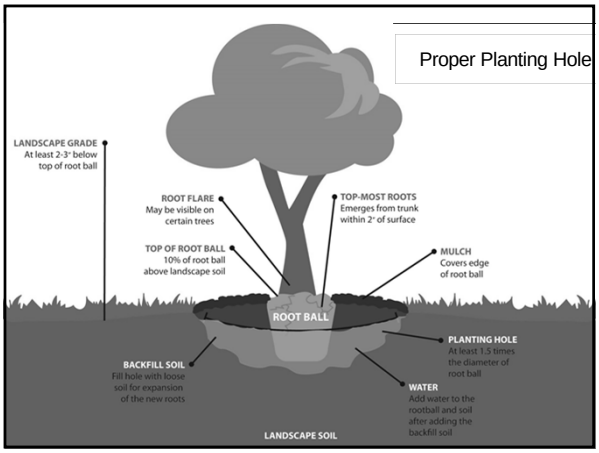
http://hort.ifas.ufl.edu/yourfloridalawn

LANDSCAPE BEST MANAGEMENT PRACTICES

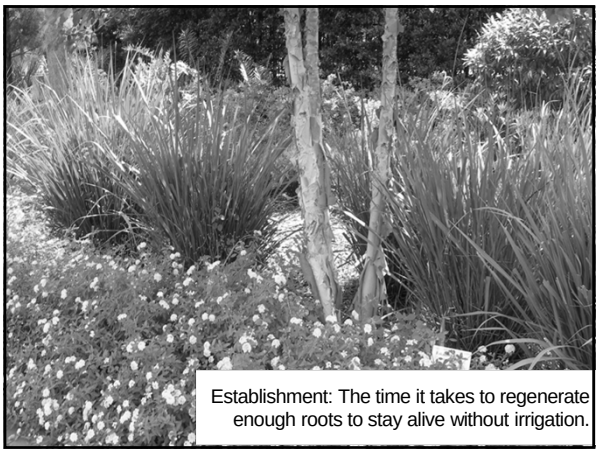
PLANT SELECTION CRITERIA: RIGHT PLANT, RIGHT PLACE

Based on characteristics of planting site:

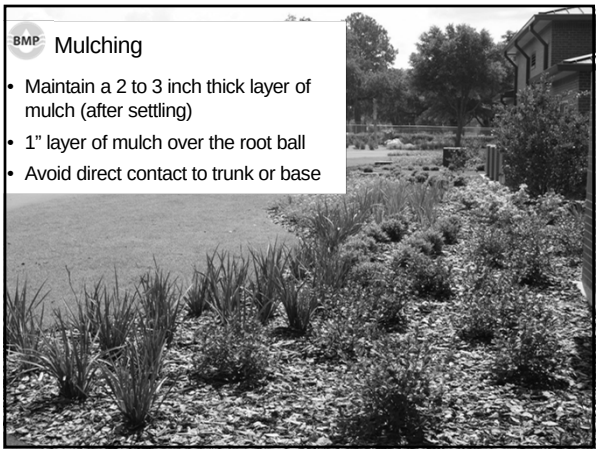
- Soil texture
- Soil pH
- Maintenance
- Space for mature plant
- Possible pest pressures and environmental stress
- Water supply

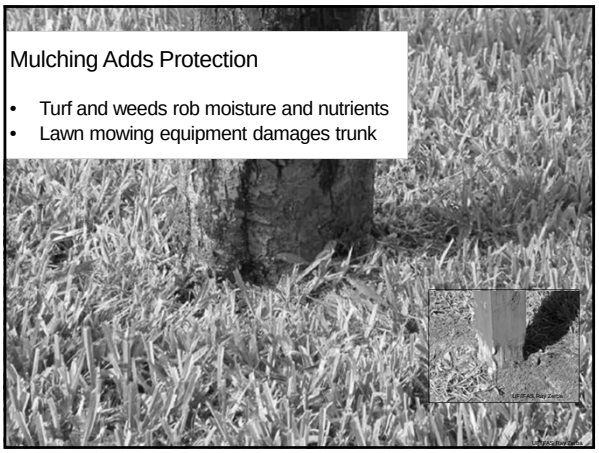


Proper Planting Hole



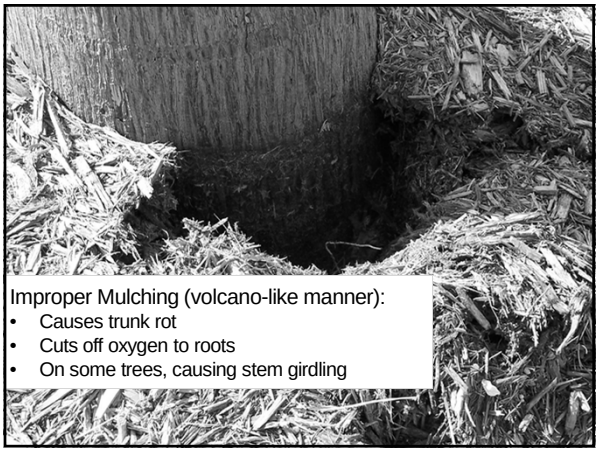
Establishment: The time it takes to regenerate enough roots to stay alive without irrigation.





Mulching Adds Protection

- Turf and weeds rob moisture and nutrients
- Lawn mowing equipment damages trunk



Improper Mulching (volcano-like manner):

- Causes trunk rot
- Cuts off oxygen to roots
- On some trees, causing stem girdling

PRUNING

Do – Leave a collar when removing a tree branch .

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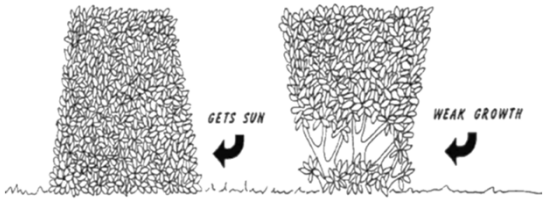
Don't – Flush Cuts!



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Landscape shrubs should:

- Trimmed wider at bottom than the top
- Clipped new growth

Effects of overpruning landscape palms:

- Growth will be slowed
- More susceptible to pests & diseases

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MORE INFORMATION

EDIS Cir. 853 Pruning Landscape Trees and Shrubs

http://hort.ifas.ufl.edu/woody/pruning

MANGROVES

The 1996 Mangrove Trimming and Preservation Act states that:

- There is a difference between trimming & alteration
- Height must be above 6 feet from substrate
- A professional mangrove trimmer must be employed (under certain conditions)
- Dead mangroves are protected the same as living trees
- Contact area FDEP office for more information

REVIEW

1. Describe the components of a Fertilizer Management Plan.
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4. Describe four common lawn grasses used in Florida.
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THANK YOU!

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Florida-Friendly Landscaping™ GI-BMP PROGRAM