Turfgrass Seminar

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• Genesis 1:11-12
  – And God said, Let the earth bring forth grass... and the earth brought forth grass.

Turfgrass Choices

• Warm season grasses
  – From about April to October

• Cool season grasses
  – From about mid-October to June

Turfgrass Species

• Warm Season
  – Bermudagrass
    - Common
    - Improved Turf Type
      – Buffalo grass
      – St. Augustine grass
      – Zoysiagrass
  - Cool Season
    - Perennial Ryegrasses
    - Annual Ryegrass
    - Fescue

Bermudagrass

Seeded – “If it comes from seed, it will make seed.”
  – Common
    - Improved Turf Type
      – Sahara
      – Sun Devil
      – Cheyenne
    - Hybrid
      – Princess 77 (1996)

Bermudagrass

Vegetative Sterile Hybrids – do not produce seed or pollen. Established through sodding, stolonizing, or plugging
  – Examples:
    - Midiron (EZ-Turf)
    - Celebration Bermuda
    - Tifway Bermuda
    - Tifgreen Bermuda
**Bermudagrass**
- Vegetative Sterile Hybrids – do not produce seed or pollen. Established through sodding, stolonizing, or plugging
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    - Tifway Bermuda
    - Tifgreen Bermuda

**Bermuda Hybrid**
- Midiron (E-Z Turf)
  - Medium Blue-Green
  - High Traffic, Low Maintenance
  - Good Recovery From Damage
  - Hardy
  - Sod or Stolons
  - Infrequent Dethatching

**Bermuda Hybrid**
- BobSod
  - Hybrid Bermuda – BullsEye
  - Virtually No Seedheads
  - Slightly Shade Tolerant but Best in Full Sun All Day
  - Resists Scalping
  - Deep Blue-Green Color
  - Medium-Wide Blade for Texture Contrast
  - Use Power Reel or Rotary Mower
  - No Pollen
  - Horizontal Growth
  - Soft to Walk On
  - Needs Extreme Dethatching or Verticutting

**Bermuda Hybrid**
- Tifway
  - Very Rugged for High Traffic
  - Dense and Aggressive Growth
  - Sod or Stolons

**Bermuda Hybrid**
- Tifgreen
  - Bright Green
  - Low Traffic, Low Maintenance
  - High Traffic, High Maintenance
  - Withstand Low Water
  - Good Recovery
  - Sod or Stolons

**Saint Augustinegrass**
- Palmetto
  - Shaded Areas Coverage
  - Moderate Traffic
  - Higher Maintenance
  - Sodding Recommended
  - Do Not Overseed
  - Needs 30% Sunlight
**Winter Lawn Variety**
- **Ryegrass**
  - Ideal for Overseeding
  - Quick, Vigorous Germination
  - Do Not Mix Varieties
  
  Annual – Less expensive per pound, requires more seed
  Perennial – Darker green, easier to mow, harder, finer blade

**Winter Lawn Variety**
- **Tall Fescue**
  - Deep Root System
  - Some Water Stress Tolerance
  - For Low Desert Shaded Areas
  - Overseed From Mid-September to October
  - Uses More Water

**Turfgrass Choices**
Each species and variety differs in:
- Maintenance requirements
- Sun
- Shade
- Temperature
- Traffic tolerance

**Basic Steps To Soil Preparation**
- Remove debris, old turf and weeds.
- Establish rough grade.
- Wet the soil.
- Add soil amendments.
- Always till in amendments.
- Install sprinklers.
- Water to settle trenches.
- Finished grade.
- Roll.

**Planting & Soil Preparation**
- **Sod**
  - Year round

- **Seed**
  - Fall rye
  - Late spring / early summer – Bermuda
  - Stolons
  - Late spring – early summer
  - Plugs
  - Early Spring

  - Higher initial cost
  - Lower initial cost
  - Higher maintenance
  - 12 weeks optimum growth prior to normal traffic

**Planting**
- Spread seed in 2 right angle passes
- Lightly rake & roll entire area
  - Apply a maximum ¼ inch mulch
  - Water thoroughly (6” depth)
  - Water lightly 3-4 times daily until turf is established
  - Allow grass to reach recommended height before mowing.
Planting

Stolons

- Dig furrows 2-3” deep, 4-12” apart
- Place stolons and firm the soil
- Lay stolons out by hand, cover with soil
- Soil lightly with water-filled roller
- Do not let it dry out!

Sod Installation

- Install first along longest straight edge
- Push edges and ends together
- Stagger joints from row to row, cut to fit as needed
- Water all sod every 30 minutes during installation
- Water lightly and roll in 2 directions

Maintenance

Watering

• Keep newly planted lawns moist!
• Water up to 4 times daily (5-10 minutes per set) for 10 days – 14 days.
• After establishment, water 8-10 inches, deep and often enough to avoid wilt.

Mowing

• Remove no more than 1/3 of the grass blade
• Have a sharp blade on the mower
• Do not mow too soon

Fertilizing – New and Overseeded

• For New Seed or Stolons – Apply a Balanced Starter Fertilizer Weekly Until Filled-in
• For New Sod – Apply a Balanced Fertilizer Every Two Weeks for One Month
• Late October/November – Apply a 3-1-2 Ratio Fertilizer

Maintenance for Established Turfgrass

• Watering
• Fertilizing
• Mowing
Principles for Watering Lawns

Water Infrequently

Water Deeply

Water in the Morning

When?

• Early Morning
  – Lowest evaporation
  – Less surface wind
  – Removes guttation
  – Low usage time.

When & How Long to Water

• Bermudagrass – 1.1 to 2.4 inches per week (Summer)
• Ryegrass – 1 inch per week (Winter)

Feeding the Soil

• Plants feed themselves, people feed the soil
• Over-fertilizing and under-fertilizing
• The 16 essential nutrients
• Fertilizer’s main 3 – nitrogen, phosphorus, potassium
• The 3-1-2 balance
• The pH block to nutrients
• Soil Testing
Grass Growth and Structure
- Grass regenerates from growing points called crowns
- The crowns are above ground and vary with the grass species
- Crown height determines mowing height
- Lawn grasses survive mowing by "escape"
  - The growing point is not at the tip of each blade

Basal Growing
- The crown is the growing point
Mowing a Lawn

Mowing – The Bad
- Reduced ability to manufacture food
- Weaker root structure
- Torn or bruised leaves
- Soil exposure
- Low tolerance to temperature extremes

Mowing – The Good
- Thicker lawn
- More weed resistant
- Encourages tillering

Reel or Rotary
- Reel Mower – scissor cuts
- Rotary Mower – impact cuts
Mowing Height

Determining Factors
- Turf Variety
- Use or purpose of area
- Environmental concerns
- Health of the turf
- 1/3 Rule

Mulching Mowers
- Allows clippings to be left on the turf if it is mowed at the proper frequency and height
- Clippings decompose quickly and return nutrients to the soil
- Reduces fertilizing by 25%
- Do not use a mulching mower on wet grass, unless you like green peanut butter

Removing Clippings
- Remove clippings if excessive (more than 1/3 of the grass blade)
- Remove clippings if the lawn is diseased, or weeds are setting seeds.
Mowing

- Do Not Remove more than 1/3 of the grass blade
  - Exception ➔ Santa Ana
- Keep mower blades sharp
- Mowing height is determined by turfgrass species, use and environmental conditions
- Do not mow lower than the lowest height recommended. It might expose or damage the crowns.

Dethatching

- What is Thatch?
- Detach when the thatch is ½ inch or more.
- Why dethatch?
- The best time for dethatching

- Caution – Make sure the blades are set ¼ inch above the soil

Thatch

1½”

Remove if it is more than ½ inch thick.

Aerating

- Why
  - Increase the movement of air, nutrients and water
- How often
  - Every 2 to 4 years
- When
  - During growing season
- Top-dress with composted organic mulch, a balanced fertilizer and gypsum

Overseeding for Winter Green

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**Fall Overseeding of Bermudagrass**

- Plant perennial rye grass on top of bermudagrass
- Protects the growing crown
- Overseeding should be done from October 1st to November 1st

**Overseeding**

Bermuda needs to be managed to slow growth and encourage food storage for dormancy

Prior to overseeding:
- Do not fertilize for 4-6 weeks
- Cut the water frequency in half for 10-14 days
- Stop mowing for 7 days

The day of overseeding, mow the grass 3 times. Lightly detach if necessary.

**Timing**

Temperature in the mid-sixties at night on a consistent basis.

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**Winter Lawn Varieties**

- Annual:
  - Less expensive per pound
  - Requires more seed
- Perennial:
  - Darker green
  - Easier to mow
  - Hardier
  - Finer blade
  - More Drought Tolerant

**Ryegrasses – Annual & Perennial**

**Procedure**

**Top dress with mulch**

- 1/4 inch of any type of mulch (optional)
- Moderates temperature
- Holds moisture

**Procedure**

- Week One – keep seed damp
- Week Two – water daily
- Week Three and on – water as needed, avoid wilt between waterings

**Watering**

Set timer to water every two weeks to a depth of 2-3 inches.

That's for all winter grass needs.
Procedure

- No fertilizer for 2 weeks
- Initially use a lawn starter fertilizer
- Regularly use a 3-1-2 ratio blend of fertilizer, every 4-6 weeks

Procedure

- Wait 2 weeks
- Mow approximately 1 ½ inches
- Allow grass to establish

Some points to consider

- If you want to conserve water, cut back on water for summer lawns.
- July and August are NOT enjoyable months to be outside in 100 plus temperatures.
- Why sacrifice your quality of living when you’re going to use your lawn in cooler temperatures. Enjoy it! It’s your garden.
- Xeriscape can include grass in a responsible way.
- Grass in the front yard is for vanity, pride, for your neighbor’s dogs, and guests. Not your enjoyment.

Lawn Painting

- An alternative to overseeding
- Or, paint dead rye for a green summer lawn

Spring Transition

- The steps to a good spring transition program.
- What happens to Rye and Bermuda grasses during the transition.
- “Mow close, mow often, water & fertilize lightly.”
- Fertilize

April 1st

Daytime highs above 85 degrees
Spring Green Up Transition for Overseeded Lawns

- Temperature is 60° F or higher for 5 nights in a row.
- Gradually lower the mowing height to ⅜ of an inch or less.
- Keep the mower at this lowered setting until the transition is completed.
- Continue normal watering.
- Do Not Shut off the Water.
- Fertilize.

Spring Green Up Transition for Overseeded Lawns

- Do not use herbicides at this time. It could damage the bermudagrass.
- Do not verticut the ryegrass to force it out during transition.

Spring Transition

- Mow close, mow often, water and fertilize lightly.

Temperature When Grasses Grow Best

- Warm
  - Shoots 81-95 degrees
  - Roots 75-84 degrees
- Cool
  - Shoots 59-75 degrees
  - Roots 50-64 degrees

Why Turf Struggles in the Summer

- When temperatures are above 110 it can affect grass quality and growth
- Turf can also be “cooked” to death to the point of irreversible damage

Other stresses
- Inadequate water
- High humidity
- Low & frequent mowing
- Pests
- Heavy traffic
How Heat Affects Turf

• The roots are the most sensitive to heat
• Because they are not visible we do not see the first signs of damage
• The roots slow down and then stops transporting nutrients and water to leaves
• When we see the above ground damage it is too late to reverse the affects of heat
• If the heat has been too destructive, may need to reseed or resod

What can you do to Help

• Water frequently enough to prevent wilt
• Mow at the highest recommended height
• Mow 1/3 of the grass
• Avoid traffic patterns
• Core aerify
• Prune to allow air flow to help cool down grass

Help for the Problem Child

• Inadequate water
• Improper fertilization
• Improper mowing
• Thatch
• Soil problems
• Shade
• Weeds
• Pests
• St. Augustine

Problems

• Most problems are caused by improper cultural management practices…the way people take care of their plants
• That’s why we need more training programs like this for the public.
• It’s a heck of a job to try and nurse sick plants back to health.
Head to Head Coverage

- For proper coverage, place sprinklers so that the spray from one sprinkler reaches to the next sprinkler.

Shade

- Raise mowing height
- Avoid excessive nitrogen fertilization
- Use deep infrequent watering
- Select shade tolerant grasses
- Increase light by pruning
- Enhance air movement
- Remove fallen leaves

WEEDS

- Dicots
- Monocots
Nutsedge

- Cyperaceae – Purple and Yellow Nutsedge
- Underground “nutlets” form in chains

Pearl Scale Crawler
Diseases

- Some problems can be easily controlled, others require more effort...

Fungi
Brown Patch
Melting Out
Dollar Spot

Lawn Success
- The right turf grass for the purpose
- Planting and soil preparation
- Maintenance

Check your local resources for tips and how-to information

Doggy Spots
- Re-train the pet!
- Frequent watering

ANIMALS
- Wildlife and domesticated animals can destroy both turf grasses and other landscaping.
It is important to remember that a magic grass – one that uses little or no water, seldom needs mowing and withstands heavy use in a deeply shaded area - simply does not exist.
Keys to a Happy Lawn

- Soil preparation is key
- Choose the right variety
- Water enough to avoid wilt, but deeply (8"-10")
- Fertilize monthly (3-1-2 blend)
- Mow no more than 1/3 of the grass blade, use a sharp blade.
- Remove thatch if it is more than 1/2 inch thick.

Remember to make everyday TURF-rific!