Lawn Renovation:

Needed But Not Often Done!

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Reasons to Renovate

- Significant thatch layer has developed.
- Turf has deteriorated beyond recovery.
  - Pest damage
  - Weed infestation
  - Old age
- New turfgrass species or cultivar desired.

Correct the Original Problems – first!

- Thatch layer – Why did it develop?
  - Too much nitrogen?
  - Infrequent (no) vertical mowing?
- Deteriorated turf?
  - Pest damage – what caused the damage?
    - Will it be prevented?
  - Weed infestation – what caused this?
- New turfgrass species or cultivar wanted
  - Is there specific "know how" to manage new turf?

Thatch Management

- Thatch is composed of an intermingled layer of living and dead stems, stolons, rhizomes, and roots between the green vegetation and the soil surface.

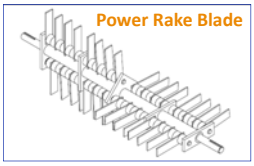
What causes thatch?

- Thatch is basically a residue problem that occurs in most turfgrasses.
  - Thatch accumulates and persists largely because the tissues (stems, stolons, rhizomes, and roots) occurring in the thatch contain decay resistant lignin.
    - Leaf tissue components such as cellulose and hemicellulose decompose rather quickly.
      - Failure to remove clippings after mowing does not cause thatch buildup.

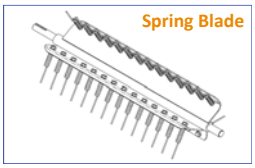
Thatch Buildup

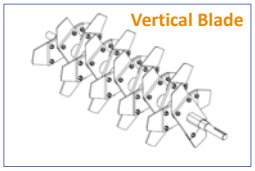
- Attributed to:
  - Improper management
    - Mowing – an increase in mowing height will cause an increase in thatch.
    - Excessive Fertilization – high levels of nitrogen will cause an increase in thatch.

- Steps involved in thatch removal:
  - Avoid wet sites
  - Mark all obstacles – mainly sprinklers
  - Vertical mow the site
  - Rake up debris and remove
  - Mow at recommended mowing height
  - Irrigate site



Power rake and spring blades should NOT be used on warm-season grasses (exception – bermuda & zoysia).





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Pictures acquired from www.bluebird.com

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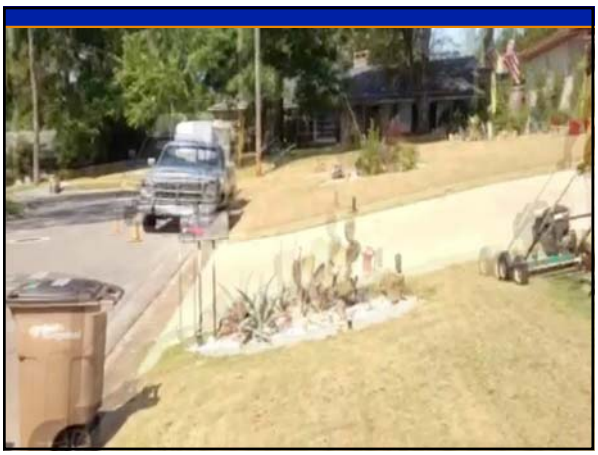

Post Verticutting Care

- Apply 0.25 – 0.5 pound of quick-release nitrogen per 1,000 ft^2 to encourage rapid recovery.
- A 30-day period of favorable growth is needed for the turf to recover.
  - The last vertical mowing of the season should be timed at least four weeks before the average frost.

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Practical Considerations

- Reducing mowing height to the recommended mowing height is easily achieved *following* verticutting.
  - Example: Zoysiagrass
- Fixing surface ruts or undulations in the soil can be accomplished *following* verticutting.

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Frequency Needed

Bahiagrass	Bermudagrass	Centipedegrass	St. Augustinegrass	Zoysiagrass
Rarely	Verticutting – every other year	Verticutting – every few years	Verticutting – every other year	Verticutting – every year?

Aerification or Coring

Benefits

- Relieves soil compaction
- Allows deeper, faster penetration of water, air, fertilizer, lime, and pesticides.
- Allows for release of toxic gases (CO_2 and CO) from the root zone.
- Improves surface drainage.
- Thatch control by stimulating microbe environment.
- Increased rooting.

Drawbacks

- Temporary surface disruption.
- Increased turf surface desiccation as roots are exposed.
- Coring holes provide a habitat for insects (cutworms).

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Types of Aerifiers

- Circular-Motion Units
  - Tines or spoons mounted on a drum or metal wheels are forced into soil as the drum or wheels turn in a circular motion.
    - Preferable for large areas since the rotating units can cover more ground in a given time period.

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Lawn Topdressing

- Adds a thin layer of soil or root zone mix to the turf surface which is then incorporated by dragging or brushing it in.
  - On newly established turf, topdressing:
    - partially covers and stabilizes the newly planted material;
    - smooths gaps that result from sodding; and
    - minimizes turfgrass desiccation.

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Topdressing Materials

- Materials generally should match the underlying soils – avoid creating layers!
- Organic materials can be used to increase water and nutrient holding capacity to sands.
  - Healthy growing turf systems generally produce enough organic matter over time (i.e., thatch).
- Often weeds are introduced with topdressing materials – especially torpedograss!

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Complete Renovation

- Site preparation is KEY!
  - Remove debris and eradicate existing turf and weeds.
    - Non-selective herbicide – multiple applications – 14 days apart.
  - Rototill site to a depth of 6 – 8" to alleviate soil compaction.
  - Install irrigation if needed.

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Complete Renovation

- Site preparation is KEY!
  - Construct grade to ensure good surface drainage.
    - Incorporate lime or sulfur to correct pH deficiencies:
      - Lime: 2,000 lbs per acre on most Florida soils to raise the pH one unit.
      - Sulfur: 660 lbs per acre of elemental sulfur will lower pH one unit.
  - Firm soil so that footprints do not exceed ½".
- Plant sod obtained from a reputable source.

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Complete Renovation

- Irrigation
  - Sod – keep soil moist for the first seven days after planting with brief spritzes of water 2 – 3 times during the day.
  - Seed – keep the seedbed continuously moist with light frequent sprinklings until seedlings have emerged and roots become established.
- Fertilization
  - Do NOT fertilize newly established turf for at least 30 days.

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