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

Thatch Removal

Steps involved in thatch removal:
- Avoid wet sites
- Mark all obstacles – mostly 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).
Post Verticutting Care

- Apply 0.25 – 0.5 pound of quick-release nitrogen per 1,000 ft² 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.

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.

Frequency Needed

<table>
<thead>
<tr>
<th>Grass Type</th>
<th>Aerification or Coring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahiagrass</td>
<td>Verticutting every year</td>
</tr>
<tr>
<td>Bermudagrass</td>
<td>Every other year</td>
</tr>
<tr>
<td>Centipedegrass</td>
<td>Every few years</td>
</tr>
<tr>
<td>St. Augustinegras</td>
<td>Verticutting every year</td>
</tr>
<tr>
<td>Zoysiagrass</td>
<td>Verticutting every year</td>
</tr>
</tbody>
</table>

Aerification or Coring

**Benefits**
- Relieves soil compaction
- Allows deeper, faster penetration of water, air, fertilizer, lime, and pesticides.
- Allows for release of toxic gases (CO₂ 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).

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.
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.
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 torpedogras!

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.

Complete Renovation

- Site preparation is KEY!
  - Construct grade to ensure good surface drainage.
  - Non-selective herbicide – multiple applications – 14 days apart.
  - Rototill site to a depth of 6 – 8” to alleviate soil compaction.
  - Install irrigation if needed.

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.

Complete Renovation

- Fertilization
  - Do NOT fertilize newly established turf for at least 30 days.

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