PLAY - - - UNTIL YOU CAN’T PLAY ANYMORE
OBSTACLES FACE

• OVER SCHEDULED FIELDS
• PRACTICE FIELDS = MULTI USE FIELD (lack a formal practice field)
• PRACTICE FIELD(s) = closest field is the field we will use today.
• FERTILIZATION = Not when school is in session (months !)
• FERTILIZATION = Not when students are present (weekend applications only)
• FERTILIZATION = No funds, no budget.
• WATER = fix all.
MAINTENANCE SCHEDULE FOR NON-OVERSEED BERMUDAGRASS

LOW ELEVATION - DESERT

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>J</th>
<th>F</th>
<th>M</th>
<th>A</th>
<th>M</th>
<th>J</th>
<th>J</th>
<th>A</th>
<th>S</th>
<th>O</th>
<th>N</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeding</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
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</tr>
<tr>
<td>Sodding</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Fertilizing</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
<td>1/2</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>1/2 to 3/4 lb. -N per 1000 ft²</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>1.0 lb. after dethatching or aerification</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Dethatch/Aerify</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Pre-emergent weed control</td>
<td>X</td>
<td>X</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Water (inches per week)</td>
<td>3/8</td>
<td>3/8</td>
<td>1-1/2</td>
<td>1-1/2</td>
<td>1-1/2</td>
<td>1-1/2</td>
<td>1</td>
<td></td>
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</tr>
</tbody>
</table>

REMARKS:
- After May 15. Do not overseed bermuda until second year
- X = bermuda sod only.
- O = overseeded sod only, reseed over bermuda.
- 1/2 to 3/4 lb. -N per 1000 ft²
- 1.0 lb. after dethatching or aerification
- X = For summer annual weeds, apply Feb. 20 - March 5.
- O = For fall annual weeds, apply Oct. 25 - Nov. 25

TEMP / Part                  | Ryegrass | Bermuda |
-------------------------------|----------|---------|
SHOOTS (opt) air              | 60 to 75 | 80 to 95|
ROOTS (opt) soil              | 50 to 65 | 75 70 85|
ROOT (heat stress) soil       | > 80     | > 100   |
LEAF TEMP (lethal)            | 104 to 112| 110 to 120|
COLD HARD. (air)              | 40 - 34 | 58 to 66|
CHILL STRESS (air)            | none     | 54 to 60|
LOW TEMP KILL (leaf)          | 26 to 20 | 18 - 0  |

Warm-season turfgrasses

- Topgrowth
- Roots

Winter | Spring | Summer | Fall | Winter
WARM SEASON

Month

Growth Rate
Warm-season turfgrasses

Topgrowth

Roots

Winter  Spring  Summer  Fall  Winter
WARM SEASON
Cool Season Grass Growth
GROWTH & TEMPERATURE - RYE

Cool Season turfgrass growth chart showing amount of growth of roots & leaf tissue.
<table>
<thead>
<tr>
<th>TEMP / Part</th>
<th>Ryegrass</th>
<th>Bermuda</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHOOTS (opt) air</td>
<td>60 to 75</td>
<td>80 to 95</td>
</tr>
<tr>
<td>ROOTS (opt) soil</td>
<td>50 to 65</td>
<td>75 70 85</td>
</tr>
<tr>
<td>ROOT (heat stress) soil</td>
<td>&gt; 80</td>
<td>&gt; 100</td>
</tr>
<tr>
<td>LEAF TEMP (lethal)</td>
<td>104 to 112</td>
<td>110 to 120</td>
</tr>
<tr>
<td>COLD HARD. (air)</td>
<td>40 to 34</td>
<td>58 to 66</td>
</tr>
<tr>
<td>CHILL STRESS (air)</td>
<td>none</td>
<td>54 to 60</td>
</tr>
<tr>
<td>LOW TEMP KILL (leaf)</td>
<td>26 to – 20</td>
<td>18 – 0</td>
</tr>
</tbody>
</table>
Good grass for graduation!

1. Warm weather, warm soil.

2. Bermudagrass

3. Valid graduates
TURFGRASS FIELD USE PATTERNS vs. ACTIVITY

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

FOOTBALL

BAND

SOCCER

LA CROSSE

BASEBALL

B.B. Practice

TRACK

Graduation

So, Fo, Ba, Tr
BERMUDAGRASS (no overseed) for graduation

Avoid any aggressive soil cultivation in spring.

Apply iron for green color

Soil Temperature dependent, (N) fertilizer. !! ??

Avoid getting behind in mowing. Scalping will not recover at “summer rates”.

Scalping = negative root growth in spring, also brings on iron chlorosis.

Low density - low cover? Raise mowing height. Get at least two mows in at the new taller height.
BERMUDAGRASS (with overseed) for graduation

High air temperatures on ryegrass. Not making much food! (NMMF)
Avoid aggressive aerification.

NMMF:
• Avoid heavy (N) after Mid March.
• USE Iron for color
• Roots get “Shorter” with increased air and soil temperature, and “less food”.

DON’T scalp (force new shoots at both root and shoot expense) Run out of buds.

Fertilize with Potash (0 0 50).

Light (N) for color (0.10 to 0.20 lbs N / 1000 ft2).
GETTING RID OF RYEGRASS

IF YOU WAIT LONG ENOUGH.....
High night temperatures take it out.

IF YOU WAIT LONG ENOUGH.....
You end up with straw turf (dead ryegrass)
Straw probably chemically supresses bermuda !
**Shorter bermuda season** (if you plan on overseeding again)
GETTING RID OF RYEGRASS

Culturally.

Early program:

Lightly verticut, Mid March to late April. (injuring the elevating crowns of rye). (thin canopy enough to let bermuda “start in!”) Non advertised weakening of the ryegrass. Works best at reel mow heights.

Don’t verticut away the incoming bermuda stolons.
GETTING RID OF RYEGRASS
GETTING RID OF RYEGRASS

Culturally.
Post Graduation:
Repeat (N) fertilizer.
Mow lower, but must mow more often.
Scalp and vericut to smitherens.
Follow with repeat (N) fertilizer.
Repeat w/scalps.
Getting Rid of Ryegrass w/herbicides

- Kerb
- Manor (slow at low rates)
- Corsair (slow at low rates)
- Revolver
- Monument
- Tranxit
- Katana
- Certainty
- Sapphire (slow)
Keeping bermuda green late into the fall!

- AERIFY in the summer on fields with no play.
- FERTILIZE in the summer to get as many stolons as possible (100% cover f.b. rhizomes)
- DON’T scalp, ever!
- IRON sulfate = Oct 1 every 10 days = EOS.
- BERMDAGRASS var. TiffSport, Celebration, Princess (not rotary types),
- Avoid extra activities – specific use field.
Want to build up highest stolon density possible and MAKE THATCH.

- Constant (N) program. (1/2 lb/M 14 day)
- Mow low with a reel-mower.
- Roll field to promote some compaction.
- Include potash fertilizer (1:1 with (N).
- High density bermudagrass cultivar (Tifway 419, TifSport, BobSod)
- Consider paint at end of season.
Want to build up highest stolon density possible and MAKE THATCH.

- Need to get rid of the existing thatch before......
- You repeat the “thatch making program again....
- Need a uniform surface to manage......
- The unique uniform surface you make (and remake)..
- **NOTE**: Works best with high denisty low mowing bermudagrasses. (high thatch tendency).
Keeping bermuda as a uniform surface for fall use! (2)

**Thatch Layer** in this picture is approx. 1.5” thick. Aeration is definitely needed!
BIG HELPS!

- ADMIN & A.D.’s
- Scheduling office.
- Don’t use the closest field, just cause it is!
- Use practice groundcover/pads.
- Move soccer goals – practice.
- Aerify.
- Don’t skip fertilizing bermuda in the summer.
SUMMER MAINTENANCE FOR FALL FOOTBALL

If you have ryegrass, get rid of it, culturally or chemically.

Best 8 weeks of the year on your side!
SUMMER MAINTENANCE FOR FALL FOOTBALL

MOST UNDER-UTILIZED & UNDER-PRACTICED CULTURAL MANAGEMENT ITEM IS?
AERIFICATION
SPOONER
SLICER SPIKER
SUMMER MAINTENANCE FOR FALL FOOTBALL

- **Before**: Thatch layer, shallow roots, compacted soil, nutrient cores, new grass plants increase lawn's density.
- **Immediately Following**: Water, oxygen, improved soil aeration.
- **8-10 Weeks Following**: Newer and deeper roots, improved water, nutrient, and gas exchange.

**Before**: 
- Before aeration.
- Immediately following: water, oxygen.
- 9-10 weeks following: newer and deeper roots.

- **Before**, **1 Day After**, **1 Month After**: Improves water, nutrient & gas exchange, reduces soil compaction.
DEEP TINES
Push your Hay and Pasture Performance with AerWay®

- Aerate and renovate to increase air, water, fertilizer and manure uptake into the soil
- Helps to hold moisture and soils on hillsides and challenging field conditions
- Boost yields and stand longevity
- Optional heavy duty chain harrows
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TOPDRESSING MATERIAL BLENDED WITH NATIVE SOIL IN AERATION GROOVES
TURF IS YOUR BUSINESS
### Summary of temperature criteria affecting cool- and warm-season turfgrasses.

<table>
<thead>
<tr>
<th>Temperature Parameter</th>
<th>Most C₃ Cool-Season Turfgrasses</th>
<th>Most C₄ Warm-Season Turfgrasses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimum* Shoot Growth</td>
<td>60 to 75°F (16 to 24°C)</td>
<td>80 to 95°F (27 to 35°C)</td>
</tr>
<tr>
<td>Optimum** Root Growth</td>
<td>50 to 65°F (10 to 18°C)</td>
<td>75 to 85°F (16 to 26°C)</td>
</tr>
<tr>
<td>Root Heat** Stress</td>
<td>&gt;80°F (27°C)</td>
<td>&gt;100°F (38°C)</td>
</tr>
<tr>
<td>High Temperature*** Kill</td>
<td>104 to 112°F (40 to 44°C)</td>
<td>110 to 120°F (43 to 49°C)</td>
</tr>
<tr>
<td>Cold* Hardening</td>
<td>40 to 34°F (4 to 1°C)</td>
<td>58 to 66°F (15 to 19°C)</td>
</tr>
<tr>
<td>Chill* Stress</td>
<td>None</td>
<td>54 to 60°F (12 to 16°C)</td>
</tr>
<tr>
<td>Low Temperature*** Kill</td>
<td>26 to -20°F (-3 to -29°C)</td>
<td>31 to 20°F (-1 to -7°C)</td>
</tr>
</tbody>
</table>

* Canopy temperature  
** Soil temperature  
*** Tissue temperature
Cool-season turfgrasses

Topgrowth

Roots

Winter Spring Summer Fall Winter

Grass mowed higher will “feed” cool-season turfgrass roots better in spring and fall than in summer when hot weather tends to suppress some cultivars’ shoot growth.