Cool Season Turfgrasses for Equine Uses

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Cool-Season Grasses

• Optimum top growth @ 60-75 °F (16 to 24 °C)

• Optimum root growth 40-60 °F (4 to 16 °C)

• Little or no winter dormancy

• Continuously active root system

• Vary in heat and drought persistence
The predominant cool-season grasses to be used for trafficked equine surfaces are:

- Tall fescue
- Kentucky bluegrass
- Perennial ryegrass

Seasonal Growth Patterns in the Northern Hemisphere

- **Shoot Growth**
- **Root Growth**
- **Carbohydrates**
Tall Fescue

- **Scientific name:**
  - *Schedonorus arundinaceus* (Robert H. Mohlenbrock); (previously *Festuca arundinacea* Schreb.)

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Tall Fescue

- **Description, Adaptation, and Use:**
  - Medium leaf texture with most recent turf-type cultivars matching up well in leaf texture with Ky bluegrasses.
  - Predominantly a bunch-type grass (develops tillers) with breeders continuously striving for improvements in rhizomatous (below-ground stems) growth habit.
  - Very stiff bladed, upright growing leaves... requires a sharp mower blade.
  - Would have the “highest” recommended mowing height of the cool-season grasses where that applies (not likely a factor for most equine uses).
Tall Fescue

- **Description, Adaptation, and Use:**
  - Adapted to a wide range of soil conditions... wet, dry, acid, alkaline
  - Does reasonably well in heat and drought b/c of **drought avoidance**... a very deep root system
  - Moderate to poor cold tolerance
  - Excellent spring greening
  - Many seed sources available; monostands of TF sod are atypical unless it is “netted” and that does not work for equine use; sod marketed as “tall fescue” is commonly mixed with Ky bluegrass at 90/10 or 85/15% by weight mixtures at seeding to gain rhizome knitting of bluegrass

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Tall Fescue

- **Cultural intensity:**
  - Low/medium maintenance intensity... but still delivers an aesthetically pleasing canopy
  - 0.5-1 lb N/1000sq ft (or 24-48 kg N/ha)/**active growing month**... Turf-Type tall fescue cultivars respond to higher maintenance levels
  - Particular problems with Brown Patch and Gray Leaf Spot under high maintenance situations (and improperly timed N fertilizer and/or irrigation applications)
  - Little to no thatching tendency
**Kentucky bluegrass**

- Scientific name: *Poa pratensis* L.

**Description, Adaptation, and Use:**
- Fine to medium texture; prominently folded vernation
- Determinate (relatively short) rhizomes, but still an aggressive growth habit... good recuperative potential; will develop thatch over time
- Exceptional cold hardiness; summer ‘dormancy’ during extreme environmental stress
- Slower to initiate spring growth than fescue or ryegrass
Kentucky bluegrass

**Description, Adaptation, and Use:**

- Responds/needs an aggressive management program: 0.5-1 lb N/1000 sq ft (or 24-48 kg N/ha) per growing month, supplemental irrigation, white grub pressure, “summer patch” disease
- Slowest seed germination rates of the cool-season grasses, but the best recuperative potential
- Many seed sources available; blends of KBG sod available in areas of adaptation; often mixed with turf-type tall fescue in warmer climates

Perennial Ryegrass

**Scientific name:** *Lolium perenne* L.

- **Description, Adaptation, and Use:**
  - Fine/medium texture... mixes well with bluegrasses
  - Bunch-type (produces tillers) with breeders working on creeping cultivars
  - Not noted for tolerance to extremes in heat, cold, or drought (but improvements always being made) and has disease concerns under stressful environments
  - High maintenance requirement comparable to bluegrass... 0.5-1 lb N/1000 sq ft (or 24-48 kg N/ha) per active growing month and supplemental irrigation required
  - Many seed sources available; very limited sod production
Perennial Ryegrass

• Description, Adaptation, and Use:
  – The most rapid seed germination of the major grasses
  – Excellent wear tolerance as a mature turfgrass
  – The standard for winter overseeding of bermudagrass
  – Exceptional mowing quality as it is noted for its “striping”

Table 3: Pros and Cons of Cool-Season Turfgrasses for Recreational Areas

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<tr>
<th>Trait</th>
<th>KBG</th>
<th>PRG</th>
<th>TF</th>
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<tr>
<td>Wear Tolerance</td>
<td>G-E*</td>
<td>G-E</td>
<td>E</td>
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<td>Recuperative Potential</td>
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<td>Fall and Spring Color</td>
<td>F-G</td>
<td>E</td>
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*KEY: Excellent (E), Good (G), Fair (F)

https://ohioline.osu.edufactsheet/str-1

Cool season turfgrasses for sports fields and recreational areas by Sherratt, Street, and Gardner, Ohio State University
Selecting the right grass

- Climate?
- Season(s) of use and intensity of use
- Soil
- Maintenance budget and equipment

- Then refine your selection(s) for the best
  - species?
  - Blends or Mixtures?
  - Review research data from sources such as the USDA’s National Turfgrass Evaluation Program (NTEP) and individual university/institute traffic tolerance data

- Remember that improvements in plant genetics are always being made.
- Management strategies for cool-season grasses will be further detailed by Mike Boekholder in a separate presentation.

Questions?

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