

CMG GardenNotes #561

Turfgrass Species Selection Guidelines

Outline:

- Species selection, page 1
- What does "low maintenance" mean?, page 2
- Kentucky bluegrass, page 2
- Turf-type tall fescue, page 3
- Buffalograss, page 4
- Perennial Ryegrass, page 4
- Fine Fescue, page 5
- Blue Grama, page 5
- Crested Wheatgrass, page 6
- Zoysiagrass, page 6
- Bermudagrass, page 7
- Alkaligrass, page 7

Species Selection

There are many factors that **SHOULD** be considered when selecting a turfgrass species for planting in a new lawn situation.

- First, consider what will be the use of the turf. For example, is it being planted strictly for aesthetic purposes, or will it be played on heavily and/or frequently?
- What is the desired level of visual quality?
- Will the turf receive a high level of maintenance? Alternatively, will it receive only minimal amounts of water and fertilizer, and little or no pest control?
- What is the owner's interest in irrigated, summer green lawns versus a summer dormant lawn? Is there a readily available supply of inexpensive water? On the other hand, is the water supply limited or expensive? Is the owner willing to pay for the amount of water that might be required to maintain a specific turfgrass species at the desired quality level? Is the water salty?
- Is the soil sandy or clayey? Does the soil have high salt levels or poor drainage?
- Is the lawn area sunny or shady?
- What is the elevation?
- How quickly must a turf cover appear, and how hard is the owner willing to work in establishing the lawn?
- Is there a history of a certain insect, mite, or disease problems on the site?
- Is there willingness to use pesticides, or are they totally out of the question?
- Will the lawn be sodded or seeded?

Unfortunately, few people ask such questions before establishing a new turf. The basic assumption is that Kentucky bluegrass must be planted, and little consideration is given to alternative turfgrass species. The following descriptions of available turfgrass species,

including available cultivars (a cultivar is a cultivated or man-made variety of a plant species), provide information that might allow selection of a species better-adapted for a specific situation. There are large numbers of commercially-available cultivars for most turfgrass species, but all of them will never be available for sale by one seed company, much less a nursery or garden center. Local seed companies align themselves with specific national seed growers, thus limiting the number of cultivars sold by them. The selection of species and cultivars offered by even the best garden centers is generally quite limited. Local seed companies are often willing to sell smaller amounts of seed to the homeowner, and usually at a very reasonable price.

What Does “Low Maintenance” Mean?

"Low maintenance turf" means different things to different people. To some, it means NO maintenance (no water, no fertilizer, no/infrequent mowing, no/little pest control), such as the way in which roadside turf is managed. To most, however, it means reduced levels of irrigation, fertilization, and pest control. The quality expectations of a low maintenance turf should not be high, since minimal inputs can only be expected to produce a turf of minimal quality. Proper selection of species and/or cultivar is important, because some species do not persist under low maintenance or neglect.

Turfgrass Persistence Under Low Maintenance
(1=best persistence; 10=worst persistence)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Persistence Ranking</u>	
Buffalograss	<i>Buchloe dactyloides</i>	1	BEST
Blue grama	<i>Bouteloua gracilis</i>	1	
Wheatgrass	<i>Agropyron spp.</i>	1	
Smooth bromegrass	<i>Bromus inermis</i>	1-2	
Hard fescue	<i>Festuca longifolia</i>	2-3	
Sheep fescue	<i>Festuca ovina</i>	2-3	
Creeping fescues	<i>Festuca rubra</i> spp. <i>rubra/trichophylla</i>	3-5	
Chewings fescue	<i>Festuca rubra</i> spp. <i>commutata</i>	3-5	
Tall fescue	<i>Festuca arundinacea</i>	5-6	
Common Kentucky bluegrass	<i>Poa pratensis</i>	6	
Improved Kentucky bluegrass	<i>Poa pratensis</i>	8	
Perennial ryegrass	<i>Lolium perenne</i>	9-10	WORST

Kentucky Bluegrass (*Poa pratensis*)

Kentucky bluegrass, *Poa pratensis*, has been a standard for the beautiful green lawn since the days of King Louis of France due to its dense stand, rich bluish green color, and wear tolerance. There are hundreds of different cultivars with vast differences characteristics and management needs.

Advantages

- + Sod-forming (has underground rhizomes)
- + High recuperative potential and rate
- + Soft, easily mowed leaves
- + High quality (color, density)
- + Readily-available in sod form

- + Excellent heat and cold tolerance
- + Good drought resistance (can go dormant and survive long periods without water)

Disadvantages

- Thatch-former
- More disease (leaf spot, necrotic ring spot, Ascochyta leaf blight)
- Poor to fair shade tolerance
- More frequent insect problems (billbug, grubs, mites)
- Poor to fair salt tolerance
- Higher nitrogen requirement than other grasses
- May require more frequent irrigation to maintain quality
- Will invade flower and vegetable gardens

Suggested Seeding Rate: three to five pounds per 1,000 square feet

Turf-Type Tall Fescue (*Festuca arundinacea*)

Seed distributors often sell turf-type tall fescue blends that are combinations of two to five different tall fescue varieties. These blends are ideal for home lawn use and are generally less expensive than buying a single variety. The use of tall fescue named “K-31” or “Kentucky 31” is discouraged, as this type of tall fescue provides poor quality turf.

Advantages

- + Establishes quickly
- + Drought resistant (deep-rooted)
- + Wear-tolerant
- + Few disease problems
- + Few insect problems
- + Turf-types possess nice texture and deep green color
- + Excellent heat and cold tolerance
- + Slow thatch-former
- + Does well in shade
- + Good salt tolerance
- + Slow to invade flower and vegetable gardens

Disadvantages

- Seeding can produce poor results unless done very carefully.
- Sod availability more limited, compared to bluegrass.
- Leaf shredding more common when mower blade is dull.
- Some varieties must be mowed more often than bluegrass.
- Heavy use by children and/or pets can produce worn areas that may require overseeding.
- If rooting is restricted by poor soil, may require the same amount of irrigation as Kentucky bluegrass (or more!)

Suggested Seeding Rate: six to eight pounds per 1,000 square feet

Buffalograss (*Buchloë dactyloides*)

Advantages

- + Excellent heat and drought resistance
- + Excellent cold tolerance
- + Few disease and insect problems
- + Sod-former (aggressive stolons)
- + Low fertility requirement
- + Requires only infrequent mowing
- + Can be established from seed, sod, plugs
- + A native species

Disadvantages

- Warm season grass; becomes straw-colored with first hard fall frost and begins to green up in mid to late May.
- Poor to fair shade tolerance. Needs at least a half day of full sun.
- Fair salt tolerance. Not adapted to soils with greater than 5–8 mmhos/cm salinity.
- Not recommended for use over 6,500 feet elevation. A protected, sunny, south- or west-facing exposure may allow buffalograss to be used successfully at 6,500 to 7,000 feet.
- Not well adapted to very droughty, sandy soils—unless supplemental irrigation is provided.
- Will not tolerate heavy, constant traffic. Not well adapted to small, heavily used home lawns, athletic fields (soccer, football), or other situations where foot or vehicular traffic will be concentrated and constant.
- Prone to weed invasion if overfertilized or overwatered.
- Aggressive stolons may invade flower beds, neighboring lawns.

Suggested Seeding Rate: two (if drilled) or three (if broadcast) pounds per 1,000 square feet

Perennial Ryegrass (*Lolium perenne*)

Advantages

- + Quick establishment
- + Wear tolerant
- + Good color and density
- + Does not form thatch
- + Compatible in color and texture with bluegrass
- + May contain endophytes
- + Good heat tolerance
- + Can possess good drought resistance (if deep-rooted in well-prepared soil)
- + Moderate to good salt tolerance (6-10 mmhos/cm)

Disadvantages

- Poor recuperative potential
- Leaf shredding common (dull mowers)
- Disease prone (rust, leafspot)
- Poor shade tolerance
- Unavailable as pure sod
- Poor freezing tolerance if flooded or exposed to wind

Suggested Seeding Rate: six to eight pounds per 1,000 square feet

Fine Fescues (*Festuca* spp.)

Advantages

- + Quick germination (but matures slowly).
- + Fine leaf texture
- + High leaf density
- + Prefers low nitrogen fertility
- + Tolerates poor (rocky, sandy, clay) soil conditions
- + Drought resistant (but will go dormant)
- + Moderate salt tolerance (6-10 mmhos/cm)
- + Very good shade tolerance
- + Very cold tolerant
- + EXCELLENT high elevation/mountain grass

Disadvantages

- Moderate wear tolerance (NOT for high traffic areas)
- Slow to recuperate from traffic injury
- Can become thatch
- May be difficult to mow (lays down; "tough" leaves)
- May go dormant during extended (1-2 weeks) heat (90s +)
- Susceptible to red thread, leaf spot, and dollar spot

Suggested Seeding Rate: five pounds per 1,000 square feet

Blue Grama (*Bouteloua gracilis*)

Advantages

- + Excellent cold, heat, drought tolerance
- + Low fertility requirement
- + Requires infrequent mowing
- + Few insect and disease problems
- + Rapid germination and establishment
- + Native species

Disadvantages

- Warm season grass that becomes straw-colored with first frost in fall, greening up in late spring (May)
- Not traffic tolerant
- Not shade tolerant
- Not a sod-forming grass
- Not adapted to high elevations (>6,500 feet)
- High seed cost
- Difficult to seed (high % inert component; “fluffy”)

Suggested Seeding Rate: one to three pounds per 1,000 square feet

Crested Wheatgrass (*Agropyron* spp.)

Advantages

- + Excellent cold, heat, drought tolerance
- + Low fertility requirement
- + Rapid recovery from dormancy (drought)

Disadvantages

- Becomes dormant quickly under drought conditions
- Does not form a tight sod (bunch grass)
- Light green or blue-green color

Suggested Seeding Rate: five pounds per 1,000 square feet

Zoysiagrass (*Zoysia* spp.)

Zoysiagrass use is not recommended for Colorado, especially when it is introduced to the lawn via the use of plugs. Solid sodding can be successful, but no zoysiagrass sod is available in Colorado. Some winter dieback can be expected with this species. Since it is a warm-season grass, it becomes straw-colored with the first fall frost and remains so until the following spring (May). It can be quite invasive (forms stolons and rhizomes) and nearly impossible to eradicate once established. This species requires close mowing (one to one and half inches), and can become quite thatchy. The cultivar 'Meyer' is the only commercially available cultivar with adequate cold tolerance.

Suggested Seeding Rate: usually not seeded, but some seeded types now available

Bermudagrass (*Cynodon* spp.)

There are naturalized biotypes of bermudagrass throughout Colorado, even in the northernmost portions of the state. Some people have used these bermudagrasses for home lawn purposes, often with great success. They will perform in a fashion similar to buffalograss, since Bermuda is also a warm-season grass. It can be quite invasive and aggressive because of prolific stolon and rhizome production. When found in most lawn situations, it is considered a weed. It is quite difficult to eradicate once it becomes established in a lawn. The varieties Yukon and Riviera have demonstrated excellent cold hardiness and persistence in Fort Collins research plots since 2005.

Alkaligrass (*Puccinellia distans*)

This is a specialty grass, useful for high saline soil conditions. One commercially available cultivar, 'Fults', was developed at Colorado State University. Other commercially available cultivars include 'Salty' and 'Fults II'. Alkaligrass resembles fine fescue in appearance and is a bunch grass. It requires moist soil conditions.

Suggested Seeding Rate: two to three pounds per 1,000 square feet

Inclusion of variety or trade names does not imply any endorsement; exclusion does not imply any criticism. Inclusion neither guarantees ready availability, nor implies any level of performance.

Availability of grasses named here is not guaranteed; see your local seed supplier for availability.

Author: **Tony Koski**, Ph.D., Extension Turf Specialist, Department of Horticulture & LA, Colorado State University Extension.

- For additional information on lawn care, refer to csuturf.colostate.edu.
- Colorado Master Gardener *GardenNotes* are available online at www.cmg.colostate.edu.
- Colorado Master Gardener training is made possible, in part, by a grant from the *Colorado Garden Show, Inc.*
- Colorado State University, U.S. Department of Agriculture and Colorado counties cooperating.
- Extension programs are available to all without discrimination.
- No endorsement of products mentioned is intended nor is criticism implied of products not mentioned.
- Copyright 2010-12. Colorado State University Extension. All Rights Reserved.
CMG GardenNotes may be reproduced, without change or additions, for nonprofit educational use.

Revised January 2012

