

2003 Turfgrass Species/Variety Selection Guidelines

Some varietal recommendations deleted
from original article in order to condense document.

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I. SPECIES SELECTION

There are many factors, which SHOULD be considered when selecting a turfgrass species for planting in a new lawn situation. First, consider what the turf will be used for - is it being planted strictly for aesthetic purposes, or will it be played on heavily and/or frequently. Will the turf receive a high level of maintenance, or will it receive only minimal amounts of water and fertilizer, and little or no pest control? What is the desired level of visual quality or playability? Is there a readily-available supply of inexpensive water, or is it expensive? Even if water is available, will the owner be 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 principally clay, and does it possess high salt levels or drain poorly? How quickly must a turf cover appear, and how hard is the owner willing to work in establishing the lawn? Is the lawn area sunny or shady? What is the elevation? 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?

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, since 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 brome grass	<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>F. rubra spp. rubra/trichophylla</i>	3-5
Chewings fescue	<i>Festuca rubra spp. 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*)

Suggested Seeding Rate: 3-5 lbs. per 1000 sq. ft.

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
- disease-prone (leafspot, patch diseases, Ascochyta leaf light)
- 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

Kentucky Bluegrass Variety Recommendations			
Intended Turf Use			
<p>High traffic turf</p> <ul style="list-style-type: none"> ✓ golf fairways, tees ✓ sports fields ✓ heavy use home lawns ✓ high use public lawns 	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><u>Dark to very dark green varieties:</u></p> <p>Award, Rugby II, Liberator, Absolute, Northstar, SR2000, Quantum Leap, Midnight, Moonlight, Blackstone, Odyssey, Arcadia, Nuglade, Blacksburg,</p> </td> <td style="width: 50%; vertical-align: top;"> <p><u>Medium to dark green:</u></p> <p>Limousine, Platini, Unique, Brilliant, America, Apollo, Princeton 105, Showcase</p> </td> </tr> </table>	<p><u>Dark to very dark green varieties:</u></p> <p>Award, Rugby II, Liberator, Absolute, Northstar, SR2000, Quantum Leap, Midnight, Moonlight, Blackstone, Odyssey, Arcadia, Nuglade, Blacksburg,</p>	<p><u>Medium to dark green:</u></p> <p>Limousine, Platini, Unique, Brilliant, America, Apollo, Princeton 105, Showcase</p>
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<p>Moderate traffic turf</p> <ul style="list-style-type: none"> ✓ golf course roughs ✓ general use park areas ✓ most home lawns 	<p>Blackstone, Blacksburg, Chateau, Allure, SR2000, Livingston, Unique, Apollo, Brilliant, Showcase, Rugby II, America, Nuglade, Odyssey, Moonlight, Total Eclipse, Award, Impact, Midnight, Liberator, Quantum Leap, Absolute</p>		
<p>General purpose lawns</p> <ul style="list-style-type: none"> ✓ commercial lawns 	<p>Baruzo, Baron, Baronie, Baritone, Bartitia, North Star, Eagleton, Blue Star, Caliber, Canterbury, Unique, Coventry, Nimbus, Nustar, Serene, Chateau</p>		
<p>For More Drought-Resistant Home Lawns</p> <ul style="list-style-type: none"> ✓ moderate traffic ✓ 2-3 inch height ✓ deep rooting potential 	<p><u>These grasses MAY remain green with less frequent irrigation than other Kentucky bluegrasses:</u></p> <p>SR2000, Livingston, Unique, Apollo, Brilliant, Showcase, Rugby II, America, Nuglade, Odyssey, Moonlight, Total Eclipse, Award, Impact, Midnight, Liberator, Quantum Leap, Absolute</p>		

* “Blending” refers to the combination of 2 or more varieties of the same grass species.

Kentucky Bluegrasses for Shady Areas
A-34, Alpine, Apex, America, Blacksburg, Bristol, Classic, Freedom, Georgetown, Glade, Limousine, Mystic, Nugget, Ram I

Comparison of Tall Fescue, Buffalograss, and Kentucky Bluegrass for Lawn Use

Characteristic	Tall Fescue	Buffalograss	Kentucky Bluegrass
NATIVE TO COLORADO?	No	Yes	No
LEAF TEXTURE	Somewhat coarser, soft	Very fine, soft	Fine, soft
COLOR	Light to dark green	Light green to blue green	Light to dark green
LENGTH OF GREEN SEASON	Long; March-December	Short; May-September	Long; March-Dec.
MOWING REQUIREMENT	More frequent	Infrequent/none	Less often
MOWING QUALITY *	Can be poor	Good	Generally good
FERTILIZER REQUIREMENT	Lower	Very low	Higher
IRON CHLOROSIS	Infrequent	Infrequent	More frequent
DISEASE PROBLEMS	Infrequent	Almost none	More frequent
INSECT PROBLEMS	Almost none	Almost none	More frequent
TRAFFIC TOLERANCE	Excellent	Fair	Good
RECUPERATIVE POTENTIAL **	Poor to fair	Good to excellent	Good to excellent
THATCH FORMATION	Little (slow to form)/none	Generally not a problem	Can be excessive
COMPACTION TOLERANCE	Fair	Very good	Good
HEAT/COLD TOLERANCE	Excellent	Excellent	Excellent
SHADE TOLERANCE	Good/Excellent	Poor to fair	Poor to fair
SALT TOLERANCE	Very good	Fair	Poor to fair
SOD AVAILABILITY/COST	Less available/higher cost	Uncommon/highest cost	Very common/low cost
IRRIGATION REQUIREMENT	Often lower than bluegrass, but can be the same - or	Very low to none required	Low to high, depending on soil

* A dull mower blade can shred the tips of grass leaves (most common with tall fescue), which then turn brown.

** The ability of a grass to recover from traffic injury, spreading to fill-in worn, bare areas in the lawn.

Turf-type tall fescue (*Festuca arundinacea*)

Suggested Seeding Rate: 6-8 lbs. per 1000 sq. ft.

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 which may require overseeding
- if rooting is restricted by poor soil, may require the same amount of irrigation as Kentucky bluegrass (or more!)

Seed distributors often sell turf-type tall fescue blends that are combinations of 2-5 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.

Buffalograss (*Buchloë dactyloides*)

Suggested Seeding Rate: 2 (drilled)-3 (if broadcast) lbs. per 1000 sq. ft.

ADVANTAGES

- + excellent heat & drought resistance
- + excellent cold tolerance
- + few disease and insect problems
- + sod-former (aggressive stolons) - poor to fair shade tolerance
- + low fertility requirement
- + requires only infrequent
- + 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
- fair salt tolerance
- not recommended for use over 6500 ft. elevation, unless planted in a sunny, warm south or west exposure
- will not tolerate heavy, constant traffic
- becomes less-aggressive and prone to weed invasion if over-fertilized and/or over-watered
- aggressive stolons (runners) will invade flower beds, driveways, neighboring lawns

Perennial ryegrass (*Lolium perenne*)

SUGGESTED SEEDING RATE: 6-8 lbs. per 1000 sq. ft.

ADVANTAGES

- + quick establishment
- + wear tolerant
- + good color and density
- + does not form thatch
- + compatible in color and texture with bluegrass
- + may contain endophyte
- + 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

Fine fescues (*Festuca spp.*)

SUGGESTED SEEDING RATE: 5 lbs. per 1000 sq. ft.

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 to poor wear tolerance (NOT for high
- very slow to recuperate from traffic injury traffic areas)
- can become thatchy
- may be difficult to mow (lodges; "tough" leaves)
- may go dormant during extended (1-2 weeks) heat (90s +)
- susceptible to red thread, leafspot, dollarspot

Creeping red fescues - Chewings fescues - Hard fescues - Sheep fescues

Blue grama (*Bouteloua gracilis*)

SUGGESTED SEEDING RATE: 1-3 lbs. per 1000 sq. ft.

ADVANTAGES

- + excellent cold, heat, drought tolerance
- + low fertility requirement
- + requires infrequent mowing
- + few insect and disease problems
- + rapid germination & 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 (>6500 feet)
- high seed cost
- difficult to seed (high % inert component; "fluffy")

Crested wheatgrass (*Agropyron spp.*)

SUGGESTED SEEDING RATE: 5 lbs. per 1000 sq. ft.

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

Smooth brome grass (*Bromus inermis*)

SUGGESTED SEEDING RATE: 10-12 lbs. per 1000 sq. ft.

ADVANTAGES

- + excellent cold, heat, drought tolerance
- + low fertility requirement
- + sod former (rhizomes)
- + persists under neglect

DISADVANTAGES

- turf lacks density
- leaves coarse
- susceptible to leafspot
- can be invasive (rhizome growth)

Zoysiagrass (*Zoysia spp.*)

SUGGESTED SEEDING RATE: usually not seeded, but some seeded types now available

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 die-back 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 (1-1.5 inches), and can become quite thatchy. The cultivar 'Meyer' is

the only commercially-available cultivar with adequate cold tolerance.

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 to be a weed. It is quite difficult to eradicate once it becomes established in a lawn. The commercially-available bermudagrass cultivars would perform poorly in Colorado, although some experimental varieties show promise due to their extreme cold hardiness.

Alkaligrass (*Puccinellia distans*)

SUGGESTED SEEDING RATE: 2-3 lbs. per 1000 sq. ft.

This is a specialty grass, used under saline soil conditions. One commercially-available cultivar, 'Fults', was developed at Colorado State University. Alkaligrass resembles fine fescue in appearance and is a bunch grass. It requires moist soil conditions.

Bentgrass (*Agrostis* species)

Creeping (*A. palustris*)

Colonial (*A. capillaris*)

Not recommended for general lawn use. Should only be grown in golf course situations, or for other high maintenance turfs (i.e., grass tennis courts, bowling greens, etc.).

II. ESTABLISHMENT PROCEDURES

1. Choose species/cultivar(s) that is (are) best adapted to the situation. BUY GOOD QUALITY (\$) SEED OR SOD!
2. Have a basic soil test performed IF IT HAS BEEN CONSISTENTLY DIFFICULT TO GROW GRASS ON THE SITE.
3. Practice pre-plant weed control, especially when difficult perennial weed species are present (Canada thistle, bindweed, quackgrass, bentgrass, bermudagrass). Use a herbicide with no soil residual activity (glyphosate), and allow the herbicide to fully translocate before cultivating the soil (10-14 days).
4. Incorporate any fertilizers called for by soil test results to a depth of 4-6 inches, or as deeply as possible. If the soil organic matter content is less than 5%, incorporate (4 to 6 inches deep) 3-5 cubic yards of compost per 1000 square feet (this is enough compost to cover the soil about 1 inch deep).
5. Prepare the area for seeding by smoothing and removing large rocks and other debris. Over-cultivation will produce a fluffy seedbed which is prone to compaction and crusting.
6. Apply one pound of N per 1000 sq. ft. using urea, diammonium phosphate, or any starter type of fertilizer.
7. Seed in two directions (right angles) with one-half of seed each direction. Use of seed drill or slit seeder is preferable. If broadcast, lightly rake/drag seed into seed bed. Slopes prone to erosion should be mulched with clean straw, netting, or matting of some type.
8. Irrigate lightly and frequently (to keep soil surface moist) during germination. As the seedlings begin to mature and form a deeper root system, begin to water less frequently and increase the amount of water applied each time you do water. The deeper, less frequent irrigation regime will continue to encourage the formation of a deeper root system.
9. Avoid the use of preemergent herbicides (the one exception being siduron; brand name Tupersan) in a new seeding. Post emergent broadleaf weed herbicides should not be used until the turf has been mowed 2-3 times.
10. The preferred time for seeding cool-season species is mid- to late-August or early September (July in the mountains).
11. SODDING: Soil should be prepared as described above. The soil should be slightly moist when the sod is transplanted. Irrigate the newly-sodded lawn frequently enough so that the underlying soil is always moist, but not so much that it is constantly saturated. Sod transplanted to a well-prepared soil should begin to knit (root) to the soil within 1-2 weeks, depending on the thickness of the sod and weather conditions.