

Kentucky Bluegrass for Colorado Lawns

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Kentucky bluegrass (*Poa pratensis*) is the most widely planted lawn grass throughout the United States, including Colorado. Introduced from Europe with early settlers, this species has become naturalized and grows well throughout most of North America. Used initially (and still today) as a forage grass, it gained early recognition as a desirable lawn grass because of its ability to produce a dense, uniform, and attractive ground cover at low mowing heights. As early as the 1930's grass breeders began to develop varieties of Kentucky bluegrass specifically for home lawn and other turf uses. Its ability to rapidly produce a strong, relatively inexpensive, and easily-transplanted sod resulted in the development of a large sod production industry in the U.S. and Colorado. Today there are over 100 varieties of Kentucky bluegrass which can be planted as sod or seed.

Positive Characteristics of Kentucky Bluegrass

No turfgrass is perfectly suited to every situation where grass might be grown. Each species possesses its own positive and negative characteristics. The environment in which the grass will be grown, the intended use, the desired level of quality, and the level of care (time and money) that will be provided should all be important considerations in selecting the proper turfgrass species for a lawn area. Some positive characteristics of Kentucky bluegrass are:

- Creates a dense, uniform, cushioned playing surface, with attractive dark green color.
- Strong sod-former (because of underground stems, called rhizomes).
- Can recuperate from traffic injury relatively quickly (due to rhizome growth).
- Readily available as sod.
- Excellent heat and cold tolerance.
- Excellent drought resistance (although it does become brown and dormant to survive prolonged drought).
- Soft leaves allow it to be mowed without unsightly shredding seen with other turf species.

Negative Characteristics of Kentucky Bluegrass

Kentucky bluegrass should not be considered to be a low-maintenance turf. It can not be planted with the expectation of it persisting as a high-quality turf unless adequate irrigation, fertilization, and proper mowing are routinely provided. People who desire a reduced maintenance lawn should carefully consider the maintenance requirements of Kentucky bluegrass before planting it. In addition to general maintenance requirements, bluegrass exhibits some other potential negative characteristics to the home owner, including the following:

- Forms thatch, the result of aggressive rhizome formation and shallow rooting.
- May require frequent irrigation, especially on compacted, shallow, or poor-quality soils.
- Requires more frequent nitrogen applications than most other turf species.
- Susceptible to diseases like leafspot, dollar spot, necrotic ring spot, powdery mildew, *Ascochyta* leaf blight, and striped smut.
- May be attacked by insects like billbugs, grubs, and sod webworms.
- Will not grow well on salty soils or where salty irrigation water is used.
- Performs poorly in moderate to heavy shade.

Some of these negative characteristics can be overcome or minimized by using proper cultural practices. For example, good soil preparation before planting can result in a deeper-rooted turf that requires less frequent irrigation. Also, thatch and soil compaction can be reduced by core cultivating (aerating) the bluegrass lawn. In some cases, however, it is wiser to consider an alternative to Kentucky bluegrass. This is especially true where shade or poor soil conditions exist, or when it is unlikely that the proper amount of water, fertilizer, or labor will be used to maintain the lawn.

Selecting a Bluegrass Variety

Most Kentucky bluegrass varieties sold as seed, and nearly all bluegrass sold as sod, can be considered higher maintenance bluegrass varieties. These bluegrasses will require more frequent fertilization, closer attention to proper mowing and thatch control, and perhaps more frequent irrigation than those that are considered to be lower maintenance varieties. The higher maintenance varieties are generally more attractive, however, possessing better color and greater density. They are often bred for resistance to specific diseases, or for shade tolerance. There are many good varieties of bluegrass available that perform well in the Rocky Mountain region, including: Abbey, Able 1,

Adelphi, America, Apex, Aspen, Banff, Baron, Blacksburg, Crest, Eclipse, Freedom, Kelley, Liberty, Limousine, Livingston, Merit, Midnight, Nustar, Nublu, Parade, Princeton 104, Ram-I, SR2000, and Victa. For light to moderately shady lawns, choose from the following varieties: A-34, Alpine, Apex, America, Blacksburg, Bristol, Classic, Freedom, Georgetown, Glade, Limousine, Mystic, Nugget, and Ram-I. The lower maintenance varieties (Park, Kenblue, North Dakota Common) will perform better with less fertilizer and higher mowing heights (3 inches), but will provide a lower quality (less attractive) turf and one that is more susceptible to leaf spot disease. They are a better choice for low-maintenance, low-visibility lawns that are intended to keep soil in place, where appearance is not a major concern, and where recreational use is not frequent.

Planting the Bluegrass Lawn

Kentucky bluegrass lawns can be established by seeding or sodding. In either case, it is ESSENTIAL that the soil be properly tilled and leveled to eliminate compaction, to remove large stones and other debris, and to ensure that the lawn drains away from the foundations of any buildings. It is advisable to have a soil test performed to check for the presence of high salt levels, for organic matter content, and for any nutrient imbalances that may exist. It is always easier to correct deficiencies BEFORE the lawn is planted. When buying seed or sod, always consider quality before price. Weed-free grass seed (READ THE LABEL!) will be more expensive than poor-quality seed, but fewer weeds later on will result in a more attractive, lower maintenance lawn. Similarly, purchase high-quality, healthy, weed-free sod.

Mowing the Bluegrass Lawn

Kentucky bluegrass should be maintained at a height of 2 1/2 inches throughout the growing season. Whenever the grass reaches a height of 3 1/2 inches, it should be mowed back down to 2 1/2 inches. Avoid letting the grass grow very high and then mowing it down to the proper height. This "scalping" causes the lawn to look unsightly, will increase weed, disease, and insect problems, and will create a situation where the lawn requires more frequent irrigation. There is no need to mow the lawn shorter in the fall, but care should be taken to maintain the 2 1/2 inch height until the grass stops growing in the fall. It is recommended that grass clippings be returned to the lawn because nutrients are recycled to the lawn (allowing reduced fertilizer use) and certain disease problems may occur less frequently. *Contrary to popular belief, grass clippings do not contribute significantly to thatch accumulation on a properly mowed lawn.*

Watering the Bluegrass Lawn

Although it has a reputation for requiring frequent irrigation, a properly managed bluegrass lawn, growing on well-prepared soil, may require surprisingly little water during much of the growing season. By following lawn watering schedules now promoted in many metropolitan areas of Colorado, the homeowner can easily produce a healthy bluegrass lawn with a modest amount of water. Many homeowners even find that they can occasionally skip some of the irrigations recommended by these programs during the season. Lawns growing on sandy soils may require slightly more frequent irrigation, while those on heavier clay soils may be able to go an extra day or two between waterings. Some indicators that suggest the need for watering include: wilting (often accompanied by a blue or blue-gray coloration) and "footprinting" (human footprints don't "bounce back" within about one-half hour after they were made). These signs, generally appearing sometime in the afternoon, indicate a need for water later that evening or early the next morning. The best time to water the lawn is between about 9 at night and 9 in the morning. This late evening/early morning watering does NOT cause disease problems, and may actually reduce the potential for some diseases. Apply enough water to moisten the soil to a depth of 2 to 4 inches, making certain that the water is penetrating into the soil and not running off the lawn or puddling in low spots. Lawns that appear to require excessive irrigation usually have been overfertilized, are improperly mowed (too low, or not frequently enough), have thick thatch layers, or are growing on compacted soil.

Fertilizing the Bluegrass Lawn

Kentucky bluegrass must be fertilized more often than most other turfgrass species in order to maintain a lawn of acceptable quality. This is especially true if higher maintenance bluegrass varieties are planted. A suggested fertilization calendar for bluegrass lawns in Colorado is shown in Table 1. The suggestions for nitrogen application dates are somewhat general, and will vary depending on where in Colorado you live. Lawns in higher elevations, where the growing season is shorter, may only require one or two fertilizations in a year. The goal of this type of fertilization schedule is to minimize the amount of fertilizer applied in the spring when the turf is growing rapidly, and to encourage fertilization later in the growing season when the turfgrass plant can use the fertilizer more effectively. This type of fertilization schedule produces a healthier, more stress-tolerant lawn. If grass clippings are routinely returned to lawn during mowing, you may be able to fertilize less frequently or with lesser amounts. It is always desirable to fertilize with the least amount of fertilizer possible (especially on sandy or gravelly soils), because this reduces the potential for nitrogen to leach and contaminate ground water supplies. Excessive fertilization increases the potential for ground water pollution, requires that the turf be mowed more frequently, often causes disease problems, and generally requires that the lawn be irrigated more often. One of the easiest ways to apply the correct amount of fertilizer is to use a fertilizer brand that indicates (on the label) spreader settings for the brand of spreader that you own.

Table 1. Nitrogen fertilization schedule for bluegrass lawns in Colorado (numbers given are in pounds per 1000 square feet)

TYPE OF KENTUCKY BLUEGRASS	mid-March to April	May to mid-June	July to early August	mid-August to mid-September	early October to early November
High-maintenance varieties	½-1*	1	not required	1	1
Low-maintenance varieties	1*		not required	1	

Last fall N application is made while grass is still green, and at least 2-3 weeks before ground begins to freeze.

*This application may not be required if turf was fertilized previous fall (or use a lower rate of fertilizer at this time).

When a lawn remains off-color (light green and yellow) following a nitrogen fertilizer application, or becomes even more yellow, the turf is probably suffering from *iron chlorosis*. This deficiency can be corrected relatively easily by spraying (using a hose-end sprayer) a solution of iron sulfate or iron chelate on the lawn. Both types of iron fertilizers are available at most garden centers. It is important to closely follow label instructions regarding application rates and mixing. Since all iron fertilizers can cause staining, wear old clothes and shoes, and avoid spraying buildings, automobiles, or concrete surfaces.

Controlling Thatch and Compaction

Thatch formation is a common problem on bluegrass lawns. Contrary to popular belief, thatch does not result from grass clippings. Rather, it is a layer of slowly-decomposing roots and stems that accumulates at the soil surface. When the thatch layer becomes deeper than about one-half inch it creates a situation in which the turf can not be irrigated and fertilized as efficiently. A deep thatch layer also can shelter insect pests and may result in more frequent and severe disease problems. While thatch will always form in well cared-for lawn, the rate of accumulation can be accelerated by overwatering, overfertilizing, and when the soil becomes compacted. The most effective way to prevent thatch from accumulating to an excessive depth is to core cultivate (aerate) the established bluegrass lawn at least once per year. Soil compaction, another cause of thatch formation, is also alleviated by core cultivation.

Insect Problems in the Bluegrass Lawn

The most common insect problems encountered on bluegrass lawns include billbugs, grubs, and sod webworms. A healthy lawn can be infested with a large number of any of these pests without showing injury. When numbers become high enough, however, even the best cared-for lawn may become injured and control measures should be considered. For more information on controlling these insects refer to CSU Extension Publications: *Sod webworms and cutworms in lawns* and *Billbugs and white grubs: characteristics and control*.

Weed Control in the Bluegrass Lawn

A healthy, vigorous, well-maintained lawn will suffer very little from weed invasion. The occasional weed can usually be hand-pulled or spot-sprayed. More serious weed problems are generally indicators that the lawn is not being mowed, irrigated, or fertilized properly, or that conditions are such that Kentucky bluegrass is not well-adapted to the particular site.

Disease Problems in the Bluegrass Lawn

There are a number of diseases that can cause minor to major problems for Kentucky bluegrass, including: dollar spot, necrotic ring spot, leafspot, *Ascochyta* leaf blight, and fairy ring. As with weed problems, the occurrence of diseases is often an indicator of poor management, that soil was poorly prepared prior to planting, or that Kentucky bluegrass should not have been planted on the site. Before using any fungicide, it is essential that the disease be properly identified. Contact your county extension office for information on how to collect a sample for disease identification, and for disease control information.