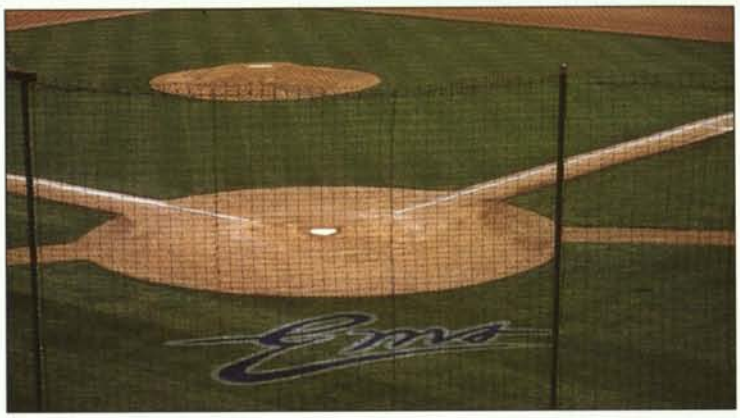
Turf of the Month



The Eugene Emeralds baseball field utilizes rough bluegrass in a mixture with other grasses. Photo courtesy: International Seeds, Inc.

Rough Bluegrass

By Mike Augsdorfer and Craig Edminster

Not long ago most experts in the field of turf management had pretty much dismissed rough bluegrass (*Poa trivialis*) as a useless grass. Some turf managers even considered it to be a weed, like its distant relative, annual bluegrass (*Poa annua*). Recently, however, turf managers have shown a renewed interest in rough bluegrass.

Rough bluegrass is a paler shade of green than Kentucky bluegrass. Though rarely used as a monoculture, rough bluegrass can be mixed with other species, such as perennial ryegrass, for use in cool climates. Rough bluegrass displays excellent cold and shade tolerance, but it is not used as frequently as Kentucky bluegrass because rough bluegrass is not as wear resistant as Kentucky blue. However, rough bluegrass grows very well on moist, poorly drained soil.

Poa trivialis has quietly taken over a portion of the market in regions where winter overseeding is a yearly occurrence. It is no longer merely a specialized species for use on moist, shady lawns. If seed production came closer to matching demand, rough bluegrass would seriously challenge the improved perennial ryegrasses as the grass of choice for winter overseeding.

Rough bluegrass is a sod-forming perennial adapted to cool, wet, shady areas. It has a moderately fine texture and a root system that is quite extensive but shallow in depth. Rough bluegrass is intolerant of drought or moisture stress and will enter temporary summer stress-induced dormancy or simply die.

Limited Use

Professional-level sports turf managers have used *Poa trivialis* as part of an overseeding mixture on a limited basis. Ed Mangan, who oversees groundskeeping operations for the Atlanta Braves at Atlanta-Fulton County Stadium, used rough bluegrass as part of his overseeding mix in 1991 but was disappointed with the results. "It didn't really handle the baseball traffic," he explains. "It will work for shady areas but does not stand up to heavy traffic." Mangan currently uses perennial rye for overseeding and does not anticipate using *Poa trivialis* in the future.

Chip Toma, who oversees turf-maintenance operations for both Kauffman Stadium and Arrowhead Stadium in Kansas City and also serves as a consultant to the National Football League for the Super Bowl fields, admits that rough bluegrass has very limited applications in terms of professional-level sports fields. "If we're at a Super Bowl we may have a little bit, but not much," he relates.

Trevor Vance, who works with Toma at Kauffman Stadium, uses *Poa trivialis* in some of the turf islands around the perimeter of the stadium but not on the field itself. "It's a tough grass, but it's got such an off color that we simply don't use it on the field," he explains.

Although he does not use *Poa trivialis* as part of his overseeding mixture, Neil Griffin, head groundskeeper for the Eugene Emeralds minor league baseball team in Eugene, OR, has accepted the challenge of managing rough bluegrass as part of his sports turf, rather than trying to take it out as a weed. "There are steps you can take to control it, but it's too costly and time-consuming to do," he notes. While his fertilization and irrigation programs limit the appearance of rough bluegrass on the infield, the grass is prominent in the outfield. "It's pretty hardy, and it definitely will spread," says Griffin. "We play soccer on the field in the winter, and the *Poa* will cover up bare spots in the outfield."

Although many of the characteristics of rough bluegrass may seem like disadvantages, they can actually be assets. *Poa trivialis* offers a number of significant advantages to the sports turf manager.

Transition: When used for overseeding, rough bluegrass is considered an "easy transition" species. It can be eliminated rapidly with fertility/water management, cultural practices or naturally by summer and warm-season induced stress.

Reduced seeding cost: Seed counts in *Poa trivialis* are in the neighborhood of 1.9 to 2.2 million seeds per pound, making for very cost-effective seeding rates. Whether used exclusively or in a polyspecies mixture, rough bluegrass can save an estimated minimum of 20 percent on seed cost.

Low soil temperature tolerance: Rough bluegrass is capable of germinating in soil temperatures from 40 to 50 degrees F. This quality is particularly valuable when continual "sweetening" of overseeded areas is practiced in the winter months.

Competitiveness with annual bluegrass: Winter overseeding with *Poa trivialis* can effectively reduce annual bluegrass contamination by effectively competing for soil nutrients and sunlight. Similar growth habits, tolerance to low mowing and preference for cool, wet soils make for excellent natural competition of the two species. As a result of this competition, populations of annual bluegrass may decline significantly over time.

Avoidance of iron chlorosis: Under alkaline soil conditions (higher than 7.5 pH), *Poa trivialis* appears to have a tolerance to low available iron levels and will not exhibit yellowing or chlorosis unless the pH is extremely high.

Nitrogen use: Rough bluegrass appears to be an excellent user of soil nitrogen when the soil is very wet and cool. Under these denitrified soil conditions *Poa trivialis* continues to exhibit its inherent light green to green turf color.

Rough bluegrass is recommended for permanent turf areas in moderate or intense shade as well as for winter overseed blends and mixtures. It can also be used as a noncompetitive, reduced maintenance, easy-transition winter ground cover for soil stabilization in warm climates like Southern California. Seeding rates of as little as 80-120 pounds per acre are recommended.

Poa trivialis requires an extensive management program. Supplemental irrigation is needed for dense and aggressive tillering. Extended periods of moisture stress will result in an unattractive purplish-brown leaf discoloration and ultimately complete senescence or death. Its roots respond favorably to light, frequent irrigations.

The most desirable fertilization program for *Poa trivialis* involves splitting applications of a balanced fertilizer in moderate amounts with N-P-K ratios of 5-2-1. Applications should be made at establishment and during active fall, winter and early spring growth. Heavily shaded areas must be managed with greater nitrogen levels and higher mowing heights.

Rough bluegrass prefers mowing heights in the range of 1/2 to two inches; however, it can be mowed lower if necessary. Mowing heights of more than two inches generally result in reduced turf quality.

Phenoxy-based turf chemicals can be used to control broadleaf weeds in *Poa trivialis* with excellent results. While rough bluegrass is reportedly vulnerable to a variety of turfgrass diseases including leaf spot, brown patch, stripe smut, *Microdochium* patch and *Typhula* blight, it has not been used extensively enough to determine its true susceptibility to disease.

Perhaps the most valuable asset of *Poa trivialis* is how competitive it is with annual bluegrass in heavily contaminated and compacted soils. If uniform turf color is not a major concern but choking out potential *Poa annua* infestations is, rough bluegrass may be the perfect choice for overseeding. With all this plus its easy transition capabilities when overseeding, rough bluegrass will undoubtedly gain in popularity as greater supplies of seed become available. ❑

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