

## Grass Mixtures for Seeding and Overseeding

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There are many factors that a professional grounds manager should consider when selecting the best grass seed mixture or blend for seeding or overseeding operations. The following discussion will begin by highlighting the most important factors for successful turfgrass seeding and overseeding. The second half of the paper will include specific information regarding the use of Kentucky bluegrass, perennial ryegrass and tall fescue varieties in seeding and overseeding situations.

The basic objective for turfgrass seeding operations is to establish a healthy stand of turf which satisfies the design requirements of a landscape situation. This can mean a lot of things, but demands basically, that landscape managers understand the intended use and related physical and environmental demands that the turf will have to withstand in order to survive. Using that knowledge, the landscape manager can confidently select the appropriate mix or blend of grass seed to meet the demands of each situation.

The basic objectives for turfgrass overseeding are nearly the same as those already mentioned for seeding, but must be redefined slightly because a stand of grass already exists. There are three primary objectives for overseeding:

- 1) To accelerate recovery from injury. Injury might have been due to sports or other traffic, insects or disease, snow plow damage, construction, or environmental stress.
- 2) To improve turf density more rapidly than by natural spreading. Overseeding will help a thin stand of bunch type turfgrass to fill in more quickly. Perennial ryegrass, fine fescue and tall fescue are all bunch type in their habit of growth.
- 3) To gradually replace undesirable grasses or weeds with selected turfgrass species or cultivars. Rather than Roundup and re-establishment, overseeding can be used to slowly create a desirable change while avoiding drastic interruption of day to day use. Likewise, scheduling of seasonal events may not leave time to start from scratch. Therefore overseeding is the only logical course to follow. Furthermore, it is well known that a healthy, dense stand of turf will naturally suppress the growth of broadleaf and grassy weeds.

For successful seeding or overseeding you need:

- 1) A reasonable presumption of success. Be sure that the conditions which have caused the stand of turf to lose its vigor in the first place have been remedied so that successful turf establishment can be expected. If the turf declined because the original grasses were not suited to that site, it will be necessary to select other species or cultivars which are better adapted to the situation. Have problems associated with compacted soil, poor drainage, shading, heat stress, poor soil fertility or winter exposure been adequately dealt with? If so, then you may proceed with confidence.
- 2) A good plan of action. The seedbed must be adequately prepared because good seed to soil contact is necessary for efficient germination and rapid anchoring of the turfgrass seedlings. The landscape manager must also provide good care of the site following successful estab-

lishment of the seed. When planning seeding or overseeding programs a variety of factors must be considered. Some of the more important ones are; A) Time of season. B) Mulching for seedling protection and erosion control. C) Prudent irrigation. D) Proper fertilization. E) Timely mowing. F) Traffic control. And G) Provisions for weed control. Also remember to take into account any residual preemerge herbicides which could interfere with turfgrass establishment.

3) The correct seed for the job and the proper seeding rate. What is the primary use for the turf being established? i.e. Athletic fields, general lawn area, low maintenance turf or roadsides? Take care to select turf varieties for good reasons, understanding the landscape situation and knowledge of the varieties selected will help to establish a long lasting and durable stand of turf. When overseeding or making spot repairs, it will be necessary to select grasses which closely match the qualities of the existing grasses if premium aesthetic quality is important.

Traditional grasses selected for athletic and general lawn areas in the northern tier states have been Kentucky bluegrass (*Poa pratensis*) and perennial ryegrass (*Lolium perenne*). Other grasses sometimes used in these situations are tall fescue (*Festuca arundinacea*) and annual ryegrass (*Lolium multiflorum*). The following section summarizes the suitable applications for each of these grasses along with their advantages, disadvantages and rates for seeding.

Kentucky bluegrass:

- Athletic and general turfs
- Limited tolerance to drought
- Moderate tolerance to traffic and wear
- Moderate growth rate
- Excellent mowing quality
- Superior dark green color
- Excellent sod strength due to a rhizomatous habit of growth
- Compatible in a mixed stand but requires careful establishment methods
- Seeding rate = 2 to 3 pounds of Pure Live Seed per 1000 square feet

Perennial ryegrass:

- Athletic and general turfs
- Good tolerance to traffic and wear
- Rapid rate of growth
- Poorer mowing quality
- "Turf types" have improved color and finer texture
- Nitrogen requirement is similar to that of Kentucky bluegrasses
- Bunch type growth requires higher seeding rate
- Compatible in a mixed stand but requires careful establishment methods
- Seeding rate = 4 to 6 pounds of Pure Live Seed per 1000 square feet

Tall fescue:

- Athletic and general turfs
- Excellent tolerance to traffic and wear
- Rapid rate of growth
- Poorer mowing quality
- "Turf types" have improved color and finer texture
- Excellent tolerance to drought
- Requires 4 - 6 pounds of nitrogen per 1000 sq. ft. for high quality appearance
- MSU study suggests that mowing at 1 3/4 inches provides better turf quality than mowing at 3 inches
- Bunch type growth requires higher seeding rate
- Compatible in a mixed stand
- Seeding rate = 4 to 7 pounds of Pure Live Seed per 1000 square feet

Annual ryegrass:

- To be used as a nurse grass while establishing slower growing grass species
- Winter kill is nearly 100%
- Seeding rate = 3 to 6 pounds of Pure Live Seed per 1000 square feet

There are literally hundreds of cultivars to choose from when selecting turfgrass seed. There are old varieties, modern varieties and newly introduced varieties. Each one is slightly different from the next, which sometimes makes the job of selecting the right one(s) a confusing ordeal. Universities and other regional testing institutions have compared most turfgrass cultivars under equal growing conditions at one time or another. With this information the cultivars are ranked according to their performance in each test. Of course this is valuable information but each landscape situation is unique to a certain degree. Local soil conditions, weather and future maintenance programs must also be considered when selecting turfgrass cultivars. With this in mind, landscape managers can use the results of these regional tests to guide them when selecting turfgrass cultivars. Ultimately, however, the decision must be based on interpretation of individual site characteristics.

It is common to find that the varieties which scored best are sometimes not available from local or regional suppliers. Often times this is because these are the newest varieties and the growers have not yet had time to produce a sufficient crop of seed. Do not despair, as there are usually other quality cultivars available. Always be sure to ask your supplier for his advice when selecting turfgrass cultivars because you must also take into account what is available at the time of the project.

Table 1 lists the cultivars which received the highest scores in recent Michigan State University variety testing at the Hancock Turfgrass Research Center in East Lansing, Michigan.

Table 1 . Highest rated cultivars from Michigan State University variety trials at the Hancock Turfgrass Research Center in East Lansing, Michigan.

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Kentucky bluegrasses

Adelphi  
 Aspen  
 Banff  
 Baron  
 Bristol  
 Challenger  
 Cheri  
 Columbia  
 Eclipse  
 Enmundi  
 Glade  
 Majestic  
 Midnight  
 Rugby  
 Trenton  
 Vanessa  
 Victa

Perennial ryegrasses

Pick 300  
 Pennant  
 Belle  
 Sunrye  
 Tara  
 Pick 715  
 Barry  
 Pick 233  
 Omega II  
 Manhattan II

Tall fescues

Rebel  
 Jaguar  
 Apache  
 Syn-Ga-1  
 Bonanza  
 Pacer  
 Maverick  
 Mustang  
 Arid  
 Falcon  
 Adventure