

OVERSEEDING WARM-SEASON TURFGRASS

Pivotal to overseeding success, topdressing material should be sterile, free of debris and similar in texture to the existing soil. Photo courtesy Turfco, Inc.

By John Wildmon

Overseeding dormant warm-season turfgrasses with cool-season grasses is a common practice used to give color and furnish a renewable winter surface. There are perhaps as many different opinions on best practices for overseeding warm-season turfgrass as there are turfgrass managers—rightly so, since the technique used and species of seed selected depends on numerous factors such as intended use of the area, time allotted to do the job, budgetary constraints, equipment available, and condition of existing turf.

Several factors need to be considered before beginning an overseeding project. Proper planning includes selecting the appropriate species and seeding rate, picking the best seeding date, deciding on methods for preparing the seed bed and planting the seed, decisions

on annual bluegrass control and facilitating necessary post-planting care.

When selecting seed, turf managers must decide between establishing either a monostand, a single species or cultivar, or a polystand, two or more species or cultivars. Polystands may also be blends, two or more cultivars of the same species, or mixtures, two or more different species. Ideal polystands consist of species or cultivars that complement each other. An example would be a mixture of rough bluegrass and creeping bentgrass. The rough bluegrass gives quick germination and establishment while the slower-to-establish bentgrass gives better heat tolerance and somewhat more wear resistance. When selecting grasses for overseeding, the manager should give consideration to color, texture, wear tolerance, heat tolerance, mowing height, establishment rate, spring transition and seed quality.

The following is brief summary of the characteristics associated with various cool-season species:

Annual Ryegrass

Advantages:

- Quick germination and establishment.
- Relatively low cost.

Disadvantages:

- Rapid vertical shoot growth.
- Poor disease resistance.
- Poor wear and cold tolerance.

Turf-type Perennial Ryegrass

Advantages:

- Quick germination and establishment.
- Good wear tolerance.
- Finer texture than annual ryegrass.

Disadvantages:

- Rapid vertical shoot growth.
- Some varieties too persistent in spring.

Tall Fescue

Advantages:

- Good wear tolerance.

• Good heat tolerance.

Disadvantages:

- Intolerant of lower cutting heights.
- Very coarse textured.

Fine Fescue

Advantages:

- Very fine texture.
- Good winter color and cold tolerance.

Disadvantages:

- Poor heat tolerance.
- Intolerant of wet conditions.

Rough Bluegrass

Advantages:

- Fine texture.
- Quick germination and establishment.
- Excellent cold tolerance.

Disadvantages:

- Poor wear tolerance.
- Yellow-green color.

Creeping Bentgrass

Advantages:

- Fine texture.
- Good heat tolerance.

Disadvantages:

- Slow to establish.
- Only moderate wear tolerance.

Quality cool-season seed should have percent germination and purity in the high 90s, a minimum of weed seed and no noxious weed seed. Buying certified seed (seed with a blue certified tag) will help to avoid mistakes, but it is also a good idea to have the seed tested by a qualified seed-testing laboratory prior to planting. Seeding rates and selection vary considerably depending on the intended use of the area.

The following recommendations should give good results:

Low-maintenance athletic fields: 60/40 mixture by weight turf-type perennial ryegrass/annual ryegrass at 10 to 15 pounds per 1,000 square feet.

High-maintenance athletic fields: turf-type perennial ryegrass or blends of turf-type perennial ryegrasses at 12 to 20 pounds per 1,000 square feet.

Golf course fairways: annual ryegrass, turf-type perennial ryegrass or a mixture of the two at five to 10 pounds per 1,000 square feet.

Golf course tees: turf-type perennial ryegrass or blends of turf-type perennial ryegrasses at 12 to 18 pounds per 1,000 square feet.

High-traffic golf course putting greens: turf-type perennial ryegrass, blends or turf-type perennial ryegrass or 85/15 mixture-by-weight, turf-type perennial ryegrass/rough bluegrass, at 20 to 35 pounds per 1,000 square feet.

Low-traffic golf course putting greens:

Proper planning includes selecting the appropriate species and seeding rate, picking the best seeding date, deciding on methods for preparing the seedbed and planting the seed.

same as high-traffic greens or creeping bentgrass at two to five pounds per 1,000 square feet.

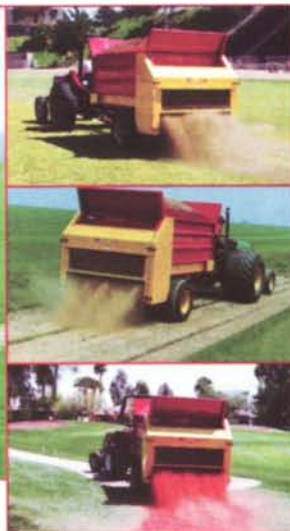
Alternatives for golf putting greens: rough bluegrass at eight to 12 pounds per 1,000 square feet; two pounds creeping bentgrass with six pounds rough bluegrass per 1,000 square feet; or one pound creeping bentgrass with 10 pounds fine fescuegrass and six pounds rough bluegrass per 1,000 square feet.

Overseeding for color (i.e. lawns, parks, etc.): annual ryegrass at four to

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MORE THAN THE NAME IMPLIES®

Overseeding

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six pounds per 1,000 square feet.

Seed Preparation

Picking an appropriate seeding date is extremely important for successful overseeding. Seed must be established late enough in the fall so that problems with disease, heat and competition from the warm-season grass are minimized, but early enough that seed germinates and establishes quickly. Overseeding dates can be selected one of two ways, based on either geographic area or soil temperature. A USDA Plant Hardiness Zone Map can be used to predict approximate dates based on geographic area. Turfgrass in zone 10 should be overseeded between November 15 and December 15, zone nine between October 15 and November 15, zone eight between October 1 and October 15, and zone seven between September 15 and October 1. Dates in southern New Mexico, Arizona, and Nevada may be two to three weeks later.

Overseeding based on soil temperature should be done when the soil temperature at the four-inch depth is between 72 and 78 degrees Fahrenheit. Seed that is slow to germinate and establish should be planted early in the above periods. Seed that germinates and establishes quickly can be planted later in these periods.

Overall preparation for overseeding begins in early summer and includes ordering seed early, controlling excessive thatch and testing the seed prior to planting. Preparing the seed bed prior to overseeding in order to obtain good soil/seed contact is also very important. The amount of seedbed preparation varies considerably depending on the site and budget. In general, more extensive seedbed preparation results in better germination and quicker establishment. However, extensive seedbed preparation also typically results in more problems with spring transition. At minimum, seedbed preparation should consist of light verticutting and, if possible, a light topdressing of about 0.25 cubic yard per 1,000 square feet. Seed should then be uniformly distributed and brushed in with a broom or drag mat.

More extensive preparation will give a quicker, more uniform cover and be desirable for high-maintenance areas such as golf course putting greens. Preparation of such areas should begin

five to seven days in advance by lightly scalping the turf and light verticutting in two directions. Debris should then be removed using a sweeper, and, if possible, followed by a turf vacuum. Two to three days prior to seeding, mowing should cease. This will allow some regrowth, which will help hold the seed in place. Phosphorus and potassium should then be applied at a rate of one to 1.5 pounds per 1,000 square feet each. The day before seeding, apply topdressing at a rate of 0.25 to 0.35 cubic yards per 1,000 square feet and brush in with a broom or drag mat. If the topdressing is done the day of seeding, the seed and topdressing can be brushed in simultaneously. Topdressing material should be sterile, free of pebbles and other debris, and should be similar in texture to the existing soil. Seed should be applied uniformly in two directions using a centrifugal spreader. Very fine seed such as bentgrass may need to be diluted with sand or sewage sludge or applied with a drop spreader. An application of pre-emergent herbicide, such as Kerb or Surflan, a couple of weeks prior to seeding will also help define such edges. This technique will also prevent germination of seed tracked or otherwise accidentally introduced outside of the intended area. However, care must be taken not to contaminate areas to be seeded.

Follow-Up Seed Care

Follow-up is probably the most critical aspect of any overseeding, regardless of the amount of preparation. Initial overseeding is at best very shallow rooted in a mediocre seedbed. Newly germinated seedlings can be lost in a matter of hours if allowed to dry out. Frequent, light spraying will be necessary in the initial days following planting. Watering frequency can be gradually decreased as the seedlings become established. Foliar applications of nitrogen and micro elements on a weekly basis will be very helpful. If fertigation is available, this is an ideal tool for establishing and maintaining overseeding. Judiciously monitoring for diseases such as pythium and brown patch is also a must. Overseeding consists of young seedlings often planted at extremely high rates. This is an open invitation to disease. Use of fungicide-treated seed will reduce disease incidence.

Mowing can begin as soon as the seedlings are firmly rooted. Sharp mower

blades are important to avoid pulling up young seedlings. Initial cutting height should be approximately two or three times the final height of cut and then lowered incrementally over a period of two to four weeks as the seedlings mature.

Annual bluegrass control must also be considered. Several techniques are currently utilized. The simplest but least effective method is to do nothing other than germinate and establish overseeding quickly and early in the season. The resulting competition will help minimize annual bluegrass germination and establishment. Other options involve the use of pre-emergent herbicides. The obvious paradox is that this will interfere with germination of the desired overseeding.

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Each one of these has its advantages and associated problems. Option one is very effective in terms of annual bluegrass control. However, it is expensive and the rate and timing of the application is critical to avoid damage to the overseeding. Also damage to the overseeding can vary depending on the species and environmental conditions. Option two is the least expensive, but it involves some major league guess work. Residual of pre-emergent herbicides is affected by numerous factors, such as temperature, precipitation, soil type and application rate. A bad guess can result in a window in which annual bluegrass can establish poor to erratic germination of overseeding due to herbicide residual. Option three is reasonably sure fire, but is the most troublesome. Activated charcoal must be very finely divided and applied at relatively high rates to effectively deactivate pre-emergent herbicides. It is very difficult to apply uniformly. Mixing it with topdressing solves most of the problems, but makes it impractical for large areas.

Overseeding still occupies an important niche in the Southern United States. Successful overseeding hinges on several factors. Proper planning, planting and post-planting culture are all essential. If the time, labor and money aren't available, the likelihood for success is greatly diminished. Remember, spring transition can demand additional resources and also must be planned for. Overseeding may not be necessary on all areas. Dormant warm-season turfgrass can be very functional for numerous purposes and offer a dramatic contrast to overseeded areas. One way to live within the constraints on a given site is to carefully pick and choose where overseeding will be utilized. □

Editor's Note: John Wildmon is an instructor at Lake City Community College in Lake City, FL.

Three options exist to overcome this problem: 1. Use Rubigan, which inhibits annual bluegrass germination but has relatively little effect on some overseeded species. 2. Time the pre-emergent herbicide application such that the residual has run out before overseeding is applied. 3. Apply the pre-emergent at the usual time of the year and then "deactivate" using activated charcoal.

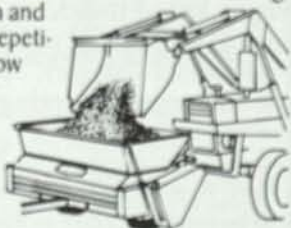
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