

Success With Overseeding Warm-Season Grasses

By Dr. Gil Landry

As the cool temperatures of fall slow the growth of warm-season turf, many sports facilities select the option of overseeding with cool-season grasses. Overseeding improves the aesthetic quality of a property by maintaining color. On playing fields, golf courses and parks, the active growth of cool-season grasses provides a smoother, more-cushioned playing surface and increased tolerance to wear.

Total turf care requires a complete, year-round maintenance program. Prior to overseeding, special consideration should be given to proper soil fertility, an aeration schedule that relieves soil compaction and the prevention of excessive thatch development.



Verticutting prior to overseeding improves seed/soil contact.
Photos copyright: Larry Kassell.



Seeding rates generally range from 5 to 10 pounds per 1,000 square feet.

Your overseeding success depends on the selection of cool-season grass varieties compatible with existing grasses, adequate seedbed preparation, optimum timing, postplanting maintenance and proper handling of the spring transition.

Select cool-season grasses to fill your specific needs. Perennial ryegrasses, fine fescues and rough bluegrasses offer improved turf quality, increased stress tolerance and pest resistance, and greater manageability than annual ryegrass. "Intermediate" ryegrasses, with characteristics between annual and perennial ryegrass, perform adequately in some situations, especially where traffic is not a concern.

Mentioning cultivars is probably useless, since the 1990 National Turfgrass Evaluation Program had 123 entries while the 1986 test had 65. Performance of individual cultivars will vary according to regional weather conditions and specific site characteristics. Especially with the erratic weather patterns of the past few years, it's wise to evaluate university test results, the experience of other turf managers and the history of

performance on your own sites when making seed selections. Ideally, overseeding will result in a gradual transition from warm-season turf to cool-season turf in the fall and the gradual reversal of dominance in the spring.

Seeding rates play a major role in overseeding establishment and spring transition. Rates generally range from 5 to 10 pounds per 1,000 square feet. With higher seeding rates, fall establishment time tends to decrease. However, with the higher seeding rates, increased competition caused by the greater density of cool-season grasses also tends to increase spring transition time.

An essential element in maintaining weed-free turf is the selection of top-quality, "certified" (blue tag) seed containing no annual bluegrass (*Poa annua*). Where early fall conditions are conducive to seedling diseases, choose seed treated with such fungicides as Apron, Koban or Subdue.

Under "normal" conditions, overseeding can be planned for two to four weeks prior to the date of the average annual killing frost.

Increased timing accuracy can be achieved by monitoring such indicators as daytime soil temperatures at a 4-inch depth approaching 75 degrees Fahrenheit range; night air temperatures consistently in the 50 degrees F range; and midday temperatures averaging below 70 degrees F. Obviously, the closer the timing of overseeding allows the emerging cool-season grasses to match the natural decline of the warm-season grass, the more efficient the fall transition will be.

Generally, the greater the existing turf is opened prior to overseeding, the better the establishment rate, wear tolerance and stress resistance of the cool-season grasses. However, the competition for warm-season grasses in the spring will be greater, too, and can delay a smooth transition.

Where there is little thatch, overseeding preparation simply may consist of close mowing or scalping. For a first-class turf surface on playing fields and golf courses, most managers prepare the seedbed by scalping, verticutting and coring. Core aeration should be performed about four weeks prior to overseeding. After seeding and dragging or raking the seed into the soil to achieve good soil contact, begin lightly irrigating to maintain good surface moisture without causing puddling. This can require

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three to five short irrigation periods per day until the seedlings are well-established. Then, gradually reduce the frequency and increase the time of irrigation until a normal watering program can be established.

Begin mowing when seedling height is 30 percent higher than desired. As always, remove no more than one-third of the grass blade at any single mowing. Make sure mower blades are sharp, and mow when the grass is dry to reduce seedling injury. Obviously, minimizing traffic during establishment is important.

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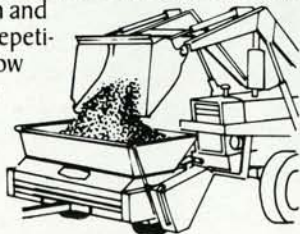
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Avoid early nitrogen applications, which will encourage competition from the warm-season turf. It's best to hold fertilization until after seedling emergence, which is generally two to three weeks after seeding. Once the fertilization program begins, rates of 1 pound of nitrogen per 1,000 square feet per month of active growth is usually adequate.

A good year-round management program is your most valuable tool when it comes to a smooth spring transition. Proper mowing, irrigation, cultivation, thatch and traffic control, fertilization and pest management impact transitions. It's also essential to know and make use of normal climatic conditions to your area. Soil and night temperatures approaching 60 degrees trigger the resurgence of growth in most warm-season turfgrasses. As soil temperatures increase, it's critical to a smooth transition to maintain a mowing height that prevents the ryegrasses from shading out the bermudagrass. A gradual lowering of mowing height further speeds soil warming and increases the stress on the cool-season turf, while enhancing the warm-season turf.

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Practices such as coring, verticutting and topdressing have been used as an aid in increasing soil temperatures. On the down side, these practices can also tend to inhibit the recovery of warm-season grasses. Sometimes attempting to force soil temperature increases by aeration can lead to early spring growth and premature reduction of the overseeded turf, especially when cool spring temperatures follow. Therefore, when possible, coring verticutting and topdressing should be avoided during the green-up period.

Once temperatures have risen adequately, warm-season turf growth can be encouraged and the decline of the cool-season grasses encouraged with an application of soluble nitrogen. Chemical growth regulators, such as Retard, Slo-Gro, Embark or Kerb, and certain crabgrass pre-emergence herbicides also have been shown to reduce the survival rate of cool-season grasses, thus easing the spring transition.

A proper, year-round management program is essential to maintaining a quality turf for your clients. Overseeding success as well as smooth spring transition depend on your ability to understand the impact of weather conditions on turf growth and to tailor your program to accommodate fluctuations and meet your client's needs. □

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