

THE PROS AND CONS OF FAIRWAY OVERSEEDING

Winter overseeding of bermudagrass fairways has both benefits and some negative consequences.

by JOHN H. FOY

FOR THE VAST MAJORITY of American golfers, the presence of a lush green turf cover is one of the main criteria used to evaluate golf course quality. Even with their increased environmental awareness and agreement that course management programs should be geared to minimize impacts and conserve resources, golfers want to play on green grass. Television, no doubt, has greatly contributed to and heightened everyone's aesthetic consciousness.

Each fall, warm-season turf species such as bermudagrass begin to enter into a semi- to fully-dormant stage, depending on where in the South the course is located. This is a natural response to cooler temperatures and a shorter day length. Along with a progressive decline in growth rate, there is a loss of green color. Once soil temperatures reach 50 degrees Fahrenheit or lower, the bermudagrasses develop a straw-brown off-color character that persists until the spring. To compensate for this color change and to provide a lush green, actively growing turf for the winter, establishing a cool-season turf cover in the fall, on top of the dormant bermudagrass, has been a standard management procedure. For many years, winter overseeding of fairway and rough areas was practiced primarily at resorts and professional tour stops. However, over the past few years, fairway overseeding has been a rapidly growing trend at private clubs as well as daily fee courses.

Pros

The obvious benefit of fairway overseeding is an actively growing green turf cover that appeals to many golfers. In the early to mid 1970s, colorants (dyes or paints) were tried as alternatives to fairway overseeding to control cost, reduce golfer inconvenience and minimize spring transition problems. This strategy never became very popular, however, because it was not possible to achieve a truly natural color



A period of winter dormancy is a natural response of warm-season turfgrasses, such as bermudagrass, to cold temperatures and a shorter day length. Yet, American golfers want to play on green grass.

that was similar to an overseeding cover. Also, with medium to heavy play, wear problems developed.

Another aesthetic issue is providing striped fairway mowing patterns, in keeping with current-day golfer expectations. With the use of light- to medium-weight fairway mowing equipment, improvements in both turf quality and conditioning have been achieved. With northern cool-season turfgrass fairways, rather dramatic mowing patterns can be produced and maintained. Yet, with bermudagrass fairways, these attractive mowing patterns cannot be established unless the stripes are burned into the turf by repetitively mowing the exact same pattern each time. This strategy eventually results in a significant grain problem on the fairways. Thus, winter overseeding makes it possible to have that northern look, even in Arizona and Florida.

There is no denying that winter overseeding of fairways is conducted

to a large degree for cosmetic reasons. However, improved playability is another benefit of this practice. Every winter during Green Section Turf Advisory Service visits to courses throughout Florida, common complaints about dormant bermudagrass fairways are that the fairways are being mowed too low or that there is no grass on the fairways. The reality of the situation is that the height of cut was raised up in the fall, and more often than not the mowing units are only being sent out to break up divots and clean off debris rather than actually cut the dormant grass. These complaints result because the base bermuda is not actively growing and has become beaten down by golf cart traffic. It needs to be remembered that the average course handicap in America is 31 for female golfers and 16-17 for male golfers. These golfers typically try to sweep the ball off of the turf for their approach shots, and tight bermudagrass fairway lies make this

difficult. An actively growing perennial ryegrass overseeding cover provides additional ball support, and in turn there is the perception among a large number of golfers of better course conditioning.

Another common wintertime complaint is a loss of definition between the fairway and rough cuts. Here, too, cart traffic is the main cause of the problem, and regardless of whether just the fairways or both the fairways and roughs are overseeded, course presentation is dramatically improved with overseeding. In countries where golf carts are a rarity, wintertime course deterioration is not a big issue, even though the majority of play occurs during this time. In some respects, fairway overseeding can be viewed as a traffic management tool, given the fact that golf carts have become an integral part of the American game.

Cons

While there are definite benefits to winter overseeding of bermudagrass fairways, there also are tradeoffs. First of all, there is no way around causing some course disruption and golfer inconvenience during the fall establishment process. To achieve successful seed germination and turf establishment, good seed-to-soil contact must be provided. However, today, with more emphasis being placed on thatch control throughout the summer growing season and the availability of effective growth regulator materials, severe verticutting and scalping procedures are not being conducted at most Florida golf courses for seed-bed preparation.

Yet, along with some degree of prep work and uniform seed application, daytime irrigation applications are needed for at least three to four weeks during the initial establishment phase. The establishment process typically is initiated sometime between October and early December, depending on the location of the course, and four to six weeks needs to be allowed for development of good coverage and appropriate conditioning. Furthermore, while not an option at some facilities, prohibiting cart traffic on juvenile overseeding is strongly encouraged to ensure optimum results. For a large number of facilities, the establishment process coincides with the return of golfers from the North, typically during prime golfing weather. This can result in a negative first impression and a difficult political situation for the golf



In addition to providing the desired aesthetic character, overseeding of bermudagrass fairways improves their wear tolerance as well as the playability for the average-to-high-handicap golfers.

course superintendent and course management.

Next, there is concern about the cost of winter overseeding. In south Florida, a seeding rate of approximately 300 pounds of perennial ryegrass per acre provides adequate stand density and the desired aesthetic and play characteristics. This process is better described as an interseeding, and works satisfactorily because the base bermudagrass does not go fully dormant and off-color. However, for most other areas of the country, higher seeding rates of 400-600 pounds of ryegrass per acre are necessary, and in a few locations 800-1000 pounds per acre are being used. Although there are several variables, an initial expenditure of \$7,000 to more than \$25,000 can be required for the seed alone. To control costs, annual ryegrass is sometimes added to perennial ryegrass blends. Over the past two or three years, ryegrass and *Poa trivialis* combinations have been used, allowing lower seeding rates to be used. Other costs that need to be factored in are the additional time and labor required for preparation and

establishment, irrigation, fertilization, and pest control treatments.

Another substantial cost of fairway overseeding is regular mowing during the late fall, winter, and spring months. Once established, overseeded fairways need to be mowed at least three times per week and preferably on a daily basis in order to maintain consistent good quality conditioning. This consumes a significant number of labor hours and exerts additional wear and tear on the mowing units, which in turn shortens their life expectancy. The use of light- to medium-weight mowing equipment also is necessary to achieve top-quality results. For budgeting purposes, doubling the cost of the seed is often used as one means of estimating the total annual cost of fairway overseeding, but many courses estimate that it costs them \$100,000 or more to overseed fairways.

From an agronomic standpoint, winter overseeding can be thought of as trying to grow two plants with different management requirements in the same spot. When management practices are geared to favor one, the health and

quality of the other can be compromised. With the establishment of an overseeding cover, significant competition and stress is exerted on the base bermudagrass. Thus, in the spring to early summer, there is the potential for deterioration in fairway conditioning and quality during the transition back to the base bermuda turf cover.

Even with management programs designed to gradually thin out the overseeding cover at the same rate the base bermuda is reestablishing coverage, problems are common. This is because environmental conditions are a major controlling factor in the results of the transition process. The worst-case scenario is a cool and wet spring followed by a rapid buildup of high humidity and hot temperatures. This allows the overseeded species to develop a mature character and at the same time retards the growth of the base bermudagrass. Then, with a quick decline in the overseeding species, a weak and thin bermudagrass turf cover is exposed. A few weeks to a couple of months then can be required to re-establish good quality fairway condi-

tions. At some high-end resort and private golf courses in Florida, a budget contingency for sod is maintained, just in case a difficult overseeding spring transition occurs.

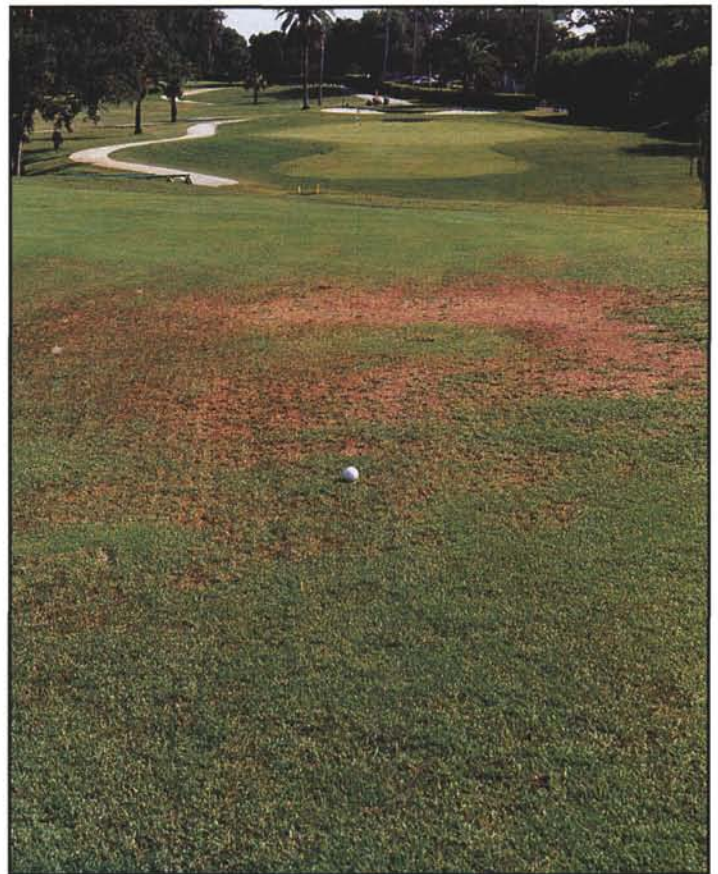
Winter overseeding has other impacts on course management, too. Although the overseeding cover is present for only four to six months, for successful results this practice needs to be considered in the scheduling of other programs. This is particularly true in regard to weed control programs. In overseeding of fairways year after year, a progressive increase in both winter and summer annual weeds can be expected. During the winter and spring months, establishment of *Poa annua* and other volunteer weeds is a common problem that can affect course appearance. It is also difficult to prevent invasion of goosegrass and crabgrass during the spring to early summer when the transition process is under way.

What's The Right Answer?

In consideration of the cost involved and negative impacts on course man-

agement, it is difficult to justify winter overseeding of bermudagrass fairways from the agronomic standpoint. Yet, most American golfers have been brainwashed to believe that green is good. Also, as noted earlier, a fluffy fairway lie is preferable to a tight semi- to fully-dormant bermudagrass lie by the vast majority of golfers. Thus, this practice no doubt will continue to be implemented at more courses from the Carolinas across to California. The best option at this point is to try to educate golfers that there is much more involved with successful winter overseeding than meets the eye, and keep our fingers crossed that the perfect year-round grass will be developed. But then would there be any need for Green Section Agronomists and highly skilled golf course superintendents? (Answer: Yes!)

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(Left) It is virtually impossible to prevent movement of some seed into non-target areas. If appropriate control measures are not used, volunteer establishment can create a significant weed problem. (Right) The Transition Blues. As temperatures and humidity increase in the late spring and early summer, a transition back to the base bermudagrass must be accomplished. Sometimes a rapid burnout of the overseeding cover occurs and this exposes a thin and weak bermuda base. Transition problems tend to be more pronounced in locations where other growth-limiting factors occur, such as shade or concentrated traffic.