Overseeding Bentgrass Greens – Is It Worth It?

by **BRIAN SILVA**
Agronomist, Northeastern Region, USGA Green Section

"I TRIED THAT a couple of years ago and didn't see any results." Unfortunately, that's often the response to a suggestion for annually overseeding bentgrass to bentgrass greens. But remember, "one summer a seeding does not make." On closer examination, the long-term possibilities for green improvement and eventual success should not be even slightly overlooked.

There are many advantages to overseeding greens. Improved color, putting speed, shot-holding capability, as well as rapid recovery from injury are among the leading ones. Add to these the factors of increased uniformity and consistency of putting surfaces and a formidable, favorable argument begins to take shape.

Putting greens that have become a patchwork quilt of different bentgrasses and *Poa annua* varieties pose an unusual problem for the golf course superintendent. The various grasses and types respond differently to basic management practices, such as fertilization, topdressing, vertical mowing, and even pesticide applications. A variable response to environmental factors such as temperature is also noted. An annual overseeding program would encourage the development of greater uniformity with regard to the grass species and variety which predominates on a putting surface.

We often ask the impossible of greens originally planted to bentgrass. In many instances, these greens receive no additional desirable seed after they become established. This is the case even though annual bluegrass consistently produces vast quantities of new seed each season. Expecting the existing bentgrasses to compete solely on a vegetative basis with annual bluegrass may be expecting far too much. A vigorous annual bentgrass overseeding program can play an integral role in a maintenance scheme designed to favor the growth and development of bent and at the expense of *Poa annua* encroachment.

While many superintendents appreciate the advantages associated with annual overseeding, many of them hesitate to introduce still another variety into their putting greens. This is especially true on greens originally planted to velvet bentgrass or vegetative creeping bentgrasses such as Arlington and Congressional. However, close examination of greens originally planted to these specific grasses often reveals a less-than-claimed degree of purity. For example, many velvet bent greens often contain as much creeping bentgrass and annual bluegrass as they do velvet bent. Additionally, many greens planted vegetatively to two or more strains of creeping bentgrass have suffered separation and take on the patchwork appearance mentioned earlier. An overseeding program would provide a blending of grasses and greater uniformity of putting surfaces. Just as importantly, proper maintenance practices will yield more consistent and predictable results.

By now you are probably ready to jump on the bandwagon and wave the banner for annual bentgrass overseeding. Right? Wait a minute! Certain questions and techniques first merit your attention.

ONE OF THE keys to good germination from any seeding program is the development of proper seed to soil contact. On a new green, or on a project where complete renovation is in order, the development of excellent seed-to-soil contact is achieved with relative ease. However, when overseeding is carried out on an area of actively growing turf, the seed-to-soil contact becomes more difficult.

Any one of a number of techniques, or a combination of them, will work. If you are dead serious about a bentgrass overseeding program, consider first the use of a small, power-driven slicer-seeding machine that places the seed slightly below the putting surface. Special thin colters are available that barely disturb the surface. Very successful results have been obtained with this technique.

Soil cultivation, i.e., aerification, is another frequently used practice in gaining seed/soil contact. The soil cores should be removed and a drop seeder used for the sowing. Follow this with a moderate topdressing of desirable quality and then slowly mat or drag the material into the open aeration holes. *Slow* dragging is far preferable to the racetrack technique, and it doesn't disturb the original putting surface as much.

Depending on the time you have available and the prevailing weather conditions, you may wish to carry out a moderate vertical mowing program immediately after removing the soil cores as mentioned above. The vertical mowing should be carried out to a depth which will bring a small amount of previously applied topdressing or soil material to the surface of the greens. After removal of the thatch debris and/or soil material brought to the surface, the holes resulting from aerification and the slight grooves caused by vertical mowing will allow an infinite number of seeds to make good soil contact.

Spiking or slicing greens with mechanical disk spikes will also produce a good seedbed for overseeding. It will require at least three or four passes over the putting green — more if possible — before actual seeding is accomplished.

Remember, overseeding is taking place on actively growing turf. This allows less than optimal conditions for germination and the growth and development of new seedlings. An intensive soil cultivation program, combining aerification, vertical mowing, and spiking will prepare a better seedbed and reduce the level of competition imposed by actively growing turf. The relatively moderate topdressing which follows overseeding will permit acceptable putting conditions. Once the seed is in the ground, very light syringings for two or three weeks throughout each day will aid in higher germination percentages.

AS TO THE seed itself, one of the improved creeping bentgrass varieties is recommended. Penneagle or Penncross would represent a good choice, because they have an aggressive growth rate, which allows them to germinate and develop under less than ideal seedbed conditions. Once established, their aggressive nature will offer an increased level of competition against the ever-present annual bluegrass.

Much has been made of the tendency for such aggressively growing grasses to thatch and become puffy under putting green conditions. However, contemporary putting green maintenance practices, including light and frequent topdressing, light vertical mowing, and judicious use of nitrogen, will keep thatch accumulation in check.

Obviously, seedling mortality will be high. While the chances of overseeding success increase with the intensity of seedbed preparation, relatively high seeding rates should be used. Additionally, if you wish to shorten the time for higher bentgrass populations, overseed twice annually. Minimum seeding rates of two pounds per 1,000 square feet for the grasses suggested above are recommended. On a golf course with average-size greens, this seeding rate means an expenditure in excess of $1,000 per seeding per year. Just for a minute, though, consider the expense involved in maintaining greens through the summer stress period that are comprised mainly of annual bluegrass. The extra syringing and fungicide treatments add up quickly, and substantially. Better yet, imagine the cost in actual dollars and inconvenience associated with a set of greens that come through a winter in poor shape after annual bluegrass has exhibited its all too famous susceptibility to winter injury.

The timing of overseeding is critically important. While spring and fall might be the accepted times for propagating turf on a new site by seeding, they are not the best times for overseeding existing turf. Cool soil temperatures in the spring and fall, plus extreme competition on the part of annual bluegrass, render these periods inappropriate for overseeding. Carried out in the summertime, however, before the prime germination period for *Poa annua*, overseeding can give bentgrass seedlings an increased level of competitive ability. Soil temperatures at this time will also allow excellent germination, while diligent irrigation and fungicide treatments can improve seedling survival.

THE IDEAS behind overseeding sound great. Conditions of surface uniformity and consistency on greens can be improved. Greater competition on behalf of the desirable grasses can be gained against the encroachment of annual bluegrass. However, these results will never be realized by a one-shot effort.

A sound overseeding program must be carried out on a continuing and annual basis. Frequently we are asked how long the program should last. Is three years enough? Is five years too long? The best answer seems to be to initiate and continue an annual overseeding program as long as it is necessary to keep bentgrass in the dominant role. This may well take many, many years, but then in agriculture, only crop *failure* comes about overnight.

And you can count on one more fact. The results gained from overseeding will not be immediate. Three or four years may be required before you even see a hint of progress. However, if you persevere, you will improve bentgrass populations and uniformity throughout your putting surfaces. Without annual overseeding, your present putting surfaces will, at best, remain static. The more desirable grasses will be competing on a vegetative basis and, generally speaking, this is a losing proposition. Expect annual bluegrass encroachment. In many cases, the initiation of overseeding will challenge a distorted equilibrium that has developed over the years and favors annual bluegrass populations. It will take time to shift this equilibrium, but a shift will surely take place through overseeding and altered maintenance practices.

If you are attracted by greens dominated by creeping bentgrasses, an annual overseeding program deserves your further investigation.

One of the best ways to overseed bentgrass into a "bentgrass" green.