

Watching Your Tees & Q's

By John H. Foy
Southeastern Regional Agronomist



— BENTGRASS IN FLORIDA — The USGA Green Section's View

Bentgrass, Bentgrass, Bentgrass — Without a doubt, this has certainly been the hot topic of the year in Florida. Even mole crickets, nematodes and goosegrass have had to take a back seat to this visitor from the north. Because bentgrass greens have historically provided superior playability to bermudagrass greens, the use of this cool season turf variety has been pushed further and further south. But, a review of growth factors and/or requirements for bermuda and bent shows that bentgrasses are about as adapted to year round survival in Florida as an orange tree is to surviving in Wisconsin.

We are all aware of a few isolated cases of "pure" bentgrass greens being maintained in Florida, but this proposition is definitely not the way to go for 99% of the courses in the state. The USGA has and will continue to fund turfgrass research with the prime objective of realizing reductions in water usage and management cost. Growing bentgrass in Florida (in the summertime) is obviously a move in the opposite direction. Thus, "for the good of the game," the Green Section's position for the present is that year round bentgrass is not a justifiable undertaking.

However, because the primary play season in Florida occurs during the fall, winter and spring months when environmental conditions are not favorable for active bermuda-grass growth (and for the Northern 2/3rds of the state a period of total dormancy), winter overseeding is a necessary practice. The basic reasons for overseeding are to provide a green color, protection to the base bermuda, and in some cases to improve the playability of the putting surfaces. In the pursuit of superior surfaces, bentgrass overseeding has become more and more popular. But, there are a number of factors that must be taken into consideration as to whether even overseeding with bentgrass is the right way to go for most Florida courses. The primary considerations are:

1) *Rate of establishment* — The bentgrasses are much slower than the perennial ryegrasses, typically two to four weeks more time is required for a mature surface to be developed. Thus, establishment must be initi-

ated earlier when environmental conditions are not as favorable and there is a longer period of player inconvenience.

- 2) *Greens Construction* — Bentgrasses do not tolerate high organic (muck) and/or poorly drained soils very well at all. Also, a good irrigation system is a must.
- 3) *Wear tolerance* — Even on large greens, if 200 to 250 rounds a day are played, it is quite difficult to maintain a consistent surface from a bentgrass base.
- 4) *Shade and air circulation* — While bentgrasses are much more tolerant to shade than bermudagrasses, some thinning of the turf can be experienced in areas where heavy shade persists. Also, if the greens have restricted air circulation, the potential for disease activity is greatly increased.
- 5) *Spring transition* — With the improved heat tolerance that has been bred into both bent and ryegrasses, transition back to the base bermuda is more difficult than in the past. But, transition with the rye's is still much easier, earlier and more uniform. Thus, again less player inconvenience is experienced.

The one big advantage to the use of bentgrasses for overseeding is that they do provide faster putting speeds. However, strides are continuing to be made with ryegrass overseeding. Using varieties with finer leaf blade development and less aggressive growth, mixes with other cool season varieties, reduced seeding rates and more intensive management practices have helped improve the acceptability of ryegrass overseeding for general membership play.

For South Florida, it is quite debatable as to whether overseeding is necessary at all for a lot of courses. I have had the opportunity to observe some truly outstanding non-overseeded greens where the membership has been educated that while the greens may go "off color" occasionally during the winter, color does not affect playability. But, for the majority of the courses through the state,

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winter overseeding will continue to be necessary.

As to what is the best overseeding material for a particular course, only after a thorough analysis of all of the perimeters can an intelligent decision be made. The last

reason in the world for deciding what to overseed with is because a neighboring course is going a particular route. The objective should be to try to provide the best possible course conditioning at all times for the majority of the golfers from the available resources. ■

Some comparisons of growth factors and/or requirements of bermudagrass and creeping bentgrass for golf greens in the South.

Prepared by Dr. Jeff Krans, Agronomist

Growth factors or requirements	Bermudagrass	Creeping bentgrass
Optimum soil temperature for shoot growth	80-95°F	60-75°F
Optimum soil temperature for root growth	75-95°F	50-65°F
Growth limiting soil temperature	100-110°F	80-95°F
Lethal soil temperature (direct high temperature kill)	120°F	100-110°F
Optimum response to nitrogen fertilization	April-September	March-May and again in September-November
Detrimented response to nitrogen fertilization	November-March	June-August
Acceptable pH range	5.0-7.0	6.0-6.5
Acceptable phosphorus levels	low to high	low to medium (excess phosphorus influences Poa annua competition)
Optimum potassium levels	medium to high (low temperature survival)	medium to high (high temperature survival)
Acceptable soil texture	loam or sand	sand
Irrigation capacity	conventional irrigation adequate	automatic syringing and irrigation required
Air Circulation	not critical	required
Cultivation practices	May to September	April and May
Fertilizer application	granular	granular and liquid
Pesticide tolerance	very good	poor (especially under high temperature)
Disease susceptibility	low	high