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# BENTGRASS 101

By Cheryl Jones

How many of you know that the old expression, “growing like a weed,” originally was, “growing like bentgrass?” Not really, but it may well have been what the originator had in mind.

“Bentgrass: Wonderful Winner or Wicked Weed?” is an often debated topic among superintendents, golfers, agronomists, and all others interested in this unusual member of the GRAMINEAE family.

Bentgrass is a cool-season, perennial grass that is spread by stolens. It forms puffy, dense patches that may eventually dominate a lawn turf. Under close mowing and meticulous care, however, it can form an excellent lawn or sports turf; otherwise, it is usually regarded as a serious weed.\*

It is very important to buy only certified seed, because with 7,890,000 seeds per pound of creeping bentgrass, you can imagine what one ounce of bad seed could do to a golf course green! Beware of the bentgrass seed pirates selling uncertified seed with as much as 10 percent of the mixture as weed seeds!

This genus includes approximately 125 species that grow in temperate and subarctic regions, and at high altitudes in tropical and sub-tropical areas. The common name of bentgrass is used for all the species in the genus except redtop. It's a fine-textured, dense, high-quality turf when it is closely mowed, therefore one of the most tolerant cool-season turfgrasses. Some species are annual, but all those used in the turfgrass industry are perennials. Within a turfgrass species, the density varies greatly, depending on genotypic and cultural factors and natural environment. You can get high density with bentgrass when it is closely mowed, fertilized and watered frequently, and kept free of pests and disease. Bentgrasses are subject to a large number of diseases, including Pythium Blight, Fusarium patch, Typhula blight, dollar spot, brown patch, red thread, stripe smut, spring dead spot, and others.

Let's look at the three major “turf” bentgrasses (and redtop). They include creeping bentgrass, colonial bentgrass and velvet bentgrass.

*Creeping Bentgrass* is a native of Eurasia but has crept throughout the world. It gets its name from its growth pattern — creeping stolens at the surface of the ground, initiating new roots and shoots from the nodes. Creeping bentgrass can spread quite rapidly and forms dense, fibrous root systems. It's the most widely-used cool season grass for golf and bowling greens. While it tolerates many types of soils, fertile, fine-textured soil of moderate acidity and a good water holding capacity is best.

Early in the 1900s, greens were planted with mixtures which contained small amounts of creeping bentgrass. The U.S. Golf Association and the U.S. Department of Agriculture worked together in the 1920s and '30s in an effort to develop many different creeping bentgrass cultivars.

Vegetatively propagated cultivars include *Culhansey*, released by the U.S., selected in 1935; *Washington*, released by the U.S.G.A. Green Section and CRD-ARS, U.S., selected in 1919; *Toronto*, released by the U.S., selected in 1936; *Penpar*, released by Pennsylvania AES, U.S., in 1967; and *Northland*, released by J.R. Watson, Toro Mfg., Minnesota, U.S., in 1955. Seeded cultivars include *Penncross* (Pennsylvania AES, U.S., 1954), *Seaside* (Lyman Carrier, Ore., U.S., 1923), *Emerald*, *Penn-eagle*, and *Prominent*.

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## DOES BENTGRASS BELONG IN THE SUNSHINE STATE? SOME MENTION IT IN THE SAME BREATH AS MIGRAINE HEADACHES.

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All vegetatively propagated cultivars of creeping bentgrass have been developed in the United States. Turfgrass establishment rates for stolens and seed are about the same, but vegetatively propagated cultivars are usually more uniform in appearance. In Florida, the seeded bentgrass is primarily used on greens, but may see use on closely mowed tees, fairways, and exotic lawns.

*Colonial Bentgrass* is a native of Europe, but has been introduced in the Pacific Northwest and New England regions of North America, and in New Zealand. It is a grass best adapted in temperate-oceanic climates. A fine-textured, bunch-type-to-weakly-creeping grass, colonial has a poor tolerance to heat and is used mainly in cool, humid regions.

Colonial bentgrass is propagated mainly by seed. Cultivars include *Astoria*, released by Oregon AES in 1936; *Exeter*, released by Rhode Island AES in 1963, and *Highland*, released by Oregon AES in 1934. Breeding efforts in Europe include the release of *Boral* by Weibullsholm Plant Breeding Institution of Sweden in 1936, and *Holfior*, by D.J. van der Have of the Netherlands in 1940.

*Velvet Bentgrass* is a native of Europe that has become naturalized in New England and is restricted to use in very mild, temperate oceanic climates. It is said to be the most beautiful of all turfgrasses. Velvet bentgrass can be

(cont. on page 14)





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(cont. from page 12)

either vegetatively or seed propagated, but few cultivars have been developed. Currently available is *Kingstown*, released by Rhode Island AES in 1963.

*Redtop* is a native of Europe that was used mostly before 1945 in quality turfs. It is a coarse-textured species whose name came from the color of the seed head, and is propagated almost entirely by seed. *Redtop* is used mostly in cool humid climates as it does not withstand high temperatures. It was used in cool-season turfgrass seed mixtures in the past to promote rapid development of cover, but studies have shown that it does no better than improved ryegrasses and fescues, and its use has declined rapidly. Its unsightly appearance and stubborn tenacity has made it more unpopular as a nursegrass, but it's fine for roadsides and drainage areas, and waterways for erosion prevention. It will grow in poorly drained, unfertile areas. Due to its limited use, few cultivars have been developed, and none are available.

Does Bentgrass Belong in the Sunshine State? Some mention it in the same breath as migraine headaches; others claim its 'true putting' properties can't be beat. It is not a native of Florida and must be carefully pampered to coax it to adapt (much like this cool-season writer), yet we see it used on major tournament courses here. ARE THE GRASS BREEDERS LISTENING? ■

\**Turfgrass Management*, A.J. Turgeon, Reston Publishing Company, Inc., Reston, VA. 1980

(cont. from page 8)

Sources: *Turfgrass: Science and Culture*, James B. Beard, Prentice-Hall, Inc. 1973; *Turfgrass Management*, A.J. Turgeon, Reston Publishing Company, Inc., Reston, VA. 1980; *Turf Management for Golf Courses*, James B. Beard, Burgess Publishing Co., Minneapolis, MN. 1982.

#### PRESIDENT'S MESSAGE (cont. from page 8)

Be sure to read Mike Bailey's article as it relates to the amount of time some of the above mentioned procedures inconvenience the golfer.

Hopefully a "Phase II" Bentgrass Seminar will take place early next year and that a lot of interested club officials will be in attendance.

A special THANK YOU to all the members who answered their surveys, participated in the program and shared their time and talents to make this Bentgrass Seminar a success.

THANK YOU Carl McKinney for the use of your club and fine facilities, the hospitality extended by your club was as always — FIRST CLASS. ■

*Dick Blake*

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## CAN YOU BUILD A SNOWMAN IN SOUTH FLORIDA?

# What About Bentgrass Greens in Bermudagrass Territory?

By Irene Jones

Yes, of course you can build a snowman in Florida. It would require the expense of a special work area, such as a large walk-in freezer, some dedicated, hard working individuals and some man made snow.

But would "Frosty" thrive if we placed him out on a South Florida green? A whole lot of Golf Course Superintendents in South Florida view the management of pure bentgrass greens on their courses in much the same way.

According to A.E. Dudeck, Professor, Turfgrass Science at The University of Florida, "Florida is bermudagrass territory. Most turfgrass specialists who have been well schooled in the climatic zones of turfgrass adaptation know that bentgrass, as a cool season turfgrass, is adapted to the cool, humid regions of the world — not to Florida."

I attended a day-long seminar on the use of bentgrass greens in Florida, at JDM Country Club, located in Palm Beach Gardens on October 8, 1987. The moderator for all topics of this seminar was Max Brown, Ph.D., a leading turf expert and consultant in the south east. Panelists were made up of eight well respected golf course superintendents; while the eleven turf specialists on the program looked like a "who's who" list of turf experts from across the U.S. Seminar Co-ordinator was Tom Burrows, Director of Education, Florida Golf Course Superintendents Association, Turtle Creek Club, Tequesta. And helping to bring it all about was Marie Roberts, Secretary, FGCSA.

The importance and the interest associated with bentgrass use in Florida was very much in evidence by the packed meeting room, with 107 persons, mostly superintendents in attendance.

Joe Duich, Ph.D., Pennsylvania State University, commented that bentgrass problems carry over on Saturday and Sunday. "One or two men can not grow bent, it will take a team. No irrigation system has been proven to water bent. It has to be hand-watered." Because I am the wife of a golf course superintendent, statements such as this bring to mind visions of golf course superintendents all tucked into their beds, right beside their bentgrass greens. Seriously though, it is hard enough to work with a factor as powerful and changeable as Mother Nature, without bringing into a region a type of turfgrass that she does not naturally put Her blessings on.

Robert Dunn, Ph.D., University of Florida, spoke about the physiological aspect of nematodes on bentgrass. "Sting nematodes attack bentgrass, their population accelerates as the temperature goes up." So this tells us that if nematodes are a problem on a course, bentgrass is not a good choice. At this point I could just imagine the entire nematode population in South Florida licking their chops as they discussed which course they were going to dine at tonight.

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**I DO NOT THINK WE HAVE A NEED FOR BENTGRASS IN SOUTH FLORIDA WHERE BERMUDAGRASS DOES SO WELL, AT REASONABLE COST.**

**Carl McKinney, J.D.M. CC**

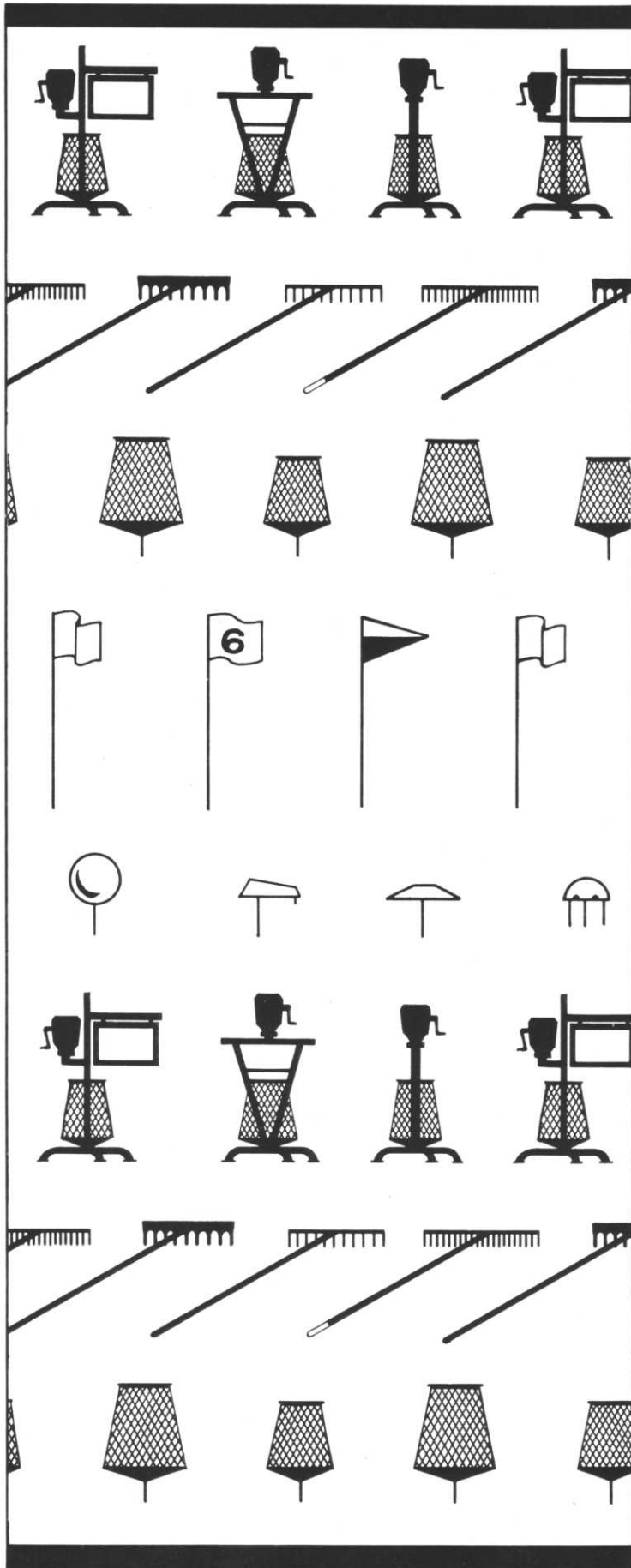
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Disease problems are severe on bentgrass according to Joe Vargas, Jr., Ph.D., Michigan State University. "Root rot organisms require four times the amount of chemicals needed to treat foliar organisms. The root knot nematode is a big fan of bentgrass." Just think about what this could do to your annual budget in the area of dollars spent on chemicals?

"The well drained rootzones which are required for bentgrass will bring about increased leaching of nutrients and pesticides into Florida's shallow ground water table. Increased water needs for frequent syringing place greater demands on an already limited water supply. **ALTHOUGH MONEY MAY BE NO OBJECT ON MANY OF FLORIDA'S GOLF COURSES**, the increased use of fungicides for disease control on bentgrass greens should be reason alone for abandoning such a practice." Directly quoted in a letter to the Florida Golf Course Superintendents Association from A.E. Dudeck, Professor, Turfgrass Science at The University of Florida.

Again speaking as the wife of a golf course superintendent, I can not even in my wildest dream, imagine my husband (or any other experienced, well respected golf course superintendent) handing their budget committee chairman, or their greens committee chairman, a budget which increased at least four times the amount of last year's budget, in the areas of chemicals, fertilizer and labor costs. It has been reported that the use of fungi-

(cont. on page 18)



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(cont. from page 16)

cides are being used every 3-5 days on courses with bent; in addition to the cost, this practice will cause immune diseases in the plant.

The golf course superintendent/manager has a responsibility to maintain his course at the highest standard possible within his budget. He also has the responsibility to keep his club officials informed and knowledgeable when it comes to unreasonable expenses. To help ensure that the very best standards for a golf course be examined, it may be a good decision to have a turfgrass expert attend a Board Meeting. This would allow members to question and examine the issue first hand.

And in the case of pure bentgrass greens, can clubs afford to burden their golf course superintendent/managers with growing and maintaining a cool season turfgrass that Mother Nature herself is generally opposed to in South Florida? Remember that we can not change the weather, no matter how hard we try, or how much we are willing to pay.

Will environmental groups and Florida's water management districts have anything to say about the increased pesticide use which the experts and the experienced superintendents tell us must happen when this cool season turfgrass is grown in the warm, moist region of South Florida? How about the increased leaching of nutrients and pesticides into Florida's shallow ground water table? And how about increased water needs for the frequent syringing which bent requires in our area? Since you already know the answers to these questions I do not have to say anymore.

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## **I DO NOT THINK MONEY CAN BUY YEAR ROUND, CONSISTENT BENT GREENS.**

**George Cavanaugh,  
Bear Lakes C.C.**

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THE SECOND PART OF THIS ARTICLE CONTAINS A LOT OF KNOWLEDGE FROM THE REAL EXPERTS WHO ARE ON THE FRONT-LINE OF THIS CONTROVERSIAL ISSUE — THE GOLF COURSE SUPERINTENDENT/MANAGER:

*The Florida Green* asked the following six questions to a field of 15 Florida Golf Course Supers. Here are the questions, a breakdown on the responses, along with direct quotes from our experts.

**QUESTION:** Is your club being affected by the current bentgrass controversy?

**ANSWER:** *James Branstrom, CGCS, Palm Beach Polo & Country Club.* "Yes, we hold bent throughout the year because the owners want it."

**ANSWER:** *Tom Werner, The Loxahatchee Club.* "We have had 100% bentgrass greens since 1984. Most likely we are part of the reason the controversy continues."

(cont. on page 20)

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(cont. from page 18)

**BREAKDOWN:** YES - 7; NO - 8

**QUESTION:** What are your thoughts on bentgrass in Florida, as an annual or perennial?

**ANSWER:** *Bill Whitaker, CGCS, Seminole Golf Club.* "Bentgrass is a superior playing surface, when properly managed. Tifdwarf will out-perform any bent available today."

**ANSWER:** *Richard C. Blake, CGCS, President, FGCSA, Bokaire Country Club.* "As an annual only if you have well drained greens, good irrigation system, walk greens mowers, an adequate budget, can control the traffic on greens, can close the course to play when flooded, etc. . . ."

**BREAKDOWN:** Annual only - 12; Would not even consider it - 1; Would consider only Tifdwarf - 1; Perennial - 1

**QUESTION:** Do you agree with having pure bentgrass greens in Florida; such as The Loxahatchee Club?

**ANSWER:** *Mark Jarrell, Palm Beach National Golf & Country Club.* "I would not want to be the superintendent at a course with pure bentgrass greens. However, I do enjoy playing bentgrass when I visit a course that has it."

**ANSWER:** *Jim Watkins, Frenchman's Creek Golf Club.* "No!! The physiological requirements of bentgrass are not supplied by Mother Nature in South Florida during our summer months. I believe "EGO" has created the pure bentgrass attempts over common sense!!"

**ANSWER:** *Kevin Downing, CGCS, Mariner Sands Country Club.* "Yes, if:  
A. Willing to pay price/well paid assistants  
B. Limit play  
C. Be prepared to put in Tifdwarf at later date"

**BREAKDOWN:** NO - 9; YES - 2; Only if certain conditions are met - 4

**QUESTION:** Do you feel that Florida clubs can afford the maintenance expense of permanent bentgrass greens?

**ANSWER:** *Mark Hampton, Golf Course Manager, Wyndemere Country Club.* Before a decision is reached on justifying the cost of maintaining permanent bentgrass greens, a full understanding of the subject by the decision-makers is imperative. In recent cases, the decision has been based on someone's wants, not sound agronomic/financial principles. In the  
*(cont. on page 22)*



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