



Planting and cutting-in the "ultradwarf" sprigs at the Olde Florida test green. Note the separation boards. Photo by Darren Davis.

Are 'ultradwarfs' the answer?

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In life, sometimes there are things that are just too good to be true. Most likely, we have all experienced this scenario at some point in time. With this said, there are some people that would have you believe that the new "ultradwarfs" or "vertical dwarfs" are a new wonder grass that will make us all heroes with our golfers.

Well, more than ever golf course superintendents in the south are in need of a "magic crystal ball" so that we can determine the destiny of these new, putting green grasses. These new grasses have cer-

tainly created quite a stir and superintendents all over the south are talking about them. The excitement is certainly understandable with the years of struggling that many superintendents have gone through with contaminated or mutated turfgrass.

Since these new ultradwarfs have been grown in test plots around the country for several years, it is certainly safe to say they can succeed in some situations. I have even personally seen three of these new varieties look outstanding, at certain times of the year.

But there have been some negative things seen dealing with stress, overseeding transition, and thatch accumulation. Therefore, it may be wise to allow some time for these new bermudagrass to be

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tested in "real life" situations.

Since testing of these new bermudagrasses on actual "in play" golf course greens has been very limited, the Everglades Chapter of the FGCSA in conjunction with Olde Florida Golf Club planted a test green on August 20, 1997.

The green was planted by Olde Florida Golf Club turf maintenance staff under the supervision of a committee of people including John Foy, director, Florida Region USGA; Raymond Snyder, University of Florida (Dr. John Cisars' assistant); Roy Bates, immediate past president, Florida Turfgrass Association; and myself.



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Dr. J. V. Krans, professor, Mississippi State University, and Dr. Wayne Hanna, geneticist, USDA/ARS both of whom are also on the committee helping to oversee this project, were unable to attend. However, both of these scientists reviewed the planting protocol and provided valuable input.

All four ultradwarfs — FloraDwarf, TifEagle, MS-Supreme and Champion — arrived at Olde Florida on August 19, or 20. The material was shipped via airfreight, Federal Express or trucked in (FloraDwarf). It is our determination that all of the material arrived in similar condition.

Earl Elsner, director, Georgia Seed Development Commission, provided input on the method of sprig measurement to assure equal amounts of all the varieties were planted on the test green. It was our determination that the FloraDwarf was delivered with a quantity closest to our desired sprig rate of twenty bushels; it was also the least amount delivered of the four. Therefore, the quantity of FloraDwarf we had on hand was the standard used to decide the total volume of sprigs planted of each variety.

The method of sprig measurement used is as follows: Sprigs were put in a five-gallon bucket until it was half full. A tray of weights was then used to compress the

sprigs in the container. The remainder of the bucket was then filled and compacted again. Finally, the full bucket was weighed and the remaining nine buckets that were filled with sprigs (10 total) were weighed to assure we had ten equal containers of sprigs.

Although the four varieties all weighed different amounts (due to variances in soil or moisture content), it is our judgment that each variety was planted in very close volume amounts, at a rate that is standard in the industry (20-25 bushels/ 1000 sq.ft.).

After each variety was placed in the ten containers they were transported to the green and dispersed by hand evenly on the two predetermined plots. The green had been separated the day before into eight equal-width plots so that each of the four varieties could be planted in duplicate strips.

Care was taken in the planting process to ensure no material was accidentally placed on another variety's plot. Immediately after the sprigs were placed on the greens surface, they were manually sliced in using a dull, flat-pointed shovel. Several employees performed this task in an attempt to "cut in" as much of the material as possible.

Prior to placing the next turfgrass variety into the ten buckets, all of the containers were thoroughly cleaned with water. The floor that we were working on, inside the turf maintenance facility, was also swept and then blown clean.

Prior to planting, the plots were tem-

Growing in the test plots. Guillermo Gomez hand-mows the plots after the sprigs take hold. Photo by Darren Davis

porarily physically separated with plywood that was installed six inches below, and extended six inches above the surface of the green. This helped keep the varieties separated during the planting process and also the grow-in. It did create some hardships with the grow-in but it was believed to be crucial in keeping the individual plots "pure".

After all four varieties were planted and cut in, the green was irrigated to seal the surface. An irrigation program was immediately installed in the controller to keep the surface moist at all times during daylight hours.

This irrigation program remained in place until the turf was sufficiently tacked down. Once the turf was tacked down a vibratory mechanical compactor plate was used to smooth the surface. Care was taken to assure the machine did not transport any material between plots.

Prior to planting the turfgrass, Milorganite (6-2-0) was applied at 5 pounds of N/1000 sq.ft. and Scott's Starter Fertilizer (19-26-5) was applied at 1 pound P/1000 sq.ft.. Both materials were worked in to the soil by a mechanical trap rake.

After planting, Lesco Ammonium Sulfate (21-0-0) was applied weekly at 1 pound of N/1000 sq.ft.. Also applied weekly on a different day of the week was the 19-26-5 at 1 pound of P/1000 sq.ft.. This fertility program remained in place until the turf was well established.

When the sprigs had sufficiently tacked down, a Toro GR 1000 greens mower was used to mow the plots. The initial bench setting on the GR 1000 was .300. This was lowered gradually as the turf allowed.

We probably could have begun mowing sooner but we were very concerned about dislodging sprigs from the surface of the green and possibly transporting them to other plots. In the mowing process, to be extra cautious, both plots of each variety were mowed and the mower was then thoroughly washed clean prior to mowing the next variety.

The basket was also used to ensure no material was physically thrown over the plywood barrier into another plot. Each time the turfgrass was cut with the greens mower, a Red Max hand-held reciprocator was used to cut the turf next to the

board where the mower was unable to cut. After the mowing began, the green was also rolled numerous times with a riding greens mower to help smooth the surface.

After 6 weeks of growing, a triplex vertical mower was used to groom the plots and help encourage lateral growth. Again, we probably could have performed this process sooner if the green were a mono-stand. Each variety was vertically mowed separately. Immediately after the vertical mowing, the plots were cut with a greens mower (with the basket attached) to help clean up debris on the surface.

The plots were also blown clean. Prior to beginning the next variety, the machine was cleaned thoroughly. All of the plots were also carefully inspected prior to being vertically mowed for any material that may have been transported from another plot. In this process the plywood certainly enabled us to keep the material separate.

The plywood remained in place until the plots were close to 100 percent filled in. This was to assure that there would be no open spaces for runners to encroach into the adjacent plot. We are comfortable that by having the boards in place during the grow-in, there will be very little merging of the varieties unless one variety is dominant or one is severely weakened by stress or by some other factor.

The last step in the establishment of the new test green was the installation of the Greens Encroachment Barrier System to keep out any encroachment from the surrounding fairway and rough "Tift 94" bermudagrass.

With the grown-in now complete, we have determined that there are no unusual facts to report on the establishment of the four varieties from sprig material.

They all appear to grow in at about the same rate. Although Tifdwarf is not included in the test, it appears that there is little difference in the grow-in rate from sprigs of the four "ultradwarfs" compared to Tifdwarf.

The only difference in the establishment of the individual plots on the test green was that the varieties whose sprigs

were delivered a little "clumpier" took hold a little better. I do not feel that this is the "norm" but in our situation we were unable to utilize a mechanical sprig slicer because of the placement of the above-ground plywood barrier. Instead the sprigs were manually sliced-in with shovels.

Had we been able to achieve better soil/sprig contact across the entire plot it would have certainly resulted in better survival of the sprigs. For example, the varieties that were "shredded" were unable to be 100% sliced in and consequently some of the sprig material that remained on top (with no roots or soil), dried out before the turf was able to take hold.

Obviously the greater percentage of material that is worked into the soil, the better the survival rate will be. There was not a huge difference in the four varieties but some difference in this regard was noticeable. This is in no way a negative for any of the varieties. They all appear to grow in at about the same rate.

Turfgrass managers in the south are keeping their fingers crossed that these new varieties are successful. However, many experts feel there is a need for caution.

In the November/December 1997 issue of the *USGA Green Section Record*, John Foy (USGA agronomist) wrote, "The development and introduction of new bermudagrass cultivars holds great promise for warm-season golf courses. However, some patience needs to be exercised. The new bermudagrasses have not been thoroughly evaluated in replicated putting green and fairway trials

"A number of questions still need to be answered regarding the stress- and pest-tolerances of these grasses over a wide range of locations. Furthermore some of the new putting green bermudagrass cultivars exhibit a faster rate of thatch production."

To me, this is an accurate assessment of where we are at now with the new grasses. There will be some leaders that will take a slight gamble and plant these new turfgrasses, but only with time will we know the long-term success with the new ultradwarfs.