

Tifdwarf—Bermudagrass For Championship Greens



Low handicappers like the fast, true roll of the ball when Tifdwarf greens are managed properly.

by **JAMES BURTON MONCRIEF**, Southeastern Agronomist, USGA Green Section

"That's an excellent practice green, Ed. What variety of bent are you using?"

"Thanks for the compliment, but it's not bent," replied Ed Godwin, Superintendent of the Birmingham Country Club. "It's Tifdwarf bermudagrass, a new grass developed by the United States Department of Agriculture and the Georgia Coastal Plain Experiment Station and released in April, 1965."

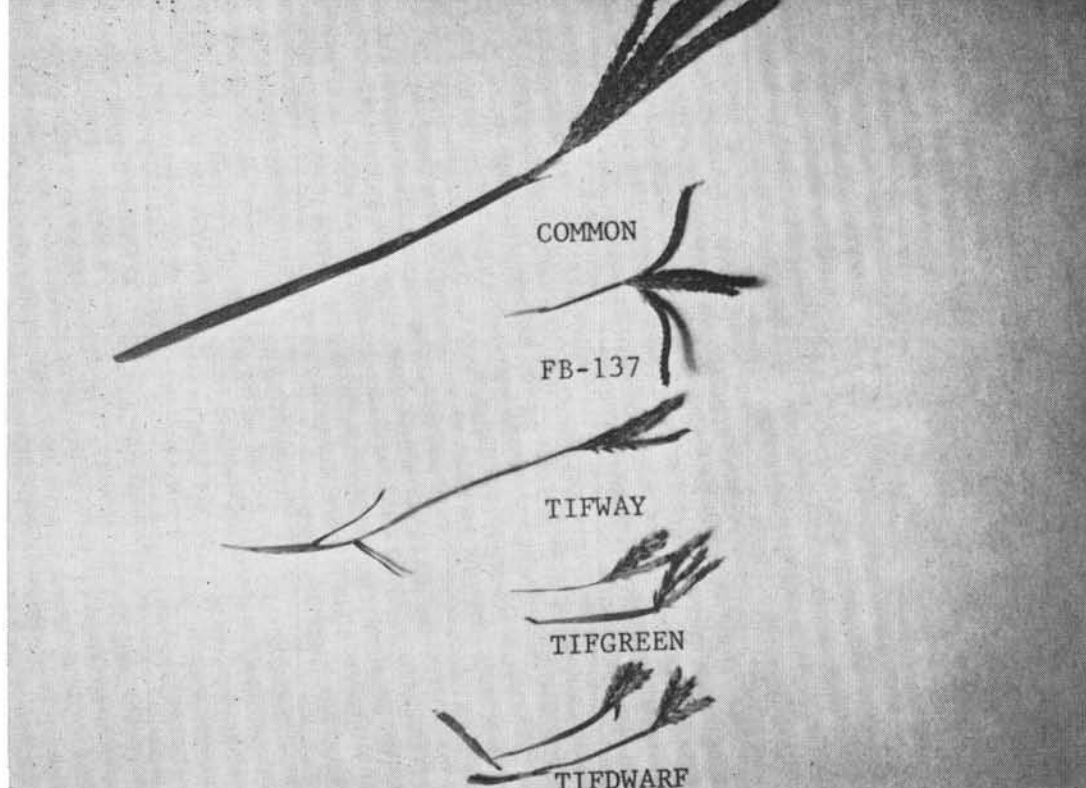
"I can't believe it. It's not like any bermuda I've played on before. Putts so much like bent I can't tell the difference."

These were the comments of a group of northern golfers playing in the 1965 Birmingham (Ala.) Invitational Tournament. The same

was true during the Southern Amateur of July, 1966.

In still another case, a 36-hole coast-resort club has 18 holes in Tifgreen and another 18 in Tifdwarf. Many guests of this resort are from country clubs with bent greens. The superintendent reports that the better golfers prefer the Tifdwarf greens because they are faster and give a truer roll. My last visit to this club found the Tifdwarf greens being maintained at 2/16 inch, a cutting height too low for Tifgreen (Tifton 328). These greens were too fast for the high handicapper.

On the Hollywood Lakes Country Club course near Miami, which had only nine holes in



A comparison of various bermudagrass seed heads. Tifdwarf has shorter leaves, stems, internodes and fewer seed heads than the others.

Tifdwarf, players liked the new grass so well that they preferred to replay the Tifdwarf 'nine' to complete their 18 holes.

During the past year, we have talked with many golf course superintendents who have nothing but praise for Tifdwarf, if it is properly managed. They like its dark green color, its few seed heads, its tolerance of close mowing, and its ability to stay green under the stress of late summer weather when Tifgreen may go off color. Most of all, they like the compliments of players who find properly groomed Tifdwarf greens comparable to the good bentgrass greens of the North.*

TIFDWARF'S ORIGIN

The exact origin of Tifdwarf will probably never be known. The source of material for the Georgia Coastal Plain Experiment Station came from the No. 12 green at Florence Country Club, Florence, S.C., and from the No. 2 green of the Plantation Course, Sea Island Golf Club, Sea Island, Ga. The source for a commercial nursery came from No. 6 green at Glen Arven Country Club, Thomasville, Ga., in 1962. According to research, the grasses are the same regardless of where they originated. No doubt

they are the result of a mutation that was distributed with the original Tifgreen stolons made available in the mid 1950's. Tifdwarf could easily have originated at the Georgia Coastal Experiment Station. "Tif" is an abbreviation of Tifton and "dwarf" describes its small size.

Three years of research under the supervision of Dr. Glen Burton and graduate students, and two years of field testing in comparison with Tifgreen, have shown this grass to have some desirable characteristics that will give superior putting surfaces if managed properly.

Some feel that Tifdwarf was released too soon, and that it was not thoroughly researched. The results before it was released show that it was equal or superior to Tifgreen in all required putting green characteristics. At the present time, more than 1,000 greens have been planted with Tifdwarf.

COLOR AND COLD HARDINESS

Color is one of the outstanding characteristics of Tifdwarf. In fact, it causes an unusual attraction to sod webworm moths.

During cold weather, it turns a purplish color that some find unattractive. Although it goes off color easily, it has been shown to be slightly

*Glenn W. Burton and James B. Moncrief; "Tifdwarf Bermudagrass, Tops for Golf Greens," *The Georgia Agriculturist*, April 1967, p. 5.



Tifdwarf (left) is gaining with the home owner. There's less mowing to be done.

more winter hardy than Tifgreen in tests conducted by Dr A. A. Hanson and Dr. Felix Juska in the U.S.D.A. turf plots at Beltsville, Md.

Observation this spring, has shown that Tifdwarf responds in a similar manner to Tifgreen under poor drainage conditions, cold weather, and heavy traffic. It starts to recover from winter dormancy about 10 to 11 days earlier than Tifgreen. It should be overseeded for putting green use if the location is subject to frost or slightly above frost weather conditions.

PLANTING OF GREENS

Greens should be properly constructed for best results regardless of the type of grass used. Merely changing the grass species will not always solve the problem. If drainage is not adequate, it must be improved. Many times a local sandy loam will be satisfactory and can result in a big saving to the club. Tifdwarf is the same as Tifgreen in that proper construction is necessary for best results.

Planting rates vary greatly from four to 10 bushels per 1,000 square feet. Since the component parts of the grass are so small, a square yard of sod will plant a much larger area than other bermudagrasses. For the first three weeks, Tifdwarf seems to compare with Tifgreen in its development. However, unless forced with high rates of nitrogen (three to four pounds of N

per 1,000 square feet per month), it soon slows down in its growth process.

FERTILIZATION

A pH of 6.0 to 6.5 has been desirable but the grass will no doubt tolerate a much wider range.

At first, one to two pounds of N per 1,000 square feet, along with adequate phosphorus and potassium was considered sufficient. Now some of the best playing surfaces are receiving more nitrogen, especially during the early developmental stages. Tifdwarf has responded to a more constant and complete fertilization than Tifgreen. A 4-1-2 ratio is most desirable. It can be a low maintenance grass in that a greener color can be kept with less fertilizer, but the most enthusiastic users of Tifdwarf suggest higher rates for best results.

TOP-DRESSING AND WATERING

The grass grows so close to the ground that minimum top-dressing is required to true the surface. Soil free of weed should be used at all times. Do not overwater. Use only enough irrigation to prevent wilting. The wise use of water can mean the difference in good turf, even with Tifdwarf.

MOWING

Since the grass grows so close to the ground, Tifdwarf can be mowed at 3/16 inch all sum-

mer without turning off-color as Tifgreen often does. In some cases, it has been mowed at 2/16 inch and the better golfers like it at this height. However, the green surface must be perfectly smooth or scalping will surely result. Tifdwarf will provide putting surfaces second to none at 2/16-inch cut, but it must be mowed at least five to six times a week and the cup frequently changed if traffic is heavy.

The high handicapper does not necessarily like the fast, 2/16-inch green. The ball may easily be puttied right off the putting surface.

There will be about half as many clippings from Tifdwarf as from Tifgreen. This is the main reason why so many clubs mow but three times a week. This saves much time and has a great advantage where week-end labor is a problem. More leaves are left on the grass than for Tifgreen, and this might account for the more numerous roots when compared to Tifgreen under the same conditions. If the cup is not changed often, traffic causes off-colored areas and roughness that takes too long for recovery.

DISEASES AND OTHER PESTS

In results observed so far, there seems to be very little difference between Tifgreen and Tifdwarf in disease susceptibility or disease resistance. These observations have been confined to the Southeastern states.

The insect problem is very similar to Tifgreen except for the sod webworms mentioned earlier. The moths pass other grasses to lay their eggs in Tifdwarf. New greens should be sprayed with an insecticide at least the third week after planting.

One commercial nursery in the Southeast became interested in Tifdwarf because it showed a greener color when there was a high nematode population than Tifgreen could tolerate. It seems possible that the intense color is due to the root system being about twice that of Tifgreen. This is being studied along with nematode resistance. These would be ideal characteristics for a grass in many locations. However, the latest observation does not show Tifdwarf to be any more resistant to nematodes than Tifgreen.

WEEDS

A strong, vigorous grass is one of the best defenses in weed control, and Tifdwarf is no exception. Its response is very similar to that of Tifgreen in susceptibility to herbicide appli-

cations. There have been some reports, however, indicating that a different herbicide response has been noted, but full details are not currently available.

OVERSEEDING

Comments on the practice of fall overseeding of Tifdwarf have varied widely. They range from "no trouble at all" to "some very real problems." As always, the best policy is to have the seed come in contact with the soil whenever possible. A seed mixture has proven favorable but is not essential. Ryegrass has given good results in overseeding, but so have the smaller seeded grasses as well.

There has been an interesting observation this spring. It was reported that the overseeding on Tifdwarf did not thin out as fast as it did on Tifgreen under the same growing conditions. However, some now state that Tifgreen had winter grass as long as Tifdwarf. This will be an interesting comparison to make during the next several years.

OTHER USES—FAIRWAYS

A few courses are trying the grass on fairways and tees even though it was originally released for greens. After the grass has completely covered the fairways, mowing frequency will be an interesting point to watch. Tifdwarf grows so slowly that it could very well be mowed at one-half-inch a month! It has not been used as a fairway grass long enough for us to make a firm statement. However, we can say it is a most unusual grass for fairway use.

LAWNS

Tifdwarf seems to have some interesting possibilities as a lawn grass. When it was released for putting green use in April, 1965, many home owners planted their lawns with it and they seem to be very happy with the results. It will require more pesticides than other bermudagrasses for lawn use.

Many people continue to look for a grass that will not have to be mowed, and Tifdwarf may be just the answer. The plots at Tifton are dethatched in the spring just before the grass begins to grow, and the debris is removed. The lowering of a lawn mower can remove thatch collected in one year. Some plots have been maintained at ½-inch height of cut and mowed once a month. Others have been mowed at one inch cut monthly and seem to need dethatching



Most golfers like the deeper green color of Tifdwarf but must adjust to the faster putting surface.

only in the spring.

Several companies are already considering the sale of a complete maintenance program to the home owner. Dethatching, insecticides, fungicide, herbicides, and fertilization in the spring could become a package deal. The home owner would irrigate whenever needed. Perhaps this idea is not far-fetched with American ingenuity and know-how.

Tifdwarf has shown considerable shade tolerance compared with other bermudagrasses. However, the shade would no doubt have to be partial shade, not dense.

SUMMARY

The development of Tifdwarf is another step forward in efforts to improve bermudagrass greens where bentgrass is not used. This grass, correctly managed, can provide a putting surface similar to bent. It gives the superintendent a wider choice of grasses for Southern greens. It has a great potential as a lawn grass, and undoubtedly other uses will be found, such as for bowling greens and tennis courts. Tifdwarf responds to a wide range of maintenance practices. What it is used for and the results expected will dictate the management program.

TURF BOOK AVAILABLE

The Book "Turf Management," a popular educational printing of all matters pertaining to turf, is available at \$10.95 per copy from the USGA, 40 East 38th Street, New York, N.Y. 10016; the USGA Green Section Regional Offices; the McGraw-Hill Book Co., 330 West 42nd Street, New York, N.Y. 10036, or at local bookstores.

"Turf Management" is a complete and authoritative book written by Professor H. Burton Musser and sponsored by the USGA. The author is Professor Emeritus of Agronomy at Pennsylvania State University.