

Introducing TifTuf™ Bermuda

The new standard in drought-tolerant grasses

by Brian Schwartz, UGA

As we enter the new growing season it's time to introduce you to TifTuf, a new Bermudagrass that we've actually been observing and testing for decades.

A brief history

Wayne Hanna bred TifTuf in 1992 and has since made visual observations and comparisons in his research plots at UGA's Tifton campus. When I joined the turf research program in 2009, I began more rigorous scientific testing because I wanted to understand what led to Dr. Hanna's initial observations. This new, but well-tested, turfgrass was jointly developed by The University of Georgia and USDA-ARS. Now, TifTuf has more data behind it than any other turfgrass, we have licensed growers, and these growers have built up stock and have released it for sale.

Top benefits of TifTuf

Drought tolerance

TifTuf offers a significant improvement in drought tolerance over all older bermudagrasses, and is the new standard for judging drought

tolerance of turf. Out of the three mechanisms for drought tolerance (avoidance of drought by growing deeper roots, escape of drought by going dormant, and tolerance of drought which is a physiological adaptive mechanism), TifTuf tolerates drought because it simply uses less water due to physiological adjustments during times of drought.

During 2011 and 2012, we tested this drought tolerance in Tifton and Atlanta using soil



Picture 1. TifTuf (green) vs. Tifway (turning brown) after six weeks of drought in Ft. Valley.

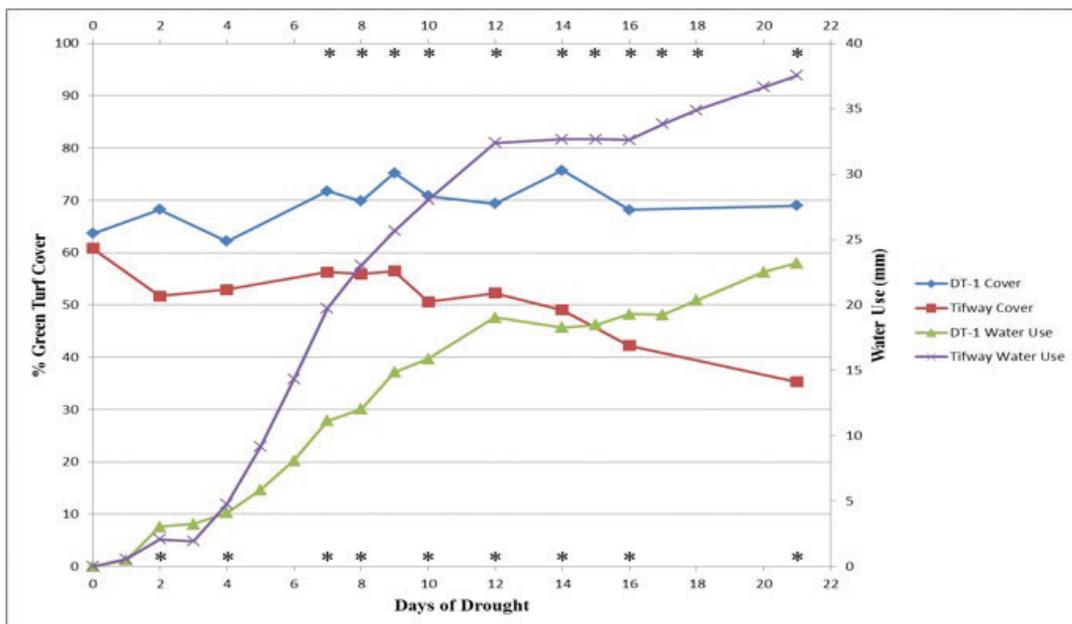


Table 1. Comparison of water usage. (DT-1 = research name of Tif Tuf)

moisture probes that proves TifTuf uses less water underneath the the soil in comparison with other Bermudas, such as Tifway. Table 1 shows how TifTuf uses a substantial 38% less water than Tifway.

We also have unirrigated test plots of TifTuf vs. Tifway side-by-side at Ben Copeland Jr.'s Super-Sod TifTuf test field in Ft. Valley. Picture 1, taken during the six-week summer drought of 2015, shows how TifTuf maintains acceptable standards of quality during periods of drought.

Wise investment

Return on Investment (ROI) studies have been done across Georgia showing how TifTuf can pay for itself in X number of years, using data from municipalities' water costs (see ROI Table). This data can be used to sell your customers on making a water- and wallet-wise investment in a new TifTuf lawn.

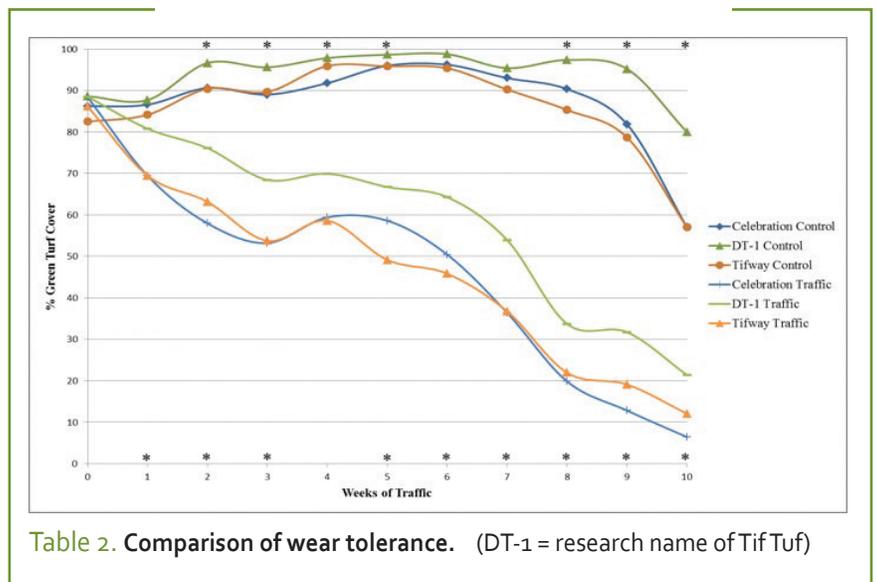
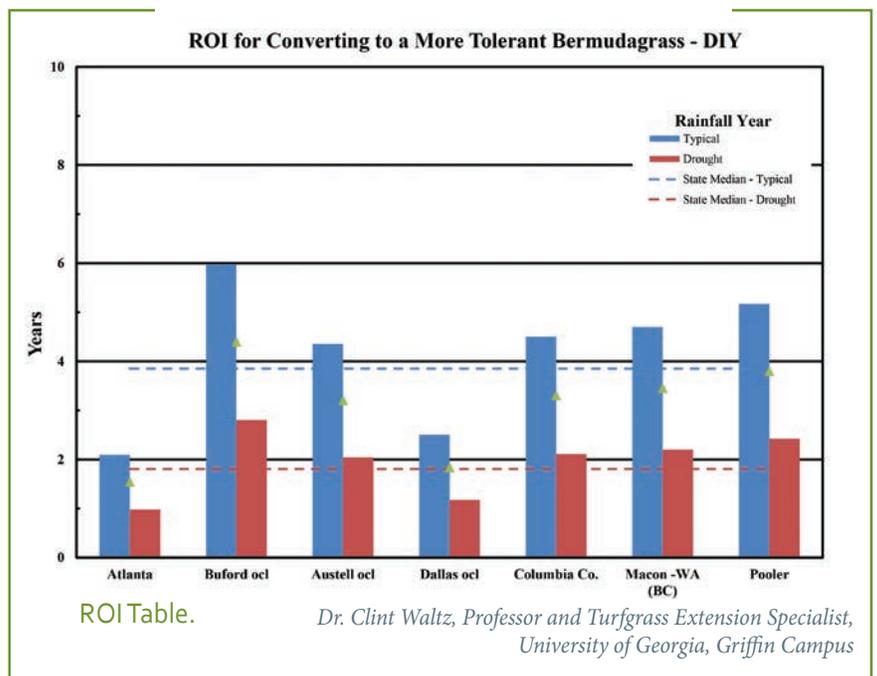
The above three examples illustrate how TifTuf has become the new standard for drought tolerant turfgrasses. We have further supporting information on drought stress in Florida; I can provide this information upon request.

Aesthetics

TifTuf is not just some tough, but common-looking Bermudagrass. The texture is very fine and the leaf color is vibrant bright green. When a customer needs to replace or match a section of Tifway, TifTuf can easily blend in next to existing Tifway, with no visual difference noted . . . except when drought sets in!

Wear tolerance

Drought tolerance is a fantastic trait, but I wanted to see how TifTuf holds up under the stress of sports play compared to Tifway and Celebration Bermudagrasses. To that end, we copied and improved a machine developed by Michigan State called a CADY Traffic Simulator to mimic the wear-and-tear inflicted by the heavy traffic of games. Table 2 shows how well TifTuf holds up compared to Tifway and Celebration. Two advantageous traits are going on with TifTuf regarding wear tolerance. First, the canopy is dense and the leaves are upright; both morphological features helping it hold up



better. Second, it quickly recovers from sustained damage when watered and fertilized to promote recovery.

Cold tolerance = longer growing season

TifTuf stays greener longer, not only under drought stress, but due to its greater cold tolerance during the transition times of spring green-up and fall dormancy.

During spring green-up, TifTuf breaks dormancy strong and healthy (see Table 3) and often earlier than other Bermudas. For fall dormancy, it stays greener further into the autumn, by several weeks longer than others (see Table 4).

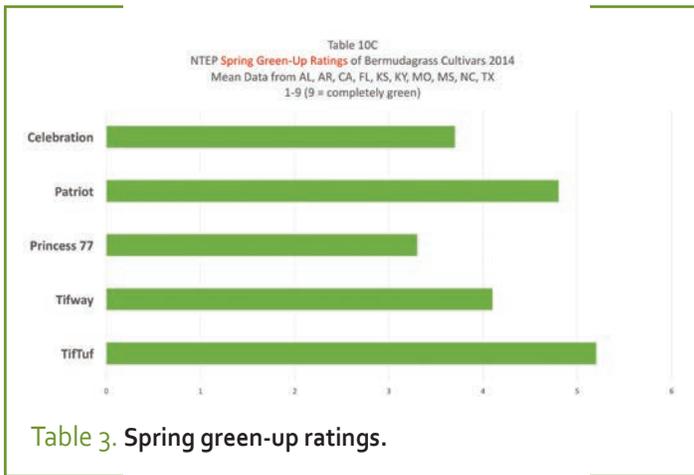


Table 3. Spring green-up ratings.

Mean turfgrass quality, cover, and color of two bermudagrasses mowed at 1.5" in an irrigated, non-stressed¹ field trial during 2010 and 2011 in Tifton, GA².

Genotype	Turf quality ³			Turf cover ⁴		
	April	June	Oct. ¹	April	June	Oct.
	Visual rating			% green cover		
DT-1	6.3 a ⁵	7.5 a	8.3 a	89 a	85 a	63 a
Tifway	5.8 a	6.0 a	6.0 b	80 a	83 a	25 b

Table 4. Comparison of fall dormancy.
(DT-1 = research name of Tif Tuf)



Picture 2. Shade tolerance in Tifton, GA.

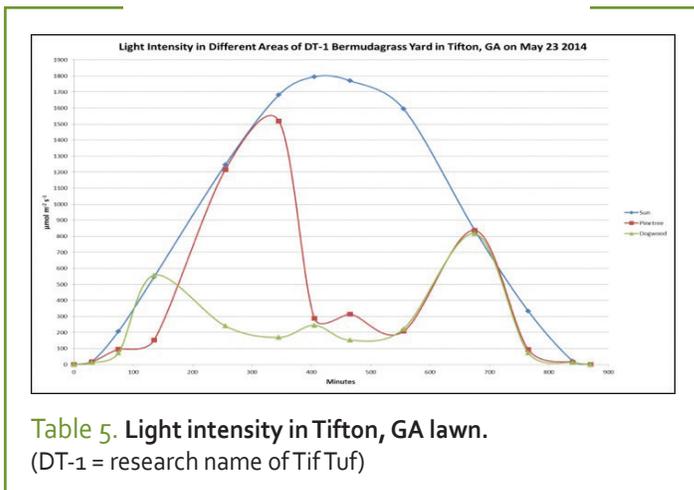


Table 5. Light intensity in Tifton, GA lawn.
(DT-1 = research name of Tif Tuf)

Shade tolerance

Since shade-tolerance is not the first thing I think of when I think of Bermudagrass, I wanted to see what happened in real-world situations. In 2012, we planted TifTuf in a home lawn in Tifton with pine and dogwood trees and found that by 2014 it was still growing well in the shade (see Picture 2). Since it was so unlikely that TifTuf would be doing well in this situation, we then used Light Intensity Meters and measured the intensity of the sun underneath the pines at 50% light transmission and underneath the dogwoods the intensity was even less at 25% light transmission - yet, TifTuf was growing well! (See Table 5.)

We have started further shade trials on TifTuf and more comparative information between varieties will be available soon.

Conclusion

TifTuf is a beautiful grass that has many assets, chief of them is its drought tolerance that will allow homeowners and building, municipality, campus, and sports fields managers to conserve water resources. Because TifTuf maintains acceptable quality longer during a drought, fewer irrigation “events” will be needed, resulting in greater water savings over time.

Data and charts supporting this info are available online: www.supersod.com/sod/bermuda-sod/tiftuf-bermuda.html

For original copies of these charts for use in sales presentations, please email me, Brian Schwartz, at tifturf@uga.edu.

Super-Sod and NG Turf have sod available for immediate delivery this spring with three other Georgia growers entering production over the next year (details available from The Turfgrass Group, www.theturfgrassgroup.com). 



About the author

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