



New Frontiers at the Atlanta Athletic Club

A “Turf Geek’s” Viewing Guide to the 96th PGA Championship

BY CHRIS HARTWIGER

The Champion ultradwarf bermudagrass putting greens will be firm, fast, and healthy during the August heat.

The Atlanta Athletic Club is poised to do something no other golf course has ever done. For professional golfers or the casual golf fan, this first may be nothing more than a trivial footnote in golf history. But for card-carrying “turf geeks,” the 93rd PGA Championship contested on the Highlands Course at the Atlanta Athletic Club on August 11-14 will be a chance to see a grassing scheme that has never been used for a major championship. In fact, this grassing scheme is unique to the Highlands Course, and we know of no other courses that have this combination of grasses.

This viewing guide is intended for educational purposes to provide an insight into what these grasses are and

where they came from. One important note: The course setup and conditioning has been tailored to hosting a major championship for the best golfers in the world. This viewing guide is in no way intended to endorse, recommend, or encourage a golf course to duplicate these conditions. Those decisions and discussions are best left for USGA Turf Advisory Service visits.

A special thank-you is in order for Ken Mangum and Kasey Kauff. Ken is the director of golf course operations at the Atlanta Athletic Club and serves as a volunteer on the USGA Green Section Committee. Kasey is the superintendent of the Highlands Course. Both Ken and Kasey provided Pat O’Brien and me with a behind-the-scenes tour of the Highlands Course

six days before the start of the PGA Championship.

NOW ON THE FIRST TEE (AND FAIRWAYS, TOO): DIAMOND ZOYSIAGRASS

When golfers step onto the first tee and first fairway on the Highlands Course at the Atlanta Athletic Club, they may not recognize the fine-bladed, extremely dense variety known as Diamond zoysiagrass (*Zoysia matrella*). How Diamond zoysiagrass came to arrive on golf courses involves the USGA and the turfgrass breeding program at Texas A&M University. All zoysiagrasses, including Diamond, have their center of origin in the Pacific Rim countries, and within the zoysiagrass species there is a wide range of



What began as a selection from a country in the Far East has now become a fairway in the Southeast.

genetic diversity. In 1981, the USGA Turfgrass and Environmental Research Program assisted plant breeders Dr. Jack Murray and Dr. Milt Engelke with funding to make a grass collection trip to the Far East. This fascinating trip is documented in an article that appeared in the Green Section Record: [Exploration of Zoysiagrass in Eastern Asia](#).

The USGA Turfgrass and Environmental Research Program expanded its relationship with Dr. Engelke and Texas A&M in 1984 to develop improved zoysiagrass varieties. Among their goals:

- Developing improved zoysiagrass cultivars with multiple character performance involving low water use, persistence under drought and temperature stress, and tolerance to poor water quality.
- Developing seeded zoysiagrasses that are genetically stable with improved turf quality, persistence, and competitive ability.
- Continuing genetic studies involving the heritability and stability of biological traits. (Engelke, 1997).

Diamond zoysiagrass “is noted for its fine texture, close mowing tolerance,

excellent rhizome production, and unsurpassed salinity tolerance and tolerance to low light conditions” (Engelke, 1997). Diamond zoysiagrass was released in 1996, and over the years, one of its primary applications has involved shaded tees. The Atlanta Athletic Club planted fairways and tees with Diamond in 2006 to reap several advantages. First, it was an alternative to bermudagrass fairways that are dominant in the Southeast. The club wanted something that would complement the Zeon zoysiagrass fairways on their other course, Riverside. Second, the staff is able to take advantage of its dense, low growth habit and provide firm, fast conditions without placing the turf under undue stress.

Competitors during the PGA Championship will find firm, short cut tees. The fairways will be characterized by a low height of cut and optimum lies. Should the weather cooperate with little or no rain, expect to see plenty of ball roll.

DON'T SLICE INTO THE TIFTON 10 ROUGH

The rough is a place on the golf course where most golfers do not want to feel at home, but to find a home in the rough at the Atlanta Athletic Club, Tifton 10 has made a long journey. In 1946, Dr. Glenn W. Burton, renowned research geneticist at the Coastal Plains Experiment Station in Tifton, Georgia, began receiving funding from the USGA to develop improved bermudagrasses for use on golf courses. The program was a major success with the release of well-known grasses such as Tifgreen, Tifway, and Tifdwarf. In 1974, Dr. Burton found a clone in a lawn in Shanghai, China, and this became known as Tifton 10. This clone remained one of many experimental varieties in Tifton until Dr. Wayne Hanna and Dr. Burton decided that some of its unique characteristics would make it ideal for use on athletic fields as well as other low-input locations where bermudagrass is desirable. Tifton 10 was released in 1998.

Tifton 10 has 54 chromosomes, sets few seeds, and must be vegetatively propagated. It has a coarser texture

than Tifway bermudagrass and is known for its dark bluish-green color, good winter hardiness, salt tolerance, and ring nematode resistance (Burton, 1991). Others have commented that Tifton 10 has a lower growth habit than hybrid bermudagrass and can be maintained at lower annual nitrogen levels (2-3 lbs. per 1000 sq. ft.) (Landry).

Tifton 10 was planted in 2006 on the Highlands Course at the Atlanta Athletic Club, and it has been a success on many levels. First, the bluish-green color provides a dynamic and appealing contrast with the Diamond

zoysiagrass on the tees and fairways. Ken Mangum and the staff found that the plant growth regulator Primo does not discolor Tifton 10 at rough height.

In combination with the lower growth habit and lower nitrogen requirement of Tifton 10, the staff reduced the mowing requirement from weekly to every other week.

During the PGA, expect to see the rough maintained with thick, challenging lies, but the height of cut

should be such that they will be able to advance the ball to, or near, the green. The thickness of the turf will reduce spin and will place a premium on a

player's judgment as to where to land the ball.

HE'S HIT ANOTHER CHAMPION ULTRADWARF BERMUDAGRASS PUTTING GREEN IN REGULATION

A green in regulation is a comforting statistic for any golfer. Champion ultradwarf bermudagrass is a comforting friend for Ken Mangum and Kasey Kauff as they prepare championship-level putting greens for the PGA Championship. In 2001, when the Atlanta Athletic Club hosted the PGA, the championship was played on creeping bentgrass greens. The club intentionally replaced the creeping bentgrass with an ultradwarf bermudagrass in 2009 after careful study and consideration. In the end, the club realized that, based upon their patterns of play, an ultradwarf bermudagrass would provide more days when putting conditions met or exceeded expectations. For an in-depth look at why courses have been replacing creeping bentgrass putting greens in the Southeast, refer to: [A Time to Change](#).



Meticulous attention has been paid to grooming the Diamond fairways to championship standards.



The Diamond zoysiagrass on tees and fairways may not be a grass that players recognize, but they will provide conditions they will not soon forget.



Tifton 10 is known for its bluish-green color. It provides an interesting contrast in color and texture with the lighter green and denser Diamond zoysiagrass.

Champion bermudagrass was developed by the Brown family of Bay City, Texas. The developers report that Champion was found in 1987 in a segregated patch on a Tifdwarf putting green in southeast Texas. DNA amplification “fingerprint” analysis indicates that Champion is distinctly different from Tifdwarf and Tifgreen, and was either a somatic mutant out of Tifdwarf hybrid bermudagrass or a common ancestor of the two (Beard and Sifers, 1996). More information on the development of the ultradwarf bermudagrasses can be found at: [Opportunity Knocks with the Ultradwarfs](#)

Champion ultradwarf bermudagrass is known for its ability to be maintained at a wide variety of performance standards and mowing heights. We see healthy Champion bermudagrass on daily-fee courses with low green speed expectations, and we see healthy Champion bermudagrass being maintained at an elite standard with high green speeds throughout the entire playing season, too. It is important to also note that the majority of superintendents who have managed both bentgrass and ultradwarf bermudagrass report that the risk of catastrophic summer turf loss has

decreased substantially with the ultradwarf. Also, through a survey created by Dr. Mike Goatley, Chris Hartwiger, and Patrick O’Brien, superintendents with experience in managing both bentgrass and ultradwarfs say they spend less money maintaining an ultradwarf bermudagrass than with creeping bentgrass putting greens in the Southeast (O’Brien and Hartwiger, 2011).

Competitors at the 2011 PGA Championship are going to find incredibly smooth, firm, and fast surfaces. Given the contours of the putting greens, ball position on the green in relation to the hole location will be crucial in terms of how aggressive or cautious a player must be. Expect well-struck shots from the fairways to hold the greens, but it will be interesting to watch how shots played from the rough will react.

CONCLUSION

As millions of people watch the 93rd PGA Championship this weekend, viewers are going to be bombarded with information ranging from yardages, facts about players, to the heat index. One of the unshakable traits of a “turf geek,” though, is to think about the turf on the course and what

has gone into preparing it to test those who play it. It’s pretty neat to think that what existed in a lawn somewhere in Shanghai, China, may now influence the outcome of the championship. The turfgrass is not the story, but it most certainly affects the outcome of the story. From one self-admitted turf geek to another, you now have some interesting information on the new frontier at the Atlanta Athletic Club.

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