

Memorandum

To: Todd Hileman
CC: Martin Alvarez, Veronica Chavez
From: Derek White
Date: 12/1/2023
Re: Desert Willow Team Recommendation of MiniVerde for the 2024 Firecliff Renovation

As we progress in our preparations for the Firecliff Golf Course renovation, we would like to present a comprehensive rationale for choosing MiniVerde over the existing TifDwarf as the preferred turf variety. Our decision was made through scientific research, discussions with industry peers, and valuable insights from the USGA Regional Agronomist, Brian Whitlark. Additionally, we have included links to online research articles and correspondence from Mr. Whitlark to further support our recommendation as well as an Australian Turf Study which helps support some of the scientific claims below.

Playability:

- *Weather Tolerance:*
 - MiniVerde demonstrates superior cold and heat tolerance compared to TifDwarf, ensuring year-round playability with minimal to no overseeding.
 - Consistency in playing conditions is achieved by eliminating the transition challenges associated with switching between cool and warm-season grasses.
 - As per the Takeaways referenced in "[The Ins and Outs of Managing Ultradwarf Putting Greens](#)", Ultradwarf bermudagrasses can produce high-quality surfaces for 49 weeks of the year!
- *Wear Tolerance:*
 - Studies affirm that MiniVerde outperforms TifDwarf in wear tolerance, attributed to its faster lateral growth rates and deeper shoot densities. The below table was provided by our USGA Regional Agronomist.

Variety	Genetic Origin (Beard and Sifers, 1996)	Vertical Growth Rate vs. Tifdwarf (Gray and White, 1999)	Lateral Growth Rate (Gray and White)	Multiple of Thatch Accumulation vs. Tifdwarf (Gray and White)	Percent More Shoots per unit area vs. Tifdwarf (Gray and White)
Champion	Selection from Tifdwarf green	Slower	Faster	11.7X	100%
Floradwarf	Selection from Tifgreen	Slower	Similar	7.5X	50%
Mini-Verde	Selection from Tifdwarf	Slower	Faster	5X	100%
MS-Supreme	Selection from Tifgreen green	Slower	Faster	?	?
TifEagle	Gamma-induced mutant of Tifway II	Slower	Similar	7.7X	50%

- **Appearance:**
 - MiniVerde boasts the darkest green color throughout all seasons, facilitating the avoidance of overseeding and contributing to a visually appealing course. Per the below chart, MiniVerde was rated 55% greener than TifDwarf.

Cultivars	Turf Colour Ratings				
	05-Jun-07	06-Jul-07	02-Aug-07	05-Sep-07	29-Oct-07
Cynodon hybrid:					
MiniVerde	7.6	5.7	4.5	5.5	6.3
MS-Supreme	6.4	4.9	3.5	4.5	5.6
Novotek	6.4	5.1	3.6	5.2	5.6
Tifdwarf	4.9	3.7	3.2	4.7	5.4
TifEagle	6.8	4.8	3.7	4.6	5.6
Tifgreen	6.1	4.8	4.6	4.8	5.9

**Table from Management Guidelines for New Warm-Season Grasses in Australian Study

- **Putting Performance:**
 - Faster lateral growth rates and deeper shoots of MiniVerde ensure consistent turf coverage, resulting in smoother putting surfaces. Per the chart below, MiniVerde was rated 52% higher than TifDwarf.

Cultivars	Turf Quality Ratings				
	05-Jun-07	06-Jul-07	02-Aug-07	05-Sep-07	29-Oct-07
Cynodon hybrid:					
MiniVerde	7.6	6.7	6.8	6.2	6.4
MS-Supreme	7.0	6.3	6.4	5.0	5.7
Novotek	6.6	6.0	5.8	5.6	6.1
Tifdwarf	5.0	5.1	5.4	4.6	5.0
TifEagle	6.8	5.7	6.0	5.4	6.0
Tifgreen	6.8	6.8	6.5	5.3	5.8

** Table from Management Guidelines for New Warm-Season Grasses in Australian Study

- **Competition:**
 - Numerous prestigious properties in the valley, including The Madison Club, The Hideaway, Eldorado Country Club, Thunderbird Country Club, Ironwood Country Club, Andalusia Country Club, The Club at Morningside, Sun City Palm Desert, Ladera Golf Club and Porcupine Creek, have successfully transitioned to MiniVerde, providing a benchmark for premium putting surfaces.
 - Leveraging professional relationships with those peers who have completed a MiniVerde transition will enable shared best practices and troubleshooting support for Chris and his team.

Financial Impacts:

- *Revenue Impacts:*
 - Eliminating overseeding resolves transition issues, allowing for increased pricing confidence and an estimated additional green fee revenue of \$100,000 to \$125,000 from June through October.
 - Improved conditions during transitions reduce the historical need for green fee discounts.

- *Costs:*
 - The additional cost for MiniVerde versus TifDwarf is approximately \$17,000, a reasonable investment for the anticipated benefits.
 - Slight increases in turf colorant usage and additional maintenance practices are offset by the long-term savings.

- *Savings:*
 - Eliminating overseeding leads to annual savings in seed, water, and fertilizer costs, estimated between \$15,000 and \$20,000, depending on weather conditions.

- *Labor:*
 - While there may be minimal impacts on labor, the reduced mowing is balanced by additional rolling, verticutting, grooming, and aerification activities.

In conclusion, the transition to MiniVerde aligns with our commitment to enhancing the Firecliff Golf Course's playability and financial sustainability. We appreciate your consideration of this researched and carefully considered recommendation.

Additional Links to articles and Resources:

- USGA Brian Whitlark's full recommendation email is located below
- [Course Care: Non-Overseeded Ultradwarf Bermudagrass Greens \(usga.org\)](https://www.usga.org/~/media/USGA/2023/01/2023-01-10-Non-Overseeded-Ultradwarf-Bermudagrass-Greens.pdf)
- [The Ins and Outs of Managing Ultradwarf Putting Greens \(usga.org\)](https://www.usga.org/~/media/USGA/2023/01/2023-01-10-The-Ins-and-Outs-of-Managing-Ultradwarf-Putting-Greens.pdf)
- <https://gsrpdf.lib.msu.edu/?file=/2000s/2000/001101.pdf>
- Australian Turf Study is attached

Thank you for your attention to this matter.

Respectfully,

Derek White
General Manager

Chris Bien
Superintendent

Ryan Szydowski
Assistant General Manager

USGA Regional Agronomist recommendation email

From: Brian Whitlark <BWhitlark@USGA.org>
Sent: Monday, November 27, 2023 10:54 AM
To: Christopher Bien <cbien@desertwillow.com>
Subject: Ultradwarf vs. Tifdwarf/328 vs. New Variety

Hello Chris,

Per our conversation about the new grass for the greens and tees, please consider my comments below:

Putting Greens

I strongly recommend planting an ultradwarf bermudagrass such as Miniverde or Tifeagle for the putting greens. The ultradwarf bermudagrasses have far greater traffic tolerance than Tifdwarf. In the table below, note that Mini-Verde has 100% more shoots per unit area than Tifdwarf and Tifeagle has 50% more shoots than Tifdwarf. This means that when not overseeded, the greens will hold up well under the foot traffic demands at your facility. The ultradwarf bermudagrasses have a strong history of success in the desert southwest and will allow you to provide a premium playing surface for golfers for more days out of the year compared to Tifdwarf bermudagrass. I have included several references to review below.

Variety	Genetic Origin (Beard and Sifers, 1996)	Vertical Growth Rate vs. Tifdwarf (Gray and White, 1999)	Lateral Growth Rate (Gray and White)	Multiple of Thatch Accumulation vs. Tifdwarf (Gray and White)	Percent More Shoots per unit area vs. Tifdwarf (Gray and White)
Champion	Selection from Tifdwarf green	Slower	Faster	11.7X	100%
Floradwarf	Selection from Tifgreen	Slower	Similar	7.5X	50%
Mini-Verde	Selection from Tifdwarf	Slower	Faster	5X	100%
MS-Supreme	Selection from Tifgreen green	Slower	Faster	?	?
TifEagle	Gamma-induced mutant of Tifway II	Slower	Similar	7.7X	50%

- [Course Care: Non-Overseeded Ultradwarf Bermudagrass Greens \(usga.org\)](https://www.usga.org/~/media/USGA/Files/2000s/2000/001101.pdf)
- [The Ins and Outs of Managing Ultradwarf Putting Greens \(usga.org\)](https://www.usga.org/~/media/USGA/Files/2000s/2000/001101.pdf)
- <https://gsrpdf.lib.msu.edu/?file=/2000s/2000/001101.pdf>

December 1, 2023

Tees

For the tees, similar to the greens, it is desirable to grow a traffic tolerant bermudagrass. The newer varieties such as TifTuf, Latitude 36, Tahoma 31 all have superior traffic tolerance than Tifway 419 or 328 bermudagrass. The newer varieties also have a longer growing season and therefore will transition better than 419 or 328 in the early summer.

I look forward to seeing you in the spring and please don't hesitate to call with any questions on these grasses.

All the best,

Brian

Brian Whitlark
Regional Director, West Region

USGA GreenSection

3677 E. Turnberry Ct

Gilbert, AZ 85298

480-215-1958

bwhitlark@usga.org



This email may contain confidential or privileged information. If you are not the intended recipient, please delete it without disclosing it to anyone and notify us immediately.