

STGCSA's 1st Member/Guest/Guest/Guest Is Almost Here!

Summer is half way over and the member guest/guest/guest is right around the corner. This is a great way to show your friends and family what our organization is all about. **Please donate a round of golf** in order to give our guests a chance to bid on them and get new golfers to your courses across the Houston Metropolitan area. The money raised from golf rounds only adds to the amount we can give out at scholarship time and increases the opportunities for a more diverse pool of educational speakers for our regular meetings. \$20 discount on your entry fee for donating a round and vendors can sponsor for a discount as well. Just contact Marian in the office if you are interested.

Last month we had a great turn out for the annual Superintendent/Pro-Member/Member Tournament at Miramont Country Club in College Station. Jon Snider, Riley Maxey and all of the staff at Miramont welcomed South Texas GCSA members and Pros from around the area for a great day of golf, food and camaraderie. All results are listed on page 3, as well as fun photos of the event (thanks to Michele Wilson and Dale Bowman for their photography skills!).

August brings Professional Turf Products customer appreciation day. Bring your family to Constellation Field in Sugar Land on August 10th for an evening of baseball and fun. PTP will have the complete picnic area near the pool and playground and will have a free buffet for the event. Kids even get to run the bases on the field! Tickets are limited, so sign up in advance. Just contact Brandon Cole at: coleb@proturf.com

August 10—PTP Customer Appreciation Day

Sugar Land Skeeter's Game

Map to Constellation Field

August 28—South Region TARO/ Allied Association Meeting Sugar Creek CC

See Page 6 for Details

September 22-24

Texas Trophy—Newport Dunes GC Port Aransas, TX

September 30, 2013

2013 Allied Association/Vendor Golf Tournament

See page 6 for details

October 15
Sterling Country Club
Map to Sterling CC

November 18—Annual MeetingSweetwater Country Club

Register Now for Any Meeting!

Miramont Country Club—Golf Results

Thank you, Jon Snider, Riley Maxey and crew for a great tournament!

SUPT/PRO CHAMPIONSHIP FLIGHT

First Place	Ed Martinez/Heath Martin	65
Second Place	Kevin Borowski/Gordon Johnson	67
Third Place	Collins Bean/Josh Zellars	69
Fourth Place	Terry Gill/Ken McDonald	70

SUPT/PRO FIRST FLIGHT

First Place	Cody Spivey/Casey Wade	76
Second Place	Mike Rhoden/Troy Schleicher	76
Third Place	Wade Warms/Jose Moran	78
Fourth Place	Jason Burgess/Mike McCleary	78

Mark Baughman

MEMBER/MEMBER CHAMPIONSHIP FLIGHT

First Place	Nick Johnson/Philip Littlefield	66
Second Place	Chris Webster/Brian Johnson	70
Third Place	Sean Wilson/Pat Johnston	71

MEMBER/MEMBER FIRST FLIGHT

First Place	Gary Hargrove/Mitch Elliott	80
Second Place	Willy Plowman/Joseph Haven	82
Third Place	Ben Fultz/Lee Gravett	82

Proximity Contest

#2 CTP 0-12.9 Hcp

#1 Long Drive 13+ Hcp Ben Dickerson

#3 CTP 2nd 0-12.9 Hcp Chris Webster

#4 CTP 13+ Hcp Jeff Kuder

#5 Long Drive - All Pat Johnston

#6 CTP - All Jose Moran

#7 CTP 2nd - All Joey Branham

#8 CTP 2nd 0-12.9 Hcp Kent Knowles

#9 Long Drive 13+ Hcp Eric Glover

#10 Long Drive 0-12.9 Hcp Ed Martinez

#11 CTP 2nd - All Terry Gill

#12 CTP 0-12.9 Hcp James Brown

#13 CTP 2nd 0-12.9 Hcp Tracy Samuelson

#14 CTP 2nd 13+ Hcp Willy Plowman

#15 CTP 13+ Hcp Ben Dickerson

#16 CTP 2nd - All Richard Kane

#17 CTP 2nd 0-12.9 Hcp James Brown

#18 Long Drive - All James Brown

































Enhance Your Pesticide Performance One Drop at a Time

Using top-quality adjuvants brought to you by Direct Solutions.

Get to the target, stay on the target, and create quicker uptake for greater coverage and control.

Register for a free onsite demo at: www.aatdirectsolutions.com/content/adjuvants Or contact your local Direct Solutions representative:

> **Stephen Dolen** sdolen@agriumat.com (713)819-1392

Clint Neely cneely@agriumat.com (281)475-0908



Direct Solutions can help you select the right adjuvant. Our top-selling products include:



World's #1 selling adjuvant that increases pesticide penetration and corrects pH level for consistent performance



Most versatile adjuvant on the market that has neutral pH, allowing use with many pesticides and nutritionals



Top recommendation for strobi fungicides that enhances uptake, spreading and coverage of spray



Liquid water conditioner binding multiple hard-water cations and is compatible with weak-acid herbicides





©2013 Agrium Advanced Technologies (U.S.) Inc. DIRECT SOLUTIONS and COMMITTED TO GROWTH and designs are trademarks owned by Agrium. Leci-Tech, Ll 700, Franchis Liberate and Choice Weather Master and designs are registered trademarks of Lovelanc Products Inc. ALWAYS READ AND FOLLOW LABEL DIRECTIONS







Lone Star Texas Trophy 28th Annual Event—September 22-24

Newport Dunes Golf Club



Host: Jim Brown in conjunction with Texas Gulf Coast Superintendents Association

<u>Click here for times/cost and registration details</u>

Who will bring home the state trophy?

PTP Customer Appreciation Day....

Invites you to a Sugar Land Skeeter's Game at Constellation Field

August 10th—6:05 pm

Up to 5 free tickets per family in the picnic area (pool and playground)

Dinner included and kids get to run the bases!

Contact Brandon Cole at; coleb@proturf.com





President's Message:

Why do we do it?

I know I am not the only one who has waved, smiled and said a friendly hello to a member/golfer only to get nothing but a rude stare in return? As superintendents we all get complaints about anything and everything. Someone can shoot a round of 71 and still complain that the pins were unfair. So Why do we do it?



It's easy to let all of that kind of stuff get you down. I'll have to admit that's something I struggle with a lot. Especially lately. It's mornings like this picture here, out on the course with the sun coming up, a heavy dew on the ground. It's peaceful, quiet and the crew is out preparing the course, the irrigation cycle is finishing up and you can see the results of all of your hard work. That's when you remember **Why**. You see the beauty in what you do and appreciate it, even if your members and golfers don't. It makes putting up with all the petty little stuff worth it. Superintendents take a lot of pride in what they do, which sometimes makes the job harder when others don't recognize the hard work of you and your staff.

Recognition is what the Sonny Dubose SOTY award is all about, letting someone know their hard work and dedication is appreciated. This year we are making some changes to the award. Anyone (superintendent or vendor) who has made an outstanding contribution to the advancement of the golf course management profession and the success of the STGCSA should be nominated. It will now be called The Sonny Dubose Award. Still, a superintendent who has had an outstanding year deserves to be and should be nominated for the award. By adding a distinguished service aspect to it, we will hopefully increase nominations and be able to recognize more of those deserving members. Contact any past winner of the award or a STGCSA board member to submit a nomination.



I hope to see many of you at our next meeting at Redstone, July 28th. M. Sean Wilson, CGCS









Feed Your Greens & Fairways

with Quality Products

from Ewing

- Irrigation Supplies
- Wireless Irrigation
- Seed | Fertilizer | PGRs
- Insecticides | Fungicides

Hunter





Howard Johnson's.



FIND US: www.ewing1.com/texas

TALK TO US: golf@ewing1.com

GOLF & TURF PRODUCTS | IRRIGATION | LANDSCAPE SUPPLIES | HARDSCAPES | LIGHTING & WATER FEATURES



Paul Tessman tessmanp@helenachemical.com 832-596-8532 Mobile Eric Glover glovere@helenachemical.com 409-766-0828 Mobile









People... Products... Knowledge...

BOWLIN CONSULTING







Planning & Design & Mapping

Turnkey Irrigation Design & Consulting Services

New Construction & Renovation Projects; AutoCad Design; GPS Mapping; As-Built Drawings; Irrigation System Audits; Government Permitting; Water Demand and Water Use Analysis

Stovy L. Bowlin, PhD, AICP, CGIA, CID
Licensed Texas Irrigator #9265

Call Dr. Stovy, Lets Talk Water ... Because in our Business, Its all about the Water

427 Union Chapel Road Cedar Creek, Texas 78612 (O) 512-303-7680 (F) 512-303-7681 (C) 512-560-0010 E-mail: stovy@bowlinconsulting.com Web: www.bowlinconsulting.com

Your South Texas Board of Directors at Work

"On behalf of Chairman Bill Maynard, CGCS, and the GCSAA Strategic Communications Committee, I congratulate the South Texas GCSA on its efforts to communicate the value of its members, the chapter and GCSAA. The committee has approved a GCSAA Chapter Outreach Grant of \$1,250 to assist in this endeavor. A check made payable to the South Texas GCSA will be processed and delivered to your attention by GCSAA staff.

The program saw a large number of applicants this year, and the committee faced the challenge of distributing the funds in as fair and equitable of manner as possible as the pool for grant money was \$15,000, while \$37,000 was requested by chapters. Unfortunately we were not able to fund all requests this year. So if your chapter received a lower amount than you requested, it is not a reflection on the merit your upcoming project, but rather speaks to the popularity of the program.

As was noted on the application form, the grant comes with a small number of requirements. The committee has asked me to have you work with GCSAA staff to make certain they are met. The intent is not to play "Big Brother," rather to provide guidance and help the investment provide as valuable return as possible. Primarily this involves the chapter providing updates and outcomes to GCSAA as their project progresses. Again, congratulations."

Angela Hartmann | Manager, Corporate Communications Golf Course Superintendents Association of America



W_EL_CO_ME

Jeff Kudor, Asst. Supt., High Meadow Ranch GC
Allen Pavlica, Asst. Supt., Miramont CC
Click here for all job postings

SAVE THE DATE!

2013 Allied Association/Vendor Golf Tournament
Pine Forest Country Club



Monday, September 30, 2013
Vendors will be paired with club
teams to compete in a shamble
format







South Region/TARO meeting August 28th, 2013 - Sugar Creek CC

Go to www.texascmaa.org for registration and details or contact Sam Brewster at sam@texascmaa.org or 214-871-9800



Turf Materials Inc.

P.O. Box 1194 Rowlett, TX 75030

Quality Materials To Make Your Golf Courses The Best They Can Be



KEITH WATSON keith@turfmaterials.com 281-642-4729

972.412.3425

www.turfmaterials.com

SOUTH TEXAS SANDS

USGA Golf Sand

Greens Construction/Topdressing

and Bunker Sand

Champion Select Topdressing Sand

Finer version of our USGA
Topdressing Sand















Golf Sales 713-943-7100

Golf Parts & Service 281-353-0204 800-313-9848

JohnDeereGolf@BrooksideUSA.com

www.BrooksideUSA.com (A) JOHN DEERE GOLF



USGA Sand & Mixes

Brian Cloud Shares his Video's of the recent weather in Granbury, Texas

During a recent tornado and hail storm in Granbury, Texas, GCSAA South Central Field Staff Representative Brian Cloud took a video of golf ball-sized hail pounding a green at de Cordova Bend Country Club. Kerry Smith is the GCSAA member superintendent at the course.



Video: Texas course pummeled by golf ball-sized hail

Video: Granbury, Texas Tornado



Complimentary admission to golf events

GCSAA members can enjoy free admission to some of the greatest events in golf.

As a benefit of membership, GCSAA members can enjoy complimentary admission to designated golf events. Before attending any tournament event, you should contact the tournament office at the course where the event is to be held to verify the tournament's admission policy.

For a full list of tournaments and guidelines, go to:

www.gcsaa.org

RINEHART TRUCKING

Golf Course & Athletic Field Materials

Bunker Sand Rock

Top Dressing

Mulch Fill Dirt/Bank Sand

We offer several materials for your Maintenance and Construction needs.

Sue Rinehart Warren

Ph: 281-432-7263 800-831-SAND (7263)

Fax: 888-223-2924 suehart@sbcglobal.net

Providing Quality & Service in the Houston and surrounding areas for over...





Authorized full line distributors for the following brands:













Chris Mrosko 713.898.6252 Chris@ameriturf.com Brent Ratcliff 713.819.1988 Brent@ameriturf.com

Office (877) 441-8873

www.ameriturf.com

Revolutionary Fertility Programs — Water Management Solutions — Plant Protection



TEXAS AGGREGATE & BASE MATERIALS, INC.

Quality Golf Course Materials

*TOPDRESSING * BUNKER SAND * SEEDBED *

★ CUSTOM SAND/ORGANIC BLENDS ★

* FULL-LINE OF PROJECT AGGREGATE * SANDS ARE USGA SPECS *

* NO FUEL CHARGES *

www.TexasCrushedBase.com

Steven Stulce, Owner ssstulce@aol.com 281-808-1223

22136 Westheimer Parkway Suite 213 Katy, Texas 77450 (Fax) 281-392-8506



GCSAA Education Conference February 3-7, 2014 Orlando, FL

Housing opens Aug. 6



Important Dates

July 15

DSA nomination deadline Aug. 1

Dog Calendar submissions due
Aug. 1-11
Rounds 4 Research auction



GCSAA TV surpasses a half-million videos viewed

CHANNELS

GIS Coverage Featured

Shorts GCSAA

SVW Spanish

<u>Floratine Science</u> <u>Environmental</u>

Research Tournament Prep

All Videos Sponsors

Meet the Candidates On The Golf Channel



Get Golfers to Bid on Golf

The auction, available through www.Rounds4Research.com, is August 1-11



Become Part of South Texas GCSA Board of Directors

The Board of Directors is what makes South Texas one of the leading chapters in innovative ideas, unique educational opportunities and successful meeting attendance.

- One Board Meeting per month from 11-2 at various locations.
 - New ideas and suggestions are always welcome
- You are assigned to one or two committees that share the responsibility of getting tasks completed
 We understand that you are busy, as we all are! But....in order to keep our association strong, we need volunteers to serve on the Board for at least a two year commitment.

If you are interested in becoming part of the 2014 Board of Directors, please contact Mark Haven at:

mhaven@rec.tamu.edu

If you would like to be featured in Tee To Green, please email a short biography along with 3-4 photos for our section, "Member Profiles"



Reliability in Motion

3310 Alice Street Houston TX 77021 www.hurtco.com www.reladyne.com

Contact: Carl Tolbert 713.320.5947 (P) 281.789.4291 (F)

Carl.Tolbert@RelaDyne.com



Central Texas GCSA (Jaci Powers)-512.507.8233—<u>www.ctgcsa.org</u>

Lone Star GCSA (Karen White)-972.307.8162 www.<u>lsgcsa.org</u>

North Texas GCSA (Lori Goodrich)—817.377.4552 <u>www.ntgcsa.org</u>

Texas Gulf Coast SA (Darlene Curlee)-877.448.9944 www.tgcsa.org

Texas Turf Grass Association (Shirley Duble)-979.690.2201 www.texasturf.com

South Texas GCSA (Marian Takushi)- 281.494.0094 www.stgcsa.org



Golf Course Transactions - Are Bargain Deals Still Available in 2013?

In a recent Dashboard article, NGF (National Golf Foundation) has tracked nearly 1,300 golf facility transactions since the beginning of 2007, though we believe this number is likely understating the actual volume of total sales. We decided to take a closer look at the profile of these transactions in the context of the universe of existing golf courses in NGF's comprehensive U.S. golf facilities database. Our analysis revealed the following interesting facts:

- •25% of the transacted facilities originally opened in the 1990s, while four in ten were new in either the 1990s or 2000s. For comparison, total holes opened in those two decades account for 27% of all current golf supply.
- •52% of the public facilities sold were "value" priced (peak season weekend green fees with cart of \$40 or less) a percentage that is similar to the total current supply of value courses.
- •At the other end of the green fee spectrum, "premium" priced golf courses (peak green fees of \$70 and above) represented 17% of the public facilities transacted moderately higher than the 11% of total existing premium supply.
- •Accounting for nearly 8 in 10 transactions, privately owned public courses daily fee + semi-private represented a disproportionate percentage of total sales (they account for only 59% of current supply). As would be expected, municipal facilities accounted for a disproportionately low percentage of total sales, as only 3% changed hands (16% of current supply).
- •Golf courses associated with a real estate development accounted for 35% of transactions that NGF tracked since 2007, but represent only 19% of existing supply.
- •Florida, with 150 sales (about 12% of total) over the subject time period, topped the state counts, followed by Michigan (86), California and Texas (70 each), and Ohio (65). Florida is home to 7% of the total current U.S. golf supply; Michigan, Ohio, and Texas about 5% each; and California 6%.

The 2nd Half 2012 Semi-Annual Market Update from Marcus & Millichap's National Golf & Resort Properties Group includes, among other key information, data and trends related to recent golf course transactions. M&M utilizes this data, in conjunction with national economic trends, for forecasting purposes. The 2nd half Market Update revealed the following key indicators regarding the transactions tracked in 2012.

- •Total sales increased from 107 in 2011 to 151 in 2012. (Note: County sales records can be two-to-three months behind, so most data captures only the first three quarters or so of 2012).
- •The number of transactions above \$3 million represented only 27.2% of the total sales, down from 47.8% of the total sales in 2011.
- •The number of transactions under \$1 million rose from 13.8% of the total sales in 2011 to 31.6% in 2012.
- •Median sales price decreased from \$2.875 million in 2011 to just over \$1.8 million in 2012. The average price fell by about 45%, from \$3.96 million in 2011 to about \$2.16 million in 2012 (excluding outliers over \$30 million such as the Ritz-Carlton Lodge at Reynolds Plantation in Georgia, and Doral Golf Resort & Spa in South Florida).

M&M's data reveals that the number of sales is up but that a larger percentage of sales now comprise smaller deals and/or facilities bought at auction. The data suggests that in 2013, potential buyers may not as easily find the "bargain" properties, as banks have less of their good product (e.g., potential value-added rehabilitations, undervalued foreclosures, and/or properties located in strong markets) remaining. Additionally, those buyers or investors seeking multi-facility opportunities may be out of luck as former major golf course lenders such as Capmark and Textron have disposed of much of their golf portfolios.

High-end properties will continue trading in 2013 and years to come, but continued demand and a reduction in opportunities for these premium properties should ultimately result in rising property values. Additionally, anecdotal evidence from both M&M and NGF suggests two other emerging trends with respect to demand for golf course assets that, taken together, may also suggest potentially rising prices in 2013:

- •There is increased interest in U.S. golf course ownership from foreign investors in countries such as China, Korea, Japan, Great Britain and Canada.
- •More private equity interests are partnering with firms that have core competencies in golf ownership and management.

~Quote of the Month~

I regard golf as an expensive way of playing marbles. **Gilbert K. Chesterton**

THANK YOU TO OUR PLATINUM 2013 SPONSORS







Resource Laboratories





J. HARGROVE CONSTRUCTION













THANK YOU TO OUR GOLD 2013 Sponsors





























No-Till Bermudagrass

Fairway Renovation

The no-till method is a lower-cost and less-disruptive option for converting fairways to newer, improved bermudagrass cultivars.

BY JOHN FOY

Excellent fairway playing conditions can be provided for golfers of all skill levels

with new bermudagrass cultivars.



t golf facilities across the Sunbelt of the United States, bermudagrass has been the primary turfgrass

species utilized on all playing areas. Since its introduction in the early 1960s, the hybrid cultivar Tifway(commonly known as 419) has been an industry standard for fairways, roughs, and tees. However, in recent years, several new bermudagrass cultivars have been introduced with improved performance characteristics and stress tolerances. Compared to previously used bermudagrass fairway renovation processes, the no-till renovation method is less expensive and less disruptive. It has been used successfully to convert fairways to new bermudagrass cultivars at a number of golf facilities in Florida and along the lower coast in the Southeast. Also, in the eastern part of the transition zone, a similar approach is being used to convert cool-season turfgrass fairways to cold-hardy bermudagrass cultivars. Along with improved fairway playing conditions, the desire for a more economically and environmentally sustainable golf course is prompting facilities to undertake no-till renovation projects when upgrading to newer, improved bermudagrass cultivars.

THE FLORIDA NO-TILL STORY The challenge at golf facilities in Florida is that peak play occurs during the fall, winter, and spring months when bermudagrass is dormant, or at least semi-dormant. Overseeding bermudagrass fairways with perennial ryegrass was a common practice for providing wintertime golfers with dense and lush green playing surfaces. However, large acreage overseeding is neither an economical nor environmentally sustainable management practice and is no longer conducted at many facilities in Florida (see "Breaking the Winter Green Addiction"). A bermudagrass cultivar with better cool temperature growth, color retention, wear tolerance, and divot recovery compared to Tifway would be of great benefit for courses in Florida and other regions where winter is the primary golf season.



Persistence of uniform turf character and better wintertime performance have resulted in Celebration bermudagrass gaining popularity and use in Florida.

Celebration was the first bermudagrass cultivar to be introduced with improved shade tolerance. This characteristic prompted its initial use in historical problem areas on several golf courses. It was observed to also possess better color retention and growth during cool weather compared to Tifway. In several university research trials, Celebration was a top-rated cultivar for wear tolerance and recovery, divot recovery, and drought tolerance and recovery. Another important characteristic for Florida golf facilitiesis its tolerance to plant parasitic nematodes (see "Still Stinging" and "Evaluating Bermudagrass Cultivars for Traffic Tolerance and Recuperative Ability").



Invasion of coarse-textured and poor-quality common-type bermudagrasses into fairways has long been a problem for Florida golf facilities. No-till renovation is an option for reestablishing a uniform turf cover and converting to a cultivar with improved year-round performance.

In 2005, Bob Bittner, CGCS, at The Club Pelican Bay in Naples, Florida, established several Celebration test plots to evaluate its performance in shaded rough areas. A fairway test area was also established to allow the membership to evaluate the general performance and quality of Celebration. An additional concern at The Club Pelican Bay and other golf facilities throughout the region has been invasion and establishment of coarse textured and poor-quality common bermudagrasses in Tifway fairways In the fairway test area, minimal preparations (two applications of nonselective herbicides followed by verticutting and core aeration) were conducted to determine the feasibility of establishing a dominant Celebration turf cover. Additional trials were conducted over the next couple of summers. Even in test areas where no herbicide treatments were applied, it was possible to establish a dominant turf cover in six to eight weeks. Based on the overall quality and uniformity of the initial fairway test area, the decision was made to initiate a larger-scale fairway regrassing project beginning in 2009. The no-till process was used to convert to Celebration on all 27 holes at The Club Pelican Bay over three years.

(Continued on page 14)



ARBOR CARE, INC.

(Tree Care Specialists)

John Dailey

President 713-694-8898 Fax: 713-694-8895 336 McFarland Rd. Houston, TX 77060 www.arborcarehouston.com

Millions of Branches to Serve You



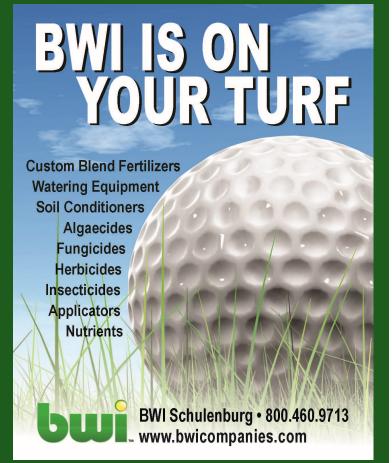
- Mass Grading
- Golf Course Construction
- Site Construction
- Athletic Field Construction

1110 Navasota Ridge Rd., Navasota, TX 77868 Office: 936-825-7090 • Fax: 936-825-8838 E-mail: bsi@burnside-services.com www.burnside-services.com









Celebration was also planted on several new golf courses and in a few renovation projects in South Florida in the mid-2000s. Good wintertime and year-round performance, combined with persistence of a uniform character, has resulted in Celebration quickly gaining popularity and expanded use throughout Florida.

ALSO AN OPTION FORTHE TRANSITION ZONEAs discussed in "Warming Up in the Transition Zone," bermudagrass and zoysiagrass require fewer inputs and thus are less expensive and more environmentally friendly to maintain, compared to most cool-season turfgrass species. A limiting factor with bermudagrass, however, has been its lack of cold tolerance. USGA-funded research has resulted in the development of new cultivars such as Riviera, Latitude 36, Yukon, Patriot, and Northbridge that have both improved cold hardiness and overall quality. In particular, the vegetative hybrid cultivars Latitude 36 and Northbridge have consistently received top ratings in the National Turfgrass Evaluation Program(NTEP) bermudagrass tests in multiple locations across the country. Early spring Greenup and aggressive summertime growth habit provide both cultivars with a competitive advantage over other bermudagrasses. In turn, they are able to better resist contamination by other grasses. These characteristics also make these cultivars good candidates for no-till fairway renovation. THE NO-TILL PROCESS No-till fairway renovation is not a totally new concept. In the early 1980s, row planting of bermudagrasses was used in the Southeast for repairing winterkill damage. Row planting was also promoted as a means of converting common-type bermudagrasses to Tifway with reduced course disruption and downtime. In Florida, satisfactory results were seldom achieved due to the reemergence of the common types. The aggressive growth habits of Celebration, Latitude 36, and Northbridge have been a game changer because of their ability to establish and maintain a uniform character throughout the fairways. Other adjustments and fine-tuning the row-planting process have been made. Below is a summary of the basic steps used with no-till fairway renovation.



Golfers can continue to play while the existing turf cover is being killed and will enjoy increased roll on their tee shots. Total kill of bermudagrass is almost impossible, however, and replanting with an aggressively growing cultivar is needed to ensure that a uniform turf cover persists.

Herbicide Treatments — In the spring and as soon as bermudagrass growth is occurring, a broadcast application of glyphosate plus fluazifop is conducted to begin killing the existing turf cover. Following up with at least one and preferably two more broadcast herbicide treatments on a 21-dayinterval is recommended to ensure a high degree of bermudagrass kill. Also, during this time, regular irrigation is continued and one or two applications of a readily available nitrogen source are applied to stimulate regrowth and further increase the percentage of kill. If seashore paspalum is also a component of the turf cover, including other herbicides in the tank mix is advised. The golf course usually remains open to play during this time, and while golfers may complain about browngrass, they also enjoy an extra 20 or more yards of roll on their tee shots. When converting from a cool-season base turf to bermudagrass, one or two broadcast applications of a non-selective herbicide are also recommended to eliminate competition during the initial establishment phase. While successful conversions have been accomplished without non-selective herbicide treatments, bermudagrass establishment is slower.



No-till renovation (on the left) versus total renovation (on the right) side of this fairway. The retention of a percentage of organic matter in the no-till side resulted in faster turf establishment and a more mature stand of bermudagrass.

With the exception of the actual planting/sprigging process, additional specialized equipment is not required for no-till



Sprig Bed Preparation — Thebest results with no-till renovation have been achieved when aggressive verticutting and core aeration are conducted to prepare the sprig bed. Verticutting (or scalping) followed by sweeping is conducted first to remove dead grass and provide good sprig-to-soil contact. Once as much of the debris as possible has been removed, multiple core aerations are performed to bring additional soil to the surface. Some have opted to perform heavy sand topdressings as well, but this adds significant cost.

Sprig Planting — A standard planter that spreads and then cuts sprigs into the soil surface has been used in most no-till fairway renovation projects. Some growers use an alternative "sod to sprig" planting process. This equipment shreds big roll sod and then cuts the sprigs into the soil surface. Rolling fairways with a two to seven-ton unit has also been a common practice for increasing sprig to-soil contact along with restoring a firmer and smoother surface. A sprigging rate of 600 to 800 bushels per acre has typically been used. While the higher sprigging rate is more expensive, it speeds establishment. For most, full turf coverage and playable conditions are achieved six to eight weeks after planting. It should be pointed out that there are additional agronomic benefits with the no-till process compared to previously used renovation processes of stripping the sod and rototilling the soil. When a percentage of organic matter is retained in the upper root zone, nutrient and moisture retention increases, and this speeds grow-in and lessens the time for the turf to reach maturity. In conclusion, the no-till fairway renovation process has proven to be a good option for converting to new Bermuda grass cultivars. In addition to providing superior fairway playing conditions, these cultivars are more environmentally friendly to maintain, which serves to increase long-term sustainability for the golf facility. USGA Green Section regional agronomists can provide more information on which cultivars are best adapted to a specific location as well as details for a successful conversion.

JOHN FOY is director of the USGA Green Section's Florida Region. He has observed fairway renovations in Florida for 28 years. Green Section Record Vol. 51 (10)

May 17, 2013