

Golf Course Trades

Golf Superintendent's Monthly Buying Guide

**No
Goats,
No
Glory!**

Do it
Yourself
GOLF COURSE?

Reducing
Winter Injury

Mower Down
The Sequel!!

BONUS Buffalograss Basics, by Stock Seed Farms, Inc.



**WHEN YOUR WORLD
RESTS ON THE
GRASS YOU GROW ...**



**THERE IS ONE EVENT YOU
CANNOT AFFORD TO MISS ...**

**2018 CAROLINAS GCSA
CONFERENCE AND TRADE SHOW
NOVEMBER 12 - 14 | MYRTLE BEACH, SC**

**Featuring:
Championship Golf
Sporting Clay Event
More than 100 hours of education
More than 100,000 sq. ft. of exhibits**

Call (800)476-4272 or visit www.carolinasgcsa.org



October Specials



2005 Toro ProSweep 5200
\$4,900



2012 John Deere Precision Cut 7700
10-blade QA7 reels; ROPS;
canopy
2604 hours
\$17,000



2012 Jacobsen LF-570 4WD
11-blade reels; rear roller
blades; ROPS
1342 hours
\$23,900



2012 Toro Reel Master 5510
11-blade DPA reels; rear roller
brushers; ROPS
2574 hours



2012 Toro Reel Master 5-gang
hydraulic pull frame
2012 frame w/ older cutting
units; 11-blade reels;
pneumatic wheels
\$12,500



2012 John Deere 2500B gas
11-blade QA5 reels; ROPS;
lights; grass catchers
1962 hours
\$10,900



2012 Toro Greens Master 3150-Q
8-blade DPA reels; ROPS; lights;
grass catcher
2795 hours
\$9,500



2012 Jacobsen GP400 diesel
7-blade reels; ROPS; lights; grass
catchers
1565 hours
\$12,500



2016 Toro GreensPro 1240
92 hours
\$7,900



2012 Toro Multipro 1250
175 gallons; ROPS
1589 hours
\$22,500



2015 Club Car Carryall 500 gas
Canopy; hinged windshield
1431 hours
\$5,900



2014 Club Car Carryall 252 Gas
1457 Hours
\$5,800

No Goats, No Glory

By Jeff Shelley



The title of this article – a take-off on the expression “No guts, no glory” – is on a T-shirt I bought at Silvies Valley Ranch this June. The phrase is apropos in several ways: the magnificent 140,000-acre property in remote Eastern Oregon is a working ranch that also boasts one of the most daring, outside-the-box golf courses I’ve seen or played during my three decades as a golf writer.

It even has goats for caddies, though there’s no guarantee these beasts will bring you glory.

Designed by Portland architect Dan Hixson, the layout is reversible. One day it plays in one direction as the Craddock course, and the next day the first tee on Hankins starts at the former’s 18th tee and winds the opposite way. The experience is mind-boggling. Some of the holes played clockwise are unrecognizable when played counterclockwise thanks to 27 separate greens and Hixson’s wily placement of 102 tees (color-coded signage to navigate the courses is excellent, by the way). Each course extends over 7,000 yards. But their length is mitigated by being nearly a mile above sea level, making these the highest golf courses in the state.

Due to his early start at Silvies Valley Ranch, Hixson could have pre-empted Tom Doak and his acclaimed, reversible Loop at Forest Dunes in Michigan, which debuted in 2016. But, because of a brief five-month growing season, it took Hixson eight years to finish the project and Craddock/Hankins opened in late-summer 2017.

“The design features were always evolving and done ‘in-field’ during

construction,” said Hixson, a former PGA head professional who began dreaming of becoming a golf course architect as a youngster. His other new courses include Wine Valley near Walla Walla, Wash., and Bandon (Oregon) Crossings. “But the routing only changed a little, with one green location moved after the initial plan was drawn. The construction season is pretty short at 4,800 feet above sea level, and the seeding and grow-in period is much shorter still.”

The site was both challenging to design and get to for Hixson, who made a whopping 110 trips (six hours each way) to it from his Rose City home. But the effort was worthwhile as the course’s unique configuration makes economic and ecological sense. Superintendent Sean Hoolehan, a former president of the GCSAA, has a relatively small crew for such a big operation, stemming partly from a shallow local employee pool. Maintenance staffing requirements for two 18s would have been much costlier and harder to sustain. Hixson also crafted an irrigation-efficient layout, one planted with three types of grasses that require little or no pesticides and other chemicals. Pest control is aided by 5,000 birdhouses, where mosquito-devouring blue birds

and bats have taken up residence.

Meanwhile, Hixson’s offering is an entertaining and exhilarating excursion. “I want people to really love it,” Hixson said of Silvies’ reversible 18. “If golf isn’t fun, it really is nothing.”

He added: “I designed it for golfers, so they would come to a rural part of our state to have fun playing a course unlike anything they have ever seen.”

The Ranch is akin to such far-flung places as Sand Valley in Wisconsin, Nebraska’s Sand Hills courses, and Streamsong in Florida, all of which boast Doak-designed courses. But

Silvies’ resort is a different animal, and it’s even more off the beaten track, lying over three hours by car from the “biggest” nearby cities of Bend, Ore., and Boise, Idaho. The closest towns, each about 45 miles away, are Burns and John Day, which have populations of 2,800 and 1,700.

The Ranch is owned by Dr. Scott Campbell and his wife, Sandy, two natives of the rural Beaver State towns of Burns and Alfalfa, respectively. The Campbells met while walking Miller Park on the south end of the property while each was on summer break from Oregon State University.

From that modest start the two went on to accomplish great things. As Scott explains: “She became a nurse and specialized initially in geriatric nursing and, eventually, quality assurance in the medical industry. I went to veterinary school. After we both graduated, we went to Portland and I bought a small animal practice. She quit nursing and put a quality-assurance program in our veterinary hospital. We believe it was the first veterinary quality-assurance program anywhere. We went on to build that business into the largest veterinary practice in the world.”

They grew that practice, Banfield Pet Hospital, into 725 clinics throughout the U.S., Mexico and the U.K. It was sold in 2007 by the Campbells and is now located within hundreds of PetSmart stores.

Also involved in the ownership group is another couple with deep Eastern Oregon roots, Robb and Lisa Foster. Robb is the Ranch manager and oversees all the non-golf construction, maintenance, roads, water and farming operations. Lisa helps out in reservations, bartending, the gift shop and occasionally drives a drink cart.

The Campbells and Fosters returned the property’s name to Silvies Valley Ranch, and began a massive





restoration of native wetlands, riparian areas, forests, streams and meadows. Goats were introduced to better utilize forage, help with ecological projects and control invasive weeds. And they also started work on a high-end golf resort.

"The (lumber) mills closed a long time ago and no other industry came in," Dr. Campbell said of his transformation of the Ranch. "I graduated from Burns High School in 1975 and there were 140 to 150 kids in my class. There were only 40 in last year's graduation. What can we do for the community?" he pondered. "We're trying to bring destination tourism to this part of Oregon, a lot like Bandon (on the southwest Oregon coast). There was nothing in Bandon before the golf courses."

Millions of years ago the valley was home to early species of horses, bison, an occasional giant moose and woolly mammoths. Dr. Campbell notes that at around 15,000 B.C., during the last Ice Age, Native Americans used the site as an open corridor for southbound travel. In 1826, Peter Skene Ogden, a Canadian explorer and fur trader, "discovered" the valley and named it after one of his men, Captain Antonine Sylvania. Silvies Valley Ranch got its name through a long-ago misspelling of Sylvania.

Gradually inhabited by lumber- and dairymen, miners and goat ranchers (Craddock and Hankins were two early settlers), with a U.S. Post Office established in 1892 (now part of the current Ranch) and a railroad route opening in 1929, the property was converted into a Japanese internment camp in 1942. Several different owners had the land over the ensuing years, each failing and selling. In 1990, a California investor bought it to create a dude ranch. That effort also went under and, for the next 17 years, the massive parcel was leased, causing an overharvesting of trees. A privately-owned herd of wild horses also did significant environmental damage.

The Campbells are diligently restoring the Ranch's natural

splendor. "We have conducted many scientific studies at Silvies Valley Ranch since we have owned it, mostly in conjunction with Oregon State University but also with other universities such as Duke and Montana State," said Scott. "One of my interests is in the water cycle and what happens to water once it hits the ground."

While I was there a group of scientists from around the world reviewed the water system now used at Silvies Valley Ranch. "The scientists that were here were interested in some of the unique water-storage projects we have engineered at the Ranch," he added. "They also studied our theories on the water cycle and how to improve the watershed and the environment."

Of the 60-plus square miles of deeded property, there are now 6,000 acres of mountain meadows, 14,000 acres of Ponderosa pine forest, 20 miles of the Silvies River, over 20 named creeks and drainages, cattle and horses, as well as native Rocky Mountain elk, mule deer, pronghorn antelope, sage hens, grouse, pine martins, quail, black bear, cougar, coyotes, bobcats, badgers, squirrels, chipmunks, porcupines, beaver, raccoons, river otters, hawks, eagles, pigmy rabbits, wild turkeys, cranes, geese, ducks, song birds, woodpeckers, bass, catfish, perch and native redband trout.

In addition to the reversible course, Hixson designed an entertaining par-3 nine (named Chief Egan after an 1800s' Paiute tribal leader in what then called "Oregon Country") and the seven-hole MacVeigh's Gauntlet (named after another early pioneer). Called "an extreme golf experience," the latter employs Ranch goats for caddies. Special saddles were specially made by Portland-based Seamus Golf to carry clubs, beverage cans and the goat-caddies' preferred payment, peanuts.

The golf-accessory company had never constructed such a contraption. After being contacted by Dr.

Continued on page 9



WHY LET WATER THROUGH TO YOUR TOPSOIL?

SEND IT TO THE DRAIN INSTEAD.

Klingstone[®]
THE PERMANENT BUNKER SOLUTION

Klingstone, the patented liquid-applied bunker barrier, permeates and binds soil particles in the bunker cavity to stop contamination of the sand, eliminate erosion, stabilize bunker faces and enhance the effectiveness of your drainage system. By creating an impermeable barrier under the sand, Klingstone directs water to your drainage system... not to your subsoil. www.klingstone.com

PERFORMING FLAWLESSLY FOR 19 YEARS AND COUNTING...

US Patent No. 6,467,991

Beat the heat with a cool
Pyraclostrobin Fungicide



RightLine[®]

www.RightLineUSA.com
770-335-3015

Always read and follow label directions. ©2018 RightLine®. All Rights Reserved. RightLine® is Registered Trademark. CHILL™ is a trademark of Willowood USA.

Oct. 2018

No Goats, No Glory..... 4

It even has goats for caddies, though there's no guarantee these beasts will bring you glory.
By Jeff Shelly

Conklin Players Club – The Best Do It Yourself Golf Course in Years 14

Okay...let me say this out loud, so that I have this right in my head. A guy who never played golf in his life got a bunch of friends and family together, bought some mountainside land near Binghamton, New York and built one of the best and most reasonably priced public golf courses in the mid-Atlantic?

By Jay Flemma

Buffalograss Basics..... 18

Sunlight: Buffalograss does best in areas receiving at least 6 to 8 hours of direct sunlight per day.

Mower down, the Sequel!! 20

Mower maintenance ...tips you can use today!
By Brian Duffy

Company Spotlight Lastec - Who We Are..... 22

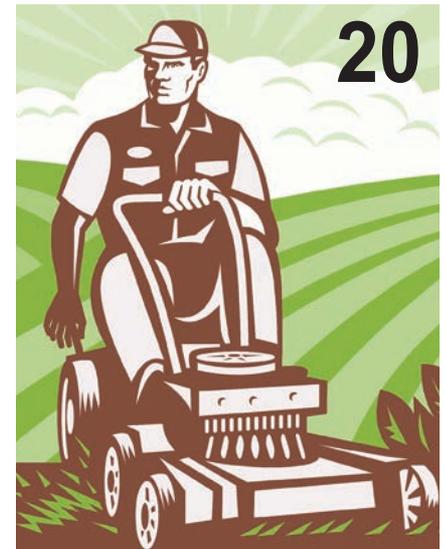
Reducing Winter Injury 24

Winter injury on golf turf is often related to moisture. Managing moisture by applying surfactants later in the season has become a trend in the industry.

By Mike Fritz

The Deep South Turf Expo Continues to Roll with the Greens in the Fourth Season 26

Plans for the 2018 Deep South Turf Expo are coming together.
By Melanie Bonds



Superintendent Blogs

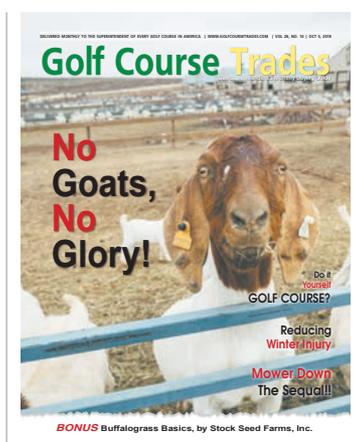
Fall Maintenance and Paspalum Removal 10
By Jim Alwine

Greens Venting..... 11
By Brian J. Stiehler, CGCS, MG

Aerification 2018--A Week to Remember 11
By Paul L. Carter, CGCS

In the News

Syngenta Enhances Control of Dollar Spot 10
New ECO 600T – Top Dresser Attachment 11



To Subscribe, visit GolfCourseTrades.com Send comments or suggestions to golf@thetrades.com and news to news@thetrades.com



REPLACEMENT ENGINES AND **ENGINE** **INSTALLATION KITS**



ALL KITS GUARANTEED

SO YOU ARE 100% SATISFIED



UNLIMITED TECHNICAL SUPPORT

WITH EVERY COMMERCIAL-GRADE SOLUTION



WE SERVICE ALMOST EVERYTHING

*INCLUDING MOWERS, UTILITY CARTS, SKID LOADERS
TURF AND MAINTENANCE EQUIPMENT*



FREE SHIPPING

WITHIN CONTINENTAL UNITED STATES

REPO**W**ER

800.700.9501

WWW.REPOWERSPECIALISTS.COM

INFO@REPOWERSPECIALISTS.COM



Country Club

Landscaping and Equipment Repair

MANY ITEMS ARE AVAILABLE AND NOT LISTED PLEASE CALL 1-440-235-2157 AND ASK FOR JIM OR VISIT THE WEBSITE



2012 John Deere 2500 BG \$9500



2011 Toro 360 72 in deck plow \$15500



2005 Toro procore 648 aerators \$13500 each



2012 Toro HDX 4 wheel drive sprayer 990 hrs \$20500



2012 Cushman Truckster High Flow 780 hrs \$13850



2014 Toro 3040 Sandpro 106 hrs w/Plow and Rear Rakes \$13500



2012 Jacobsen AR 522 \$19500



2014 Toro 1750 sprayer \$18750



2016 Toro 5510 D 550 hrs MINT \$36500



2013 Toro 3500 D canopy/fan \$18500



2014 Jacobsen R311T w/cab/a/c/ 800 hrs \$34500



2010 Toro 5510 4W/D \$24500



2016 Toro propass 200 tow behind wireless topdresser \$12500



2011 Toro 5510D 1000 hrs \$22500



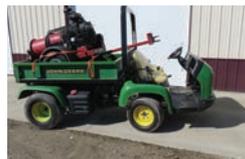
Planet Air HD50 Aerator Like New \$8500/trifecta \$15500



2013 Toro 4500 D \$27750



Topsoil Screener 400 hrs excellent \$23500



2011 John Deere 2030 diesel progator aux hyd \$12500



2016 Steiner 440 diesel with toughcut deck 60 hrs \$24500



2012 Jacobsen Eclipse 322 Diesel with mowers and verticuts \$13500



2017 Agrimetal TB280 Blower \$6500

2012 Toro 5910 16 ft mower \$35750---Brand new tycrop QP300 topdresser \$8850 deck \$24000--2011 Toro 3040 sandpro w/new engines \$7995--2013 ClubCar Turf I w/canopy 4 each \$4000--2011 Toro HDX workman 1370 hrs \$11500--Jacobsen GA 24 Walk Behind Aerators \$5000--John Deere Walk Behind Aerators \$2500-- Jacobsen V 62 Sweeper \$8500--Toro Prosweep 5200 \$5500--2011 Toro Proforce Turbine Blowers from \$3500--2012 Toro MDX Utility Cars \$4500--2009 Jacobsen GKIV Plus Diesel \$12500-- 2013 Toro HDX with 200 gallon sprayer \$15500-- 2016 Toro procore 648 \$20500-- 2011 Toro 5040 with front and rear QAS new engine \$8500--2013 Spider slope mower \$23500

Jacobsen GKIV plus units \$1000 off October only

www.usedturfequipment.com



Only your budget can tell the difference.

Get the most out of your budget by choosing pre-owned John Deere equipment. Choose from a great inventory of top quality John Deere golf equipment, with seasonal financing options and monthly payment plans available from John Deere Financial. Call your local John Deere Distributor today and find out how you can get John Deere quality equipment at a price that's right for you.



GREENVILLE TURF & TRACTOR
866-485-TURF (8873)
www.greenilleturf.com
AL • SC • TN • MS • GA • VA

EVERGLADES EQUIPMENT GROUP
888-746-8873
www.evergladesequipmentgroup.com
SOUTH FLORIDA

SHEARER GOLF
855-GOLF-909
www.shearerequipment.com
NE OH • NW PA • N WV

C & B OPERATIONS, LLC
800-823-9242
www.deerequipment.com
IDAHO • MONTANA • N & S DAKOTA • NEVADA



Continued from page 5

Campbell, Seamus Golf co-founder Akbar Chisti spent 30 hours on the prototype. He then tried it out on his large goldendoodle. But the goats are 250-pound animals, and the saddle had to be retooled to fit them.

"It was way too small," Chisti told CNN reporter Zahid Mahmood of his first goat-caddie saddle. "We know how the human body moves, we know how it needs to balance, but the goat was different." There was also another key consideration. "Goats are notorious for dropping their waste. And when you're trying to putt on the grass it can be a challenging obstruction. So we had to re-tilt the bag to accommodate that."

Unlike Bandon Dunes, the Ranch is not intended to draw hundreds of golfers a week. "I don't want more than 50 people a day to play the course," Dr. Campbell asserted. The main income-generating component will be 200 luxury home sites proposed for the hills above Silvies Valley's golf courses and resort amenities.

A two-in-one course concept is "not a good financial model," admitted Hank Hickox, a Silvies advisor and Bandon Dunes' first general manager. "It's for people who are well-traveled and looking for something different. Silvies has a working ranch appeal. We don't need a lot (of houses), just a few, and not on the course (but) with great views of the valley."

The resort held its first noteworthy tournament – the Pacific Northwest Golf Association's Master-40 Amateur – a week after my visit. The winner was Darren Kuhn of Pocatello, Idaho, who beat Jeff Byrnes of Buckley, Wash., 4 & 3 in the championship match. The responses by the field's 60 players to the Hankins-Craddock set-up were overwhelmingly positive. "They loved the course," said Tom Cade, PPGA Communications Director. According to Cade, yet another response was, "Boy this place is remote!"

Other guest features include beautiful, artfully-decorated cabins with all the modern frills (such as three flat-screen TVs and a hot tub), a lodge, spa, working cattle and goat operations, a 5,000-foot runway for private aircraft, two dining options, and non-golf activities such as fly-fishing, skeet shooting, hiking and ATV excursions.

It must be noted that the food menus (the closest nearby restaurant is in Burns) do not cater to vegetarians or all palates, though the chef will accommodate guests' requests. The daily seven-course dinner – the only current option and locally sourced – consists of Ranch-raised beef, chevon

(goat meat) and vegetable dishes. Don't expect to find chicken or fish here.

The Ranch is decidedly a family affair. You'll often find Scott and Sandy, who reside on the Ranch, in the lodge restaurant mingling with guests.

"Both of our sons, Tygh and Rand, were quite active in our veterinary practice," said Scott. "Tygh and his fiancée Courtney live on the Ranch. Tygh is in charge of real estate and irrigation and Courtney is in charge of the new spa. Rand has one more year of law school at Willamette University (Oregon), is interested in natural resources law and has a girlfriend named Heather who he's been friends with since third grade.

"My brother, Jeff, is one of our hosts," Scott adds. "He also grew up in the area and has a PhD from Stanford University in immunology. He worked for companies such as Genentech. But his real love is baking bread and brewing beer! My sister, Kathy Jo, is also at the Ranch and helps take care of the goats. My brother-in-law, Ted, was her partner in the Ford and Polaris dealership in Burns, which is why we only have Fords and Polaris on the Ranch.

"Sandy's sister, Sheryll, is responsible for all the permitting that we have to do and helps with the goats," Dr. Campbell continued. "Sandy, Tygh and Rand are all very artistic. Tygh makes much of the metalwork, Rand does all the landscaping, and Sandy is the interior decorator. My parents have passed away, but my dad was the town doctor in Burns for many years and delivered some of our employees who now work on the Ranch."

If you ever make it out to this remote outpost in east-central Oregon, expect a warm greeting from the Campbell clan. They're here to stay, and so is an exceptional experience at one of the most revolutionary golf courses and self-contained resorts to debut in recent memory. ■

For more information, visit <http://silvies.us/>.

Jeff Shelley has written and published nine books as well as numerous articles for print and online media over the past 30 years. The Seattle resident is the co-founder of the Northwest Golf Media Association and board president of First Green, an international, nonprofit program that provides environmental and STEM education outreach using golf courses as environmental learning labs. jeff@fairgreenspublishing.com

OWN YOUR EQUIPMENT LONGER.

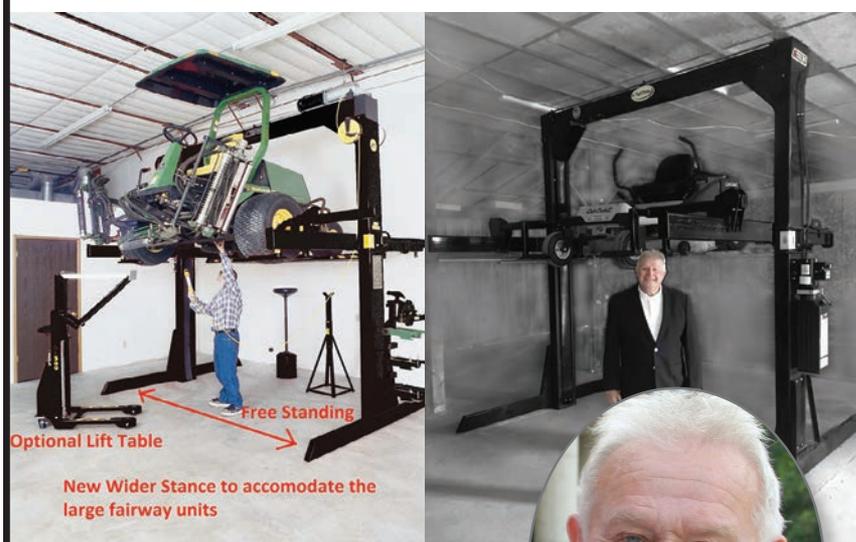


With the latest advances and proprietary additives proven to reduce friction and maximize durability, you can count on Schaeffer's unmatched equipment protection to help offset maintenance costs.

www.schaefferoil.com

(800) 325-9962
Made in the USA

SINCE 1929
Schaeffer's
SPECIALIZED LUBRICANTS



"There was only one lift I wanted in my shop – the Trion by Turf Pride. In all my years around turf maintenance I guess I have seen them all. The Trion always impressed me with safety and convenience. I like the open floor design and the user friendly features. Plus it is made in the USA!! When I want to lift it up, I do it with my Trion Lift"



Paul R. Latshaw
Paul R. Latshaw
GCS Retired

turfprideusa.com 800.426.3634 sales@turfprideusa.com

Fall Maintenance and Paspalum Removal

Fall maintenance has nearly wrapped up for 2017. We aerified greens less than two weeks ago and they are healing nicely. For this round, we went with larger tines than usual and punched as deep as we could. The greens will appreciate all that oxygen and fresh sand and we appreciate your patience and support during this process.

We still have some select seeding to accomplish in the rough, but all tees and collars are finished. Soon these areas will be a carpet of dark green. The fairways will also be greening up soon, with the help of our winter pigment that provides the color golfers enjoy without destroying the bermudagrass base we worked so hard to build.

Finally, a project we planned months ago is the removal of any remaining



paspalum in the greens. We timed a herbicide application to coincide with aerification, so all the ugliness



happens at once. The herbicide works great this time of year and produced the results we were looking for, dead paspalum.

Most greens have some brown paspalum around the edge. The majority is less than a few inches wide, but some is larger. Our Assistant Superintendent, Heather, has been leading the sodding effort on the green edges. We pull the sod from our nursery green that we rebuilt two years ago and replace the dead paspalum while coring out any remaining roots and stolons.

The sodding project should wrap up next week. Any small spots that remain will heal on their own and we will finally be paspalum free. Thanks to all the members who complimented the crew during the last few busy weeks. I've had many reports from my staff of the encouragement and thanks they receive from passing golfers. They notice when you notice, so thank you.

From the blog of Jim Alwine, Superintendent at Bernardo Heights Country Club
<http://bhccturf.blogspot.com/>



Syngenta Enhances Control of Dollar Spot and Other Turf Diseases with New Posterity and Secure Action Fungicides



Posterity® fungicide delivers powerful protection as the most active SDHI in the turf market. Secure® Action™ brings a boost of acibenzolar-S-methyl to the industry's leading fungicide. New fungicides provide enhanced control of the No. 1 disease in golf course turf.

Syngenta has launched two new fungicides for the turf market, Posterity and Secure Action, which deliver proven, long-lasting control of dollar spot as well as other common turf diseases.

Posterity, the most-active SDHI in the turf market, provides long-lasting dollar spot control, holding strong for up to 28 days. Additionally, it delivers robust and consistent control of spring dead spot and fairy ring. It's a solid rotation partner for agronomic programs to protect cool- and warm-season turf.

"Posterity was engineered to uniquely provide power and endurance, when controlling key diseases," says Steve Dorer, fungicide brand manager for turf at Syngenta. "It was designed for greater affinity to binding sites in the pathogen, to provide more consistent control that superintendents need for these common but tough-to-control diseases."

Secure Action includes a boost of acibenzolar-S-methyl (ASM) to further improve golf's leading multi-site contact fungicide, Secure. Secure Action helps condition turf, so it performs at its best during the season and quickly recovers from biotic stress, like dollar spot, and abiotic stress, like drought and heat. The enhanced formulation provides increased disease control — including a 21-day interval for dollar spot control and suppression of bacterial wilt.

"With the addition of ASM, Secure Action kick-starts the plant's natural defenses for increased disease control and overall turf quality," explains Mike Agnew, technical services manager for turf at Syngenta. "Research has shown that ASM works best when used throughout the entire season. Rotating Secure Action with Daconil® Action™ or Heritage® Action™ fungicides provides superintendents with a very powerful result in terms of drought mitigation, improved disease control and the ability to recover from abiotic stress for their entire course."

Posterity will be available Aug. 1, and Syngenta anticipates Secure Action will be available in early September.

To learn more about preventing dollar spot with Posterity and Secure Action, register for the GCSAA webinar with Mike Agnew, Ph.D. on Sept. 19.

Sponsored content.

NEWLY REVISED & ENHANCED SUPPLIER DIRECTORY

What you get:

- Update your photos &
- Superintendents view in-depth information at a glance.
- Now with video available!
- Capture & engage with buyers INSTANTLY!

www.TradesWeb.com

Greens Venting



This afternoon, we 1/4" tine aerated a couple greens on the golf course (#s 2, 15, 16). Unfortunately, we have experienced minor thinning in several areas. This is a result of scalping caused by our air injection machine. When the machine fires a blast of air, the ground around the hole rises slightly. To correct this, we double rolled the greens following the procedure. However, the weight of the roller wasn't enough to fully compress the root zone back down. Over a period of a week or two of aggressive mowing practices (we double cut daily), we started to see some thinning in a pattern that matched where the tines entered the green.



The scalping wasn't instant, rather it took a period of a 1-2 weeks where the effective height of cut on those areas was much lower than the .125" we mow at. Due to the poor growing environment that these greens are located in (lack of any morning sun), the turf simply couldn't recover. It was also exacerbated by the constant rainfall we've been receiving. By opening some holes on these greens, we are getting much needed oxygen to the root zone and ultimately softening up the surface, allowing us to smooth it back out. In the meantime, we will be saving the air injection machine for the winter time, when we will run the machine in multiple directions, approximately four times. This has been a disappointing learning experience but the thin areas will ultimately recover and certainly will not worsen.

From the blog of Brian J. Stiehler, CGCS, MG Superintendent at Highlands Golf Club <http://highlandscggolfmaintenance.blogspot.com/>

Aerification 2018--A Week to Remember



Aerification week was last week as many of you know but it did not go as we had hoped. The agronomy staff worked tirelessly on Monday and Tuesday to get the greens aerified and started on some the other projects due to the forecasted rainfall for Wednesday and Thursday. It was a good thing we did because both of those days were a complete wash with the course receiving 3.41" of rain during that time. It is hard to collect cores and spread sand in the rain, as we found out. One last day, Friday, to get the course back together and the staff knocked it out of the park once again to get us open on time Saturday morning.



I know the word "aerification" is a four letter word for most all golfers but it is simply one of those necessary evils in the golf world. The process removes old plant and thatch which have accumulated through time, relieves compaction of the soil, provides new points for gas exchange between the root system and the atmosphere, letting the toxic gases out and fresh oxygen in, and allows for new materials such as sand or other amendments to be added to the soil system. In a nutshell, you wouldn't dream of driving your car 100,000 miles without changing the oil and expecting it to survive. We are simply changing the oil.

Most of the aerification process was the same this year as last but we did change a few techniques and add a couple of practices so I thought a new video would help explain the process.

The agronomy staff put forth a Herculean effort last week to get everything done that we did. The rain we received really messed up our scheduled activities but we made it through. We did not get all the cultural practices we



wanted done, such as core aerification of tees and top-dressing of approaches, and will continue to work on the list over the next couple of weeks. The greens are done and are healing in nicely so we look forward to welcoming everyone back out to enjoy the course.

From the blog of Paul L. Carter, CGCS Superintendent at The Bear Trace at Harrison Bay

New ECO 600T – Top Dresser Attachment



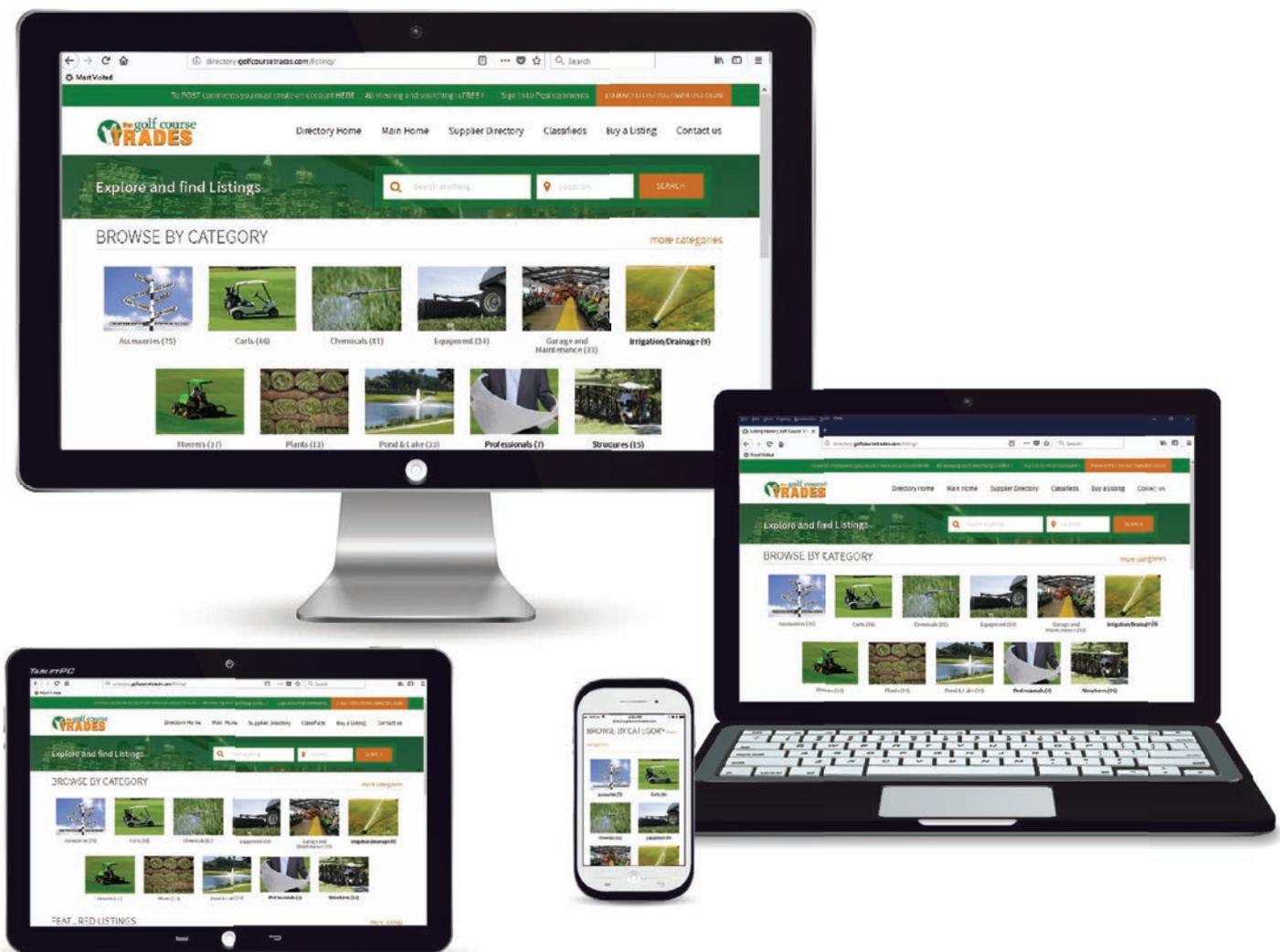
The ECO 600T 3-point hitch top dresser attachment is unique in Ecolawn Applicator's line of broadcast top dressers. Equipped with a category 2 3-point hitch and a PTO drive, the new generation ECO 600T makes handling heavier products feasible without sacrificing maneuverability or ease of operation. It has been designed with a hydraulic flow-gate system, for effortless adjustability directly from the driver's seat.

Whether applying compost, sand, soil, or a custom blend; the ECO 600T's large capacity, rear-delivery hopper (22 cu. ft) broadcasts bulk material in a 180-degree arc (22 ft. spread), making topdressing quick, smooth, and effortless.

For more information see their website at www.ecolawnapplicator.com
Sponsored content.

The News AT YOUR FINGERTIPS

EXPERIENCE *THE TRADES* HIGH-PROFILE INDUSTRY NEWS,
INTERVIEWS *and* THOUGHT-PROVOKING FEATURES
EVERY MONTH *on* YOUR PHONE *or* TABLET!



CHECK OUT OUR NEW DIRECTORY, VISIT TradesWeb.com.





2013 Jacobsen GPlex
400 Have 4 Call for Price



2013 Jacobsen LF1880 1400 Hours
Have 2 \$13,000 each



2013 Jacobsen LF510 4WD **CALL FOR PRICE**



Jacobsen Eclipse 322 Gas...Low Hours...Great Shape! **Call for pricing**



2013 Cushman Turf Truckster Have 2 1200 Hrs **\$14,000/ea**



2013 TORO 3280D 5' Deck 500 Hours
Great Shape **\$10,500**



2013 Jacobsen LF570 1800 Hrs
2WD Great Shape **\$16,000**



Quality Pre-Owned Turf & Grounds Maintenance Equipment

WE TAKE CARE OF YOUR NEEDS

866-331-6621

If you don't see it listed, give us a callwe probably have it!!!!



Miscellaneous Items/CALL for Price

- 2013 Toro 5610 W/groomers All Wheel Drive (Have 7)
- 2013 Toro 5510 11 Blade
- 2013 Toro 4200 4/W/D (Gas)
- 2011 Jac 322 /eclipse Greensmower 11 Blade Reels
- 2011 Toro 5040 w/Blade and New Rake Low Hours
- Toro Hydroject 3000 \$2000
- 2012 John Deere TE Great Shape!
- 2011 John Deere TE Gator Electric (Low Hours)
- 2012 John Deere TE Gator Electric (Low Hours) Accu-Pro
- 2010 Toro 3150 3WD 8 Blade
- 2010 EZ-GO Beverage Cart

- Used Core Harvester \$2500 Good Shape
- John Deere 8700 Verticutts \$5000
- John Deere 8700 or 7700 Reels \$5000
- Toro Greens Rollers \$2000
- 2009 Toro 4000 2200 Hrs \$22,000
- (2) Turfco Blowers \$5500/ea
- 2012 Toro 3500 Good shape!! \$20,000
- (5) 2011 John Deere 220 Walking Greensmowers w/trailers
- (4) 2011 John Deere 260 Walking Greensmowers w/trailers



2013 Toro HDX-D Truckster
Call for price



2013 Cushman SprayTec
(400 hrs) **\$18,000**



2013 Jac GM11 Front Blade & Rake
Have 2 2100 Hrs **\$7,500/ea**



2013 632 Foley Reel Grinder / 670 Bedknife Grinder
\$22,000/set



2013 Toro MD
Low Hours (Gas)



2013 Toro 4500 2000hours
\$33,000



2013 Toro 5410
1500 Hrs. **\$17,000**



2010 Toro 3150 11 Blade DPA
Heads Low Hours **\$16,000**



Toro 3500D Great Shape!
\$12,000



John Deere 800 Aer-Core
Have 2 **CALL FOR PRICE**



2011 John Deere 8500 4WD,
1800 Hrs **\$14,000**



2012 John Deere 8800 Med.
Hours Great unit! **\$18,000**



Toro 3100D Sidewinder
(Have 3) Low Hours **Starting at \$9,500**



2009 Jacobsen AR522
2100 Hours **\$16,000**

731-247-3264 • futuresgolf@wk.net
1180 Puryear Country Club Rd., Puryear, Tn. 38251

Conklin Players Club – The Best Do It Yourself Golf Course in Years

By Jay Flemma



Okay...let me say this out loud, so that I have this right in my head. A guy who never played golf in his life got a bunch of friends and family together, bought some mountainside land near Binghamton, New York and built one of the best and most reasonably priced public golf courses in the mid-Atlantic?

And on top of that, his home is the glass-sided pyramid that overlooks the eighth green and ninth tee box? I'm right about that? That's your story?

Well, every word of what you just read is true. It's called Conklin Players Club, located in the town of the same name, so deep in New York State's southern tier, you can hit a drive and an eight iron into Pennsylvania. And it's a do-it-yourself, feel good story that ought to inspire anybody who ever dreamed of designing and building their own golf course.

One night, out of a clear blue sky, Rick Rickard, who had never played a day of golf in his life, came home and announced to his wife Theresa, "Honey, I think I want to build a golf course."

If most of us said that to our wives, they'd probably shout back something like, "You can't even mow the lawn right. How are you going to build a golf course?" But Rick and Theresa were landscape designers by trade. Rick's side of the family also owned an excavating company.

"When my husband Rick puts his mind to something, he does it," Theresa explained, chuckling.

"When he gets an idea, he goes for it."

So Rick and Theresa bought an old dairy farm, 200 acres of tree-choked mountainside: hurly-burly, topsy-turvy property completely cloaked in hardwoods. They couldn't have picked a harder topography for first-timers to cut their teeth, but hey – in for a penny, in for a pound.

They roped in friends and family first, the bluest of the blue chip prospects being Rick's brother in law, also named Rick – Rick Brown to be exact – to help with construction, design, and most importantly, drainage. Rick is now the head superintendent of Conklin.

"I had worked for Rick in high school in his other business - a body shop. (His dad had the excavating company.) It was the late '80s and golf was booming. Rick got it in his head that he wanted to build a course, so we started clearing and construction in 1988," Brown recalled fondly.

It was a three-year build, with hundreds of thousands of cubic yards of earth moved up and down and along the mountainside, but with family and friends chipping in

sweat equity and equipment, the work went quickly and efficiently. But while the earthmoving was tough enough, learning the ins and outs of golf design was more formidable.

"We talked to everybody about everything all the time," Theresa stated in an earlier interview. "We read a lot, and we asked questions of other shapers, builders and superintendents of other golf courses. We also consulted Cornell, which was right up the road."

Cornell proved invaluable, as did the Rickards willingness to study, listen, and learn before doing

anything. That allowed Conklin to not just succeed, but prosper.

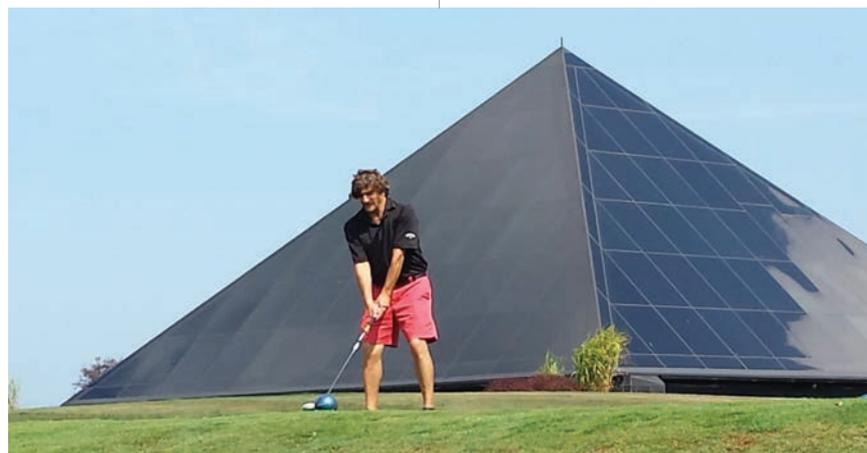
They learned how to build greens to USGA spec and that, coupled with their particular talent at drainage - after all, they were landscape designers – allows Conklin to stay open when other courses and private clubs are flooded. Southern Tier rains are legendary for their length and ferocity, and every ten years or so floods out of the Book of Revelations devastate the area. Nearby En-Joie golf club lost their PGA Tour stop because of them just over a decade ago.

Meanwhile, the only standing water at Conklin was in the parking lot.

"Rick and his father were in the construction biz for years; Rick's father knew how to do drainage, and Rick learned from him," Brown said. "It's all about the drainage here. This area is known for biblical floods, but we stay open when everyone else is closed."

"We used the slope of the land to run off the water, we have miles and miles of underground drainage, with French drains in strategic points, and we've been regularly adding more every year since we've been open. Everything – greens fairways, and bunkers – runs right straight into the irrigation ponds," he continued.

When it came time to design the actual golf holes, the land dictated a great deal of what they could do, but that's the best golf course architecture. Some holes spiral up the mountain, clinging perilously to its side like at frequent U.S. Open venue Olympic Club in San Francisco (3, 4, and 5, for example). Others tumble back down the mountainside, cascading like a chicane to greens waiting far below, (6, 9, 17, and 18).





Then there's the island green at the par-3 10th.

"We had to do that," Theresa admits puckishly.

It's just 130 yards: only a 9-iron or wedge, and the target is humungous. The green complex includes flower beds and a bunker, and is 60 yards across at its widest point, so just don't chili dip one off the tee, and you should be fine.

At its essence, Conklin is a mountain golf course, its fairways carved into the rocky face like green, grassy ski slopes. It's a murderous walk, but the sunsets are sublime, especially the view atop the par-4 16, aptly called the Volcano Hole because its steep slopes taper to a cone shape and the green lies in the crater. In the fall, with the leaves aflame with crimson and gold, the entire vale explodes with color before you, one of the most enchanting and iconic sights in northeastern golf.

"The toughest challenge here is the weather; you're at its mercy," warned Brown. "We do construction, but then things get washed out, so you have to re-do it. There's also a short and unpredictable growing season. This year was particularly terrible; we've had so much rain and snow that mowing has been difficult – a lot of extra hours. Sometimes it takes twice as long to do a job as it used to."

Conklin is exactly what golf needs more of: shorter, inexpensive public golf courses that you can play quickly, and not get too discouraged losing golf balls or slashing out of rough all day.

"We are a public golf course, so we want people to play in a short amount of time, and have a great time. We keep some holes, like nine, birdieable so people come back," Brown asserted firmly.

They succeed admirably. Everybody loves Conklin.

Pennsylvanians stream across the border in droves, while New Yorkers criss-cross the state any number of different ways to play. It's on every public golfer's short list in the region; most of all, because Conklin is fun: whether it's the island green or the reachable par-5s or the "secret hole," a.k.a. "7C" which is a hidden hole adjacent to the real seventh, and designed to look and play like 16 at Augusta National.

"We had to do that too," Theresa joked, laughing at her family's homage to one of golf's most iconic and historic holes. It's hidden in plain site, adjacent to the regular 7th hole, but only friends and family know about it.

Like I said: in for a penny, in for a pound. And regarding the pyramid they built for their house? Chalk one up for the modern designers: Rickards 1, Egyptian Pharaohs 0.

"Everyone asks what it is? Is it storage? One person thought there was an on-course rest room," laughed Brown. "It would have been the biggest rest room in history."

Indeed. Fit for an Egyptian pharaoh, but then again, that's par for this course. Only they didn't need a hundred thousand laborers. They did it all themselves. It's more satisfying that way. ■

When not reporting live from major sports championships or researching golf courses for design, value and excitement, multiple award-winning sports writer Jay Flemma is an entertainment, Internet, trademark, and banking lawyer from New York. His clients have been nominated for Grammy and Emmy awards, won a Sundance Film Festival Best Director award, performed on stage and screen, and designed pop art for museums and collectors. Twitter @JayGolfUSA

WANTED

YOUR USED GOLF AND TURF EQUIPMENT

WE PAY CASH!

GIVE US A CALL
FAIR AND COMPETITIVE PRICING
PREMIUMS PAID FOR ALL GOLF CARTS
AND ROTARY MOWERS

- ONE PIECE OR ENTIRE FLEET
- MOST MAKES • MOST MODELS
- WE ALSO ACCEPT TRADES

CHECK OUT OUR INVENTORY AT
WWW.UGATESTORE.COM



Groundsmaster-4500's



Toro 3500's



Jacobsen 5111's



Toro 4000's



**MANY MOWERS
IN STOCK!**

Jacobsen 311's



CALL US TODAY
(716) 474-1911
UGATESTORE.COM
SALES@UGATESTORE.COM
AKRON, NY



**THE LEADER IN
EQUIPMENT AND PARTS
FOR THE
GOLF AND TURF INDUSTRY**

**NO PAY 'TIL
MAY
2019**
FOR QUALIFIED APPLICANTS

**Fairway &
Greens Mowers**



2017 JACOBSEN LF510
655 hours!! Clean!
Priced at \$26,900



2006 JACOBSEN LF3400
2474 hours! 4WD!
Priced at \$10,900



2012 TORO RM5410
2 Available! NICE!
Prices start at \$19,900



2012 JOHN DEERE 7700
1424 hours!
Priced at \$16,900



2008 JOHN DEERE 7500
2077 hours! 4WD!
Priced at \$8,900



2014 TORO RM5610D
Cross-Trax 4WD - 2360 hours!
Priced at \$24,900



2015 TORO GR3320 TRIFLEX
1200 hours!
Priced at \$21,900



2014 TORO GR3150
2 Available - Clean!
Prices start at \$17,900



2013 JACOBSEN GK-IV+
Low Hours! 4 Available!
Prices start at \$14,900



2013 TORO GR3150-Q
1792 hours! Very Nice!
Priced at \$17,900



2014 JACOBSEN ECLIPSE 322
2 Available! Nice!
Prices start at \$14,900

**Sprayers,
Rollers & Rakes**



2014 TORO MP1750 SPRAYERS
1000-1200 hours! Loaded!
Prices start at \$22,900



TORO SANDPRO 5040 REFRESH
Refurbished! New Engine!
Call for Details!



2013 TORO SANDPRO 2020
2540 hours!
Priced at \$6,900



JOHN DEERE HD200
Spray Attachment for ProGator!
Priced at \$3,750



2007 TORO MP5700D
Diesel - 300 Gallon - 2200 hrs!
Priced at \$12,900



2004 TORO MP5700D
Diesel - 300 Gallon - 3250 hrs!
Priced at \$9,900



2012 SALSCO HP11 GREENS ROLLER - Gas! 1043 hours!
Priced At \$7,900



2012 TORO WORKMAN HDX
with 200 Gallon Sprayer!
Priced at \$22,900



TRU-TURF ROLLER
52" with Honda Engine!
Priced at \$7,900



SMITHCO BUNKER RAKES
3 Available! Call Now!
Prices start at \$4,900



2015 TORO SANDPRO 3040 BUNKER RAKE - 2 Avail!
Prices start at \$11,900

**Rotary & Trim
Mowers**



2014 TORO GM4500-D
Canopy! Nice Unit!
Priced at \$27,900



2010 TORO GM3500-D SW
2470 hours! Canopy!
Priced At \$19,900



2015 TORO RM3100D SW
72" REELS! 530 hours!
Priced at \$19,900



2014 TORO GM4700-D
1920 hours! Clean Unit!
Priced at \$42,900



2009 TORO RM3100D SW
1070 hours - 84" Cut!!
Priced at \$12,900



2006 TORO GM500-D
Clean! 3289 hours!
Priced at \$9,900



2014 JACOBSEN AR3
1242 hours! Nice Unit!
Priced at \$13,900



2006 TORO GM4000-D
Runs great! 11' Cut!
Priced at \$10,900



2012 TORO GM3500-D
2280 hours! Great Unit!
Priced at \$19,900



2015 TORO GM3500-D
1600 hours! Nice!
Priced at \$22,900



2013 JACOBSEN AR522
2560 hours! Clean unit!
Priced at \$16,900

**Vehicles &
Other Equipment**



TORO PRO FORCE BLOWER
Brand New Engine!
Priced at \$6,995



2012 TORO WORKMAN HD
Air-cooled! Low hours!
Priced at \$13,900



2013 TORO WORKMAN HDX-D
1360 hours!
Priced at \$16,900



2013 TORO WORKMAN HDX
Gas - L/Q Cooled - 2450 hrs!
Priced at \$13,900



CUSHMAN 1200X HAULER
Electric Bed Lift!
Priced at \$4,495



CLUB CAR TURF 2
Many to choose from!
Prices start at \$3,995



TORO PP200 TOP-DRESSER
Spinners! Wired!
Priced at \$8,900



EXPRESS DUAL 3000 SPIN GRINDER -Lift Table & Hood!
SET Priced at \$19,900



ANGLMASTER 3000
Bed-Knife Grinder
Priced at \$19,900



2012 TORO PROSWEEP 5200
Nice Unit!
Priced at \$7,900



KUBOTA 5400 TRACTOR
4WD & Turf Tires!
Priced at \$10,900



**PARTS
ONLINE**

NEW & USED PARTS
for the
GOLF & TURF INDUSTRY
800-969-0175
cutterpartsonline.com

Hundreds of Parts Machines! Thousands of Parts!



- SEATS, FRAME & BODY
- ENGINE COMPONENTS
- TIRES, WHEELS & CASTERS
- BELTS, SPINDLES & PULLEYS
- DRIVE TRAIN COMPONENTS

- ENGINES
- SERVICE PARTS
- CUTTING UNITS
- HYDRAULICS
- ELECTRICAL



NEW Hydraulic Reel Motor
Replaces OEM Part #105-9770
Fits Toro 2-Port Greensmaster 3000 Series
\$189 SALE (Regularly \$209)



Can't find what you're looking for?
Give us a call and let us help!

800-969-0175 | cutteronline.com

Buffalograss Basics

By Mike Fritz



***Sunlight:** Buffalograss does best in areas receiving at least 6 to 8 hours of direct sunlight per day. Morning sun is critical.

***Soil Type:** Buffalograss will grow in most all soil types except for coarse textured sand-based soils. Additions of organic matter (compost etc.) in coarse soils is beneficial for establishment.

***Drainage:** Buffalograss does not tolerate standing water for extended periods of time. It is recommended to correct drainage problems prior to seeding.

***Soil Fertility and pH:** A soil test will provide you with all the information necessary to adjust your soil's fertility level for optimum establishment and growth for your Buffalograss lawn. The pH of your soil is an important consideration. The optimum level for your lawn is between 6.0 and 7.5. It is necessary to correct the pH prior to planting since these amendments need to be incorporated into the soil to become effective. In general, apply a "turf starter" fertilizer prior to planting at rates

recommended for other lawn species, even if Buffalograss is not listed on the label.

***Lawn History:** One aspect that is frequently overlooked when planning a new yard is what herbicides, if any, have been applied to the area in the last 12 to 18 months. If pre-emergent herbicides have been frequently used in the past, you will need to check the residual effect on the label of the herbicide. These pre-emergent herbicides are designed to inhibit the germination of weeds, but they may also inhibit the germination of your new grass.

***Planting Date:** Buffalograss seed should be planted during the spring and summer months once the soil temperature has reached 60 degrees F and is on the rise. Spring plantings are generally best because the higher frequency of precipitation would reduce the irrigation requirements to maintain a moist soil. Planting too early in the Spring, however, may increase weed competition during establishment. If the site has access to irrigation, delay planting until crabgrass begins to





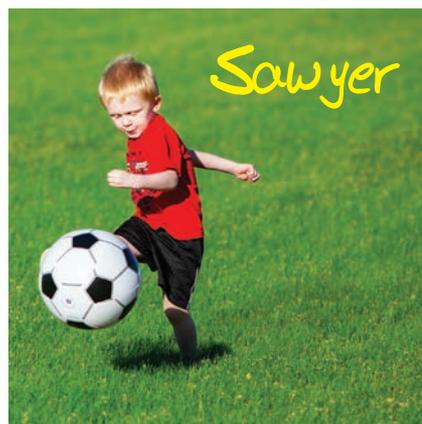
germinate and appear in the soil. Cultivate the crabgrass or spray with glyphosate, and then plant. The "cutoff" date for planting depends upon your geographic location. A simple rule to follow is not to plant within 75 days of the average first frost date for your location. The newly established plants must have time to develop adequate rooting prior to the first frost.

*Proper establishment practices will help to reduce weed competition, but weeds will likely be the single most limiting factor in establishing a new stand of grass quickly. Weeds compete for moisture, nutrients, and space. If left unmanaged weeds can severely damage a developing stand of Buffalograss. Mowing during establishment will decrease the competitiveness of some taller growing weeds. Mowing just above the height of the Buffalograss in the first 4 to 5 weeks will stimulate lateral spread and keep the seedlings exposed to sunlight which is necessary for growth. Products for use in the establishment phase and on established Buffalograss are available and new products will continually be labeled for Buffalograss as the popularity of the grass increases. One such product is Tenacity (mesotrione). Tenacity can be

applied at seeding time, and then again if needed 4 weeks after Buffalograss emergence. Three herbicides that are safe to use post emergent in the establishment year are Drive XLR8 (quinclorac), SquareOne (carfentrazone + quinclorac), and Solitaire (sulfentrazone + quinclorac). These herbicides have shown good flexibility and safety for new Buffalograss seedlings when used according to label. All three are effective on a wide spectrum of grassy and broadleaf weeds. They should be applied when the newly seeded Buffalograss is at the 2-3 leaf stage, or older. Pre-emergent herbicides for use on established Buffalograss include Specticle, Barricade, and those containing pendimethalin. Always follow the label of any pesticide product prior to its use.

For more information on Buffalograss, visit www.stockseed.com or www.nativeturf.com ■

Please see our advertisement on page 28.



DAKOTA

800.477.8415 / www.dakotapeat.com

Spread light, heavy,
wet or dry,
nothin' is easier
to use or adjust
than a **DAKOTA**
Turf Tender.
Period.

**SAVE 25% or more on your
Topdressing time and labor Cost
Guaranteed...Contact Your
Local Dealer for
A FREE Demo Today.**

- | | |
|--|---|
| <p><u>NE OH / NW PA / N WV</u>
SHEARER GOLF
855-GOLF-909
www.ShearerEquipment.com</p> | <p><u>SC / NC / TN / GA / AL / MS</u>
GREENVILLE TURF & TRACTOR
800-485-8873
www.greenvilleturf.com</p> |
| <p><u>NJ / NYC / NY LONG ISLAND</u>
STORR TRACTOR COMPANY
908-722-9830
www.storrtractor.com</p> | <p><u>SE.FL / HILTON HEAD / CARIBBEAN</u>
EVERGLADES EQUIPMENT GROUP
888-746-8873
www.evergladesequipmentgroup.com</p> |
| <p><u>ILLINOIS, INDIANA, MICHIGAN, WISCONSIN</u>
J.W. TURF, INC.
888-959-8873
www.jwturf.com</p> | <p><u>CALIFORNIA</u>
TORRENCE'S FARM IMPLEMENT
760-398-4141
www.torrences.net</p> |
| <p><u>IDAHO* MONTANA* N & S DAKOTA* NEVADA</u>
C & B OPERATIONS, LLC
800-823-9242
www.deerequipment.com</p> | <p><u>MID ATLANTIC AND NEW ENGLAND</u>
FINCH SERVICES, INC.
800-560-3373
www</p> |
| <p><u>LA / SOUTH MS / SOUTH AL / NORTH FL</u>
BEARD EQUIPMENT COMPANY
<i>mobile, al / ocala, fl</i>
800-848-8563
www.beardequipment.com</p> | |



Mower down, the Sequel!!

By Brian Duffy



I could hear the sound of the shot gun that sent the golfers across the course to their designated starting tee. The pressure was high as the golfers headed towards us from one direction and The Superintendent from another. In the nick of time, like getting a stalled car off the railroad tracks, the safety switch plug that the operator had broken off was reconnected and the mower was sent on its way.

This story was a little dramatic, but the point was made about the value of quick trouble shooting and repair. In that scenario the broken-down mower was a result of operator error.

Let's run through the scenario as if the breakdown was more than just operator error. Again, we have an engine that will not start and run. This condition can be the result of a mechanical failure of an engine component or the engine itself. Before we can effectively troubleshoot the engine, I want to look at what makes an engine tick. There are many books written on the subject of engine theory and operation. I am going to cover some of the basics of engine operation to give a glimpse of what is happening when an engine is humming along at 3600 rpms or not at all.

The type of engine we are trouble shooting is a four-stroke air cooled carbureted V-Twin. A four-stroke engine is also called a four-cycle engine, but a four-cycle engine is not another name for a four-cylinder engine. The engine

we are trouble shooting has two spark plugs, with one per cylinder. Therefore, it is a two-cylinder engine. It is common within the golf industry for equipment to be powered by one, two, three or four-cylinder engines using gasoline or diesel for fuel.

The origin of today's modern and efficient engine began in 1876 when Nicolaus Otto designed the four-cycle internal combustion engine, which became known as the Otto Cycle. The four-stroke name is derived from the action of the piston inside the cylinder as it moves upward or downward to complete a stroke. Four strokes complete one cycle. During this one cycle of the engine operation, the camshaft opens and closes the intake and exhaust valves at the right time while completing one revolution, as the crankshaft rotates and moves the piston up and down in the cylinder while completing two revolutions. The full travel of the piston in either direction is a stroke. There are four strokes that occur in an engine to complete one cycle of engine operation. The cycle of four strokes is repeated

continuously as the engine is running. The following action occurs within each stroke.

Intake Stroke - The piston is moving downward in the cylinder while the intake valve is open and draws the air and fuel mixture into the engine, while the exhaust valve is closed.

Compression Stroke - The piston is moving upward in the cylinder compressing the air/fuel mixture while both the intake and exhaust valves are closed.

Power Stroke - The piston begins to move downward again as the ignition sends a spark through the spark plug and ignites the compressed air/fuel mixture.
Exhaust stroke - The piston is moving upward in the cylinder while the intake valve is closed, and the exhaust valve is open to allow exhaust gases from combustion to push out through the exhaust manifold and into the muffler.

There are three conditions that must be present to allow an engine to start and continue running. These conditions are fuel, ignition and compression.

Let's look at each of these conditions and how to perform some basic troubleshooting. Remember use caution when working around the any fuel, Where safety glasses and no open flames.

Gasoline/Fuel

1. Check for gasoline level in the tank and verify that the fuel tank shut off valve is open. If the tank is empty add gasoline and try restarting. Again...a no start situation.
2. Remove the air cleaner and give the intake of the carburetor a little shot of starting fluid while cranking the engine. At this moment the engine starts and runs for few seconds. This tell us that ignition and compression is present, but no gasoline is getting into the engine.
3. From here, disconnect the fuel line from carburetor and direct the open fuel line into an empty container while cranking the engine. The gasoline should flow out in a pulsing action as the engine cranks over. If so, the fuel pump is good. If there is no flow, most likely the fuel





pump is defective and needs to be replaced. Also at this time, inspect the pulse vacuum line attached to the pump for any cracks. The fuel pump is operated from a pulsating negative and positive pressure from inside the engine as the piston goes up and down in the cylinder. We will move on as the fuel pump is found to be good but we still have a no start situation.

4. This leads us back to the carburetor and why is there no fuel getting into the engine? At the base of the carburetor is a small 12-volt solenoid that

operates a plunger that opens and closes the main fuel jet inside the carburetor. Listen carefully while turning the ignition key to the run position. You will hear a faint click as the solenoid pulls in the plunger to open the main jet and allows fuel to flow. In our case, we cannot hear the click. Now take a test light and check for power at the solenoid wire lead. If power is present, the solenoid needs to be replaced, and the engine will start and run.

Ignition

1. Remove a spark plug and place the thread base against the engine ground. Crank the engine and look for the presence of a spark. At this point...no spark and a no start engine.

2. When the ignition switch is turned to the off position, this grounds the ignition coils and shuts off the spark to the spark plugs. The next step is to disconnect the ground wire on the side of the engine blower housing. Again, crank the engine. Now we have a spark and the engine should start and run.

3. The results of disconnecting the ground wire tell us there is problem in the key switch, relays or wiring.

4. At this point, we would move into electrical trouble shooting.

5. Another situation that can occur is a sheared flywheel key. This would still allow a spark, but at the wrong time, and would result in not starting or backfiring from the carburetor or muffler.

Compression

The easiest way to check compression is with a compression tester. Follow the instructions in the test kit to perform this test. A more advanced tool is a cylinder leak down tester. This test will pinpoint the compression failure, whether it is bad rings or valves.

A total loss of compression can also be detected without any test tools, when the starter can spin the engine over freely without any resistance. This can be confirmed by removing the spark plugs and blocking the spark plug holes with your thumb while cranking the engine. If you can keep your thumb in place, there is loss of compression. This indicates a broken connecting rod, piston or valve damage.

Trouble shooting can be confusing and overwhelming. So, when your mower is down, keep it simple and remember all three conditions must be present for the engine to start and run. Again, they are fuel, ignition and compression.

Feel free to submit your comments, questions and ideas to Brian Duffy at mxk92@yahoo.com.

Brian Duffy's career spans thirty five plus years in the golf industry. With a diverse background of working on golf courses and turning wrenches on all types of equipment. Plus teaching Golf Course Equipment Mechanics and progressing into turf equipment sales and service. For any questions, comment or ideas contact me at mxk92@yahoo.com

FAIRWAY TURBINE BLOWER

MODEL TB-270



Features:

- Powered by a 27HP KOHLER engine.
- Wireless remote control.
- Ideal to blow cart path.

MODEL TB-380 I.C.



Features:

- Powered by a 35HP KOHLER engine!
- Intelligent control system air nozzle.
- Get the performance of a 3 point hitch blower without the need of a tractor.
- Ideal to blow fairway.

Cut your blowing time in half

PROFESSIONAL TURF CARE EQUIPMENT

AgriMetal

The most powerful turbines on the market.

See action video at www.agrimetal.com or call 1-888-398-6883

LASTEC: WHO WE ARE



Today, any knowledgeable turf professional knows that there are a number of options to choose from when purchasing a mower to cut large expanses of contoured turf with a rotary mower. Articulating rotary mowers are a common sight at almost any golf course. What many new to the profession may find hard to believe is that articulating rotary mowers didn't even exist 25 years ago. The first articulating rotary was introduced by Lastec in 1990.

In 1990, Jeff Laskowski founded Lastec, which began manufacturing and marketing a simple mower



designed to cut rolling turf without scalping or missing grass. This revolutionary PTO-driven mower developed by his friend and early partner, Dan Tekulve, utilized seven 21" rotary decks attached to a frame that was pulled behind a tractor. Each floating deck was driven with a belt transferring power from one deck to the next. This early mower could cut 10 feet wide as accurately as seven workers using small push mowers. This design was revolutionary at the time and granted multiple patents. One tractor and one mower replaced the efforts of seven without any compromise to cut quality.

What started out on Jeff's kitchen table has become one of the most respected manufacturers of articulating rotary mowers in the industry. Perhaps the most visible tribute to the concept has been that all wide area grooming mowers on the market today attempt to imitate the cut quality of the articulating rotary deck Lastec introduced to the world over two decades ago. Lastec's patents still give every Articulator measurable advantages in efficiency, simplicity, and cost when compared to any others. Lastec mowers are still the only wide area articulators available in zero turn configurations.

SOME IMPORTANT MILESTONES IN COMPANY HISTORY

1990 Lastec introduced the Model 721, a PTO-Driven articulating rotary mower with a ten foot wide cut and cut quality of seven 21" push mowers.

1995 Lastec introduced the first self-contained wide area Articulator with the introduction of the Model 421 and Model 425, zero turn units with 82" and 96" cutting widths.

1998 Lastec merged with Wood-Mizer Products, and

leveraged that partnership to grow annual sales to over \$10 million.

2003 Lastec/Wood-Mizer took first step to becoming an employee owned company by the formation of an ESOP that purchased 51% of the company.

2007 Lastec/Wood-Mizer become 100% employee owned.

2008 Lastec introduced the Model 3300. A 100" wide, zero turn, self-contained articulating mower focused on mowing applications outside of the golf market.

2012 Lastec introduced the Model 4520. A 120" wide, zero turn, self-contained articulating mower focused on the golf market and other mowing applications that require a wide area mower.

2015 Lastec re-introduced the 61" and 73" commercial units at a competitive price with the same Lastec quality you have come to know and trust.

2016 Lastec celebrated their 25th year!

WHERE WE ARE NOW

Lastec has had over two decades to refine the concept of articulating rotary mowers and today offers the most comprehensive line of articulating rotaries. While Lastec remains a comparatively small player in the whole turf industry, it is the dominant manufacturer of rotary mowers designed to cut the most challenging turf on the planet. That's why one in four of the top 100 golf courses routinely look to Lastec Articulators to meet their cutting needs.



For more information call 800-515-6798 or visit Lastec on the web at www.lastec.com



Golf Trades

WANT A HOLE- IN-ONE?

Golf Trades
Advertise in
Golf Course
Trades...

See what one of our readers has to say:

"As my background is not just in the golf industry but also as a journalist for several years for newspapers in the Northwest, I commented to a couple of my peers that the Trades magazine has stepped it up in their quality and knowledge of your articles for our industry.... So much so that now, I like reading your magazine from front to back. It's 'good stuff'! Keep up the good work."

*Joseph Hubbard, CGCS/CEMP,
Certified Golf Course Superintendent*

Boca Delray Golf & Country Club

PRINT: Golf Course Trades
Mailing 16,000+ copies, including Every Golf Course Superintendent/Every Month Since 1987

eNewsletter: Golf Course Trades Online
20+% Open Rate

TradesWEB: GolfTrades.com website
The Industry's Go-to Buyer's Guide – Updated Daily

To Advertise, contact us at (931) 484-8819;
adrep@thetrades.com

Leaking Pond? Using too much water?

Call 877-771-6041



Soilfloc® Sealant stops leaks in ANY earthen pond, lake, canal, tank, and more!

- No need to drain water!
- Easy to apply
- Non toxic, won't harm livestock



In studies of actual turf applications, Soilfloc GC™ has been shown to increase water efficiency up to 20 percent.

- Reduce water use
- Reduce runoff
- Reduce cost
- Improve turf quality



AQUA BEN
CORPORATION

www.aquaben.com



Non-retouched client photo: GreenJacket System coming off in the spring!

PROVEN BY 20+ YEARS OF SUPERINTENDENT SUCCESS.

- Patented **IMPERMEABLE** Reinforced Winter Cover Turf Protection System.
- **PERMEABLE** Reinforced Grow-in Covers increase healthier turf growth.

Find out how the GreenJacket System
can make a difference for your turf.

Call 888-786-2683 or Email info@greenjacket.com
See Research at GreenJacket.com

Reducing Winter Injury



Winter injury on golf turf is often related to moisture. Managing moisture by applying surfactants later in the season has become a trend in the industry, as superintendents try to optimize winter health and improve recovery in the spring.

Winter temperatures and extremely dry winds can lead to desiccation of the turf. Water in the turf root zone is often lost at a much faster rate than it is replaced, leading to winter injury and slow or delayed spring green up. A late-season application of a surfactant positively influences moisture conditions in the root zone which helps to minimize winter-related problems.

In the North, where irrigation systems are winterized, the strategy has been to use a surfactant just before the irrigation system is blown out. The goal of this application is to improve moisture availability in the soil throughout the winter months and into the spring. For those in the South, on the other hand, wetting agents are regularly employed throughout the winter months to improve soil moisture conditions during a time of year when warm season grasses are in transition, dormant or very slow growing.

Back to the Basics

Localized dry spots are irregularly shaped areas of turf brown turf that result when soil does not allow moisture to penetrate and/

or hold moisture from irrigation or rainfall. This is a major issue on putting greens and other fine turf areas where uniform distribution of moisture throughout the root zone is required for playability of an intensely managed turf surface.

This is where wetting agents come into play. Wetting agents are surfactants – a group of chemical compounds that positively impact the surface tension of liquids. Throughout the winter, they can keep maintenance programs ahead of schedule, reducing the surface tension of water by lowering its cohesive properties and allowing water to enter an otherwise hydrophobic soil.

Taking Control

When used during colder months, one of the goals in applying surfactants is to improve water movement, particularly infiltration and downward penetration. When applied in late fall, a surfactant reduces hydrophobic conditions, guarding against winter desiccation and improving green up.

“We are finding that many superintendents see the benefits

of using wetting agents during the winter,” says Lee Schaber, Agronomic Services Manager for Aquatrols. “It focuses their attention on year-round water management, which assists in fine surface enhancement.”

Research has shown that deploying permeable putting green covers is one of the most effective methods to minimize the effects of extreme low temperatures. Combining wetting agents with covers is an ideal one-two punch to decrease the negative effects of dry conditions and low temperatures on putting greens, providing superintendents with a potential insurance policy against winter desiccation.

Revolution vs. Aqueduct Flex

There's no question that winter can be hard on fine turf. As you prepare for the start of the season, you may need to repair damage done by hard winter conditions. Revolution and Aqueduct Flex, two products from the Aquatrols portfolio, are two that superintendents find particularly helpful in getting their turf back up to speed.

Regardless if your winter season is wet or dry, implementing a high-quality surfactant program can help tremendously. Revolution helps the optimization of air-to-water ratios in the root zone for a better growing environment and healthier turf, and is most effective when applied early in the season. In wetter conditions, Revolution promotes the movement of excess water off the surface and through the soil profile. Coming out of a drier winter, Revolution ensures that early precipitation will get into the root zone so your turf gets the uniform moisture it needs.

“Revolution is the only wetting agent on the market that goes beyond water repellency issues,” says Schaber. “When golf courses utilize it after a long winter, we see positive results in the reduction of stress on turf health and promotion of a faster recovery from winter injury.”

Aqueduct Flex granular provides fast, safe relief to areas of stressed turf, with visible results in as little as three days. When applied monthly at the prevention rate, it also provides up to 30-day protection against the development of localized dry spot and is safe to use from tee to green.

“When staffs are looking for a quick fix, Aqueduct Flex is their answer,” Schaber. “It is specifically designed to give turf care professionals superior performance with flexible options for dealing with stressful conditions, including localized dry spots.”

What's Next?

Whether you are managing cool or warm season turf, continuing surfactant use through the final months of your maintenance program can be extremely beneficial in managing moisture in the root zone. Reducing winter injury, improving spring green up and managing transition are all positively affected when using surfactants late in the season. ■



Ww SOD
&
EQUIPMENT CO.

OKEECHOBEE, FL • VERO BEACH, FL

SPECIALIZING IN BERMUDA 419 & PRE-OWNED EQUIPMENT

Contact us at:

Lee - 877-912-REEL (7335) or lee@expressreel.com
Doug - 561-662-1936 or wwequipment@aol.com
Visit us on the web @ www.wwsod.com
SERVING THE TURF INDUSTRY "WORLD-WIDE" SINCE 1985



2011 Toro GM4500D w/2086 hrs - \$27,500



2010/2011 Toro 3100D's w/1200-1700 hrs - \$13,500



Soil Relievers/Vertidrains \$7,500



2012 Toro 3320 TriFlex Hybrid w/1100 hrs- \$15,500



2009 Toro GM3500D's 2000 hr Range \$9,000

ALL FAIRWAY MOWERS 'READY TO GO'!



2010/2011 RM5610's w/1700 hrs - \$15,000



2011 Carryall Turf 1's \$4,500



2011 SandPro 3040's Repowered New Engine \$9,000



2011 Toro 360 All Wheel Drive & Steering w/90 hrs \$15,500



2012 Multi Pro 1250's w/1600 hrs - \$15,500

ALL WALKERS \$1500-\$4500 CALL!



2011/2012 Toro 3150Q's w/less than 1500 hrs \$14,500



2010/2012 Salsco Rollers \$6,500



2011/2012 Toro 5510's w/ 1400-1800 hrs \$12,500-\$17,500



2010 Toro 6500D 4 W/D w/ 1765 hrs- \$12,500



2011 Toro 5410's w/1500-1900 hrs - \$12,500-\$17,500



Visit Our Website www.wwsod.com to View Our New Rental Fleet

We're not just in the business... WE MADE IT!

Our large inventory allows us to supply any tire need for any machine or vehicle.

POMP'S

TIRE SERVICE

THE Flotation Tire Specialists!



Golf Course Superintendents nationwide have proven that Pump's Flotation Tires are essential during delicate operations:

- TOP DRESSING • SPRAYING • MOWING • BACK FILLING TRAPS • AERATING

The large contact area of the flotation tire effectively distributes load over a broad area. This produces lower unit ground pressure, resulting in minimized soil compaction. Our custom built wheel and tire combinations will convert your golf course equipment into the most productive tools you will ever own.

GOODYEAR

GALAXY

TITAN

CARLISLE



"We know tires... You should know Pump's"

For further information call our TOLL FREE number today in the US & Canada:

800-348-2396

FLOTATION TIRE SALES & SERVICE

1037 W. Broadway
Box 637 Monticello, IN 47960
Phone: 574-583-4136 • Fax: 574-583-7267

www.pompstire.com • rzarse@pompstire.com

ORIGINAL EQUIPMENT REPLACEMENT
FLOTATION TIRES • RIMS
• WHEELS • SERVICE
Rims and Wheels: Specially fabricated heavy-gauge rims and wheels are available for custom conversions and original equipment replacement.

The Deep South Turf Expo Continues to Roll with the Greens in the Fourth Season

By Melanie Bonds



Plans for the 2018 Deep South Turf Expo are coming together. Information about the 2018 education line-up that serves as the centerpiece of the Expo is available on our website of DeepSouthTurfExpo.org. This year our keynote speaker is veteran industry journalist Pat Jones. Pat will explore why turf is critical to American life today and why it will be even more important in the future. Expect a fast, furious and funny look at our industry's past, present and future.

In an additional golf segment presentation Pat will discuss how in recent decades, more superintendents have been fired for poor communications than poor turf. He will share proven, effective communications strategies for superintendents including when and how to use social media in his presentation, "Modern Networking: Building Relationships in the Digital Age."

Now in its fourth year, the Expo continues to change and adapt to further meet client's needs across the Southeast. One big change this year is the addition of a second golf tournament. The Preserve Scramble, sponsored by Ameri-Turf, which has been held on the Tuesday prior to opening of the education session, will be held as usual. However, Tuesday's scramble has grown so much that it indicated the need for another

tournament. Those who take a more serious approach to golf can now register for a two day "Championship" Golf Tournament and play a Two Person Best Ball format. The Championship will begin on Monday, November 26th at The Preserve, followed by a Fish Fry Dinner provided by Beard Equipment Company. Beard, along with Greenville Turf and Tractor, are the namesake sponsors of this event. On Tuesday the action moves to Fallen Oak Golf Course where teams will finish play.

Our fourth Skeet and Trap Tournament at Coastal Rifle and Pistol Club (sponsored by Dow AgroScience) will be held Tuesday during the golf tournament. Meanwhile, the sports turf field tour (sponsored by Agri-AFC and PBI Gordon) will be held concurrently and we thank Keaire Edwards for making Gulfport's beautiful playing fields available for a behind the scenes tour for our members.

This year will also see changes in the Tradeshow. Adjustments have been made to increase traffic for the exhibitors and fun for the attendees. Breakfast, sponsored by Harrells, Syngenta and FMC, will be served on the tradeshow floor on Wednesday and Thursday morning. The tradeshow reception, sponsored by Jerry Pate Turf and Irrigation, takes place on Wednesday, from 4:00 – 5:00

p.m. and we will rock the show with a live band (sponsored by Harrells) during the afternoon! We welcome our new Partner, Simplot, Inc., who is sponsoring lunch on Wednesday.

In order to increase traffic during the trade show there will be various contests and games set up around the trade show floor. Time to show off your putting and corn-hole skills for cash prizes! Winners



will be announced at the end of the reception during the close of the silent auction. Following the reception and auction we will hold our host organizations' business meetings. Thanks to the support of our hosts: Alabama Golf Course Superintendents Association, Alabama Turfgrass Association, Gulf Coast Golf Course Superintendents Association, the Louisiana/Mississippi Golf Course Superintendents Association

and the Mississippi Turfgrass Association.

Our Deep South Turf Expo Board is working hard to ensure that our regional show is relevant to all our attendees and exhibitors. Stay tuned for some exciting new announcements over the summer and fall. Please block out those days during the week after Thanksgiving to attend and stay abreast of the latest in the Turfgrass industry and stock up on your pesticide and education points for the next year. See you there! ■

Melanie Bonds is the Executive Director of the Alabama Golf Course Superintendents Association

THE Golf Course TRADES

ADVERTISERS

Abell Turf & Tractor www.abellturfandtractor.com.....	32	Repower Specialists, Ltd. www.repowerspecialists.com.....	7
Affordable Turf & Specialty Tire www.sstirez.com.....	29	RightLine LLC www.rightlineusa.com.....	5
AgriMetal, Inc. www.agrimetal.com.....	21	Schaeffer's Fuel Additives www.schaefferoil.com.....	9
AgSource Laboratories www.agsourcelaboratories.com...	28	STS Turf www.ststurf.com.....	29
Aqua Ben Corporation www.aquaben.com.....	23	Turf Pride, LLC - Trion www.turfprideusa.com.....	9
Buffalo Turbine, LLC www.buffaloturbine.com.....	31	TurfTime Equipment www.TurfTimeEq.com.....	28
Carolinas GCSA Trades Show www.www.carolinasgcsa.org.....	2	UGATE Store www.ugatestore.com.....	15
Country Club Landscaping www.usedturfequipment.com.....	8	Wilger, Inc. www.wilger.net.....	31
Cuddeback Machining, Inc. www.cuddebackmachining.com...	28	WW Sod & Equipment, Co. www.expressreel.com.....	25
Cutter & Buck www.cbextra.com.....	29		
Cutter Equipment www.cutteronline.com.....	16,17		
Dakota Peat & Equipment www.dakotapeat.com.....	19		
Futures Golf Equipment www.futuresgolfequipment.com...	13		
Global Turf Equipment www.globalturfequipment.com.....	3		
Golf-Lift www.golf-lift.com.....	31		
GreenJacket www.greenjacket.com.....	23		
Harper Industries www.harperindustries.com.....	28		
John Deere Company www.johndeere.com.....	8		
Klingstone Inc. www.klingstonepaths.com.....	5		
Pomp's Tire Service www.pompstire.com.....	25		
Power Planter, Inc. www.powerplanter.com.....	28		



TELL US WHAT YOU THINK
golf@thetrades.com



Golf Superintendent's Monthly Buying Guide

Published by Trades Publishing Company, Inc.
PO Box 1364, Crossville, TN 38557

For advertising information
call 931-484-8819 or
email adrep@thetrades.com.



CEO/Founding Publisher
James "Tim" Wilson

Managing Editor
Sharon Scott Wilson
SharonINK@thetrades.com

Sales Manager
Marla Carroll
Marla@thetrades.com

Marketing Associate
Caitlan Hamby
caitlan@thetrades.com

Layout/Design
Ken Rowland
golf@thetrades.com

Art Director
Carrie Vandever
news@GolfTrades.com

Contributing Writers
Linda Parker
Jay Flemma
Jeff Shelley
Brian Duffy



We welcome all contributions
(submit to golf@thetrades.com),
but we assume no responsibility for
unsolicited material. No portion of
this publication can be reproduced
in whole or in part without prior
permission.

The Golf Course Trades, established 1990, is a tabloid buyer's
guide publication targeted specifically at the golf course super-
intendent. The Golf Course Trades offers display advertising,
a categorized supplier directory, press releases, and extensive
product reviews for heavy equipment. GolfCourseTrades.com is
an extension of the magazine with a complete supplier guide for
everyday use on the course. The Golf Course Trades currently
mails to 18,955 golf course superintendents and product vendors
in the United States. A digital copy of the publication is online as
well at GolfCourseTrades.com.

Copyright © 2018 The Golf Course Trades. All rights reserved.

YOUR DIGITAL
RESOURCE
WHEN MAKING
PURCHASING
DECISIONS. Check
out the Supplier
Directory at
GolfTrades.com

GO
MOBILE!

GOLF
TRADES AT
YOUR FINGER
TIPS:
Searchable
Sociable
Mobile Friendly
Sharable
Downloadable

GolfCourseTrades.com

Golf Trades Trades Place

Soil Health • Plant Tissue • Irrigation Water

Over 50 years of turf testing experience!



Ask about our new
Soil Health Add Test

402.476.0300 • lincoln@agsource.com

AgSource
LABORATORIES

©2018 All rights reserved. AgSource Cooperative Services A-17571-18



Great **Turf** in less **Time**
with the right **Equipment**





The Classic dethatcher
verticutter

www.TurfTimeEq.com
800-201-1031



CMI 

Remove cattails from your ponds while standing on the shore with "The Yard Blade" garden tool, by CMI.

www.Cuddebackmachining.com/products/yard-blade for videos and to purchase.



HARPER INDUSTRIES, INC.
www.harperindustries.com • 800-835-1042

FLORIDA
EVERGLADES
EQUIPMENT GROUP
888-746-8873
www.everglades-equipmentgroup.com

Self Propelled Turf Vacuum

Harper has all your turf maintenance needs covered.

SUNDANCER



Hottest Buffalograss Under the Sun

- Superior Establishment from Seed
- 50% Less Fertilizer, 50% Less Mowing, Up to 50% Less Watering
- Darker Green Color with Extended Green Period
- Improved Disease and Insect Resistance
- Drought Tolerant, High Quality Turf

Brought to you by:

1.800.759.1520
prairie@stockseed.com
28008 Mill Rd, Murdock, NE
www.stockseed.com



GARDENING • LANDSCAPING • TREE FARMING • TERMITE PROTECTION • GROUNDS MAINTENANCE

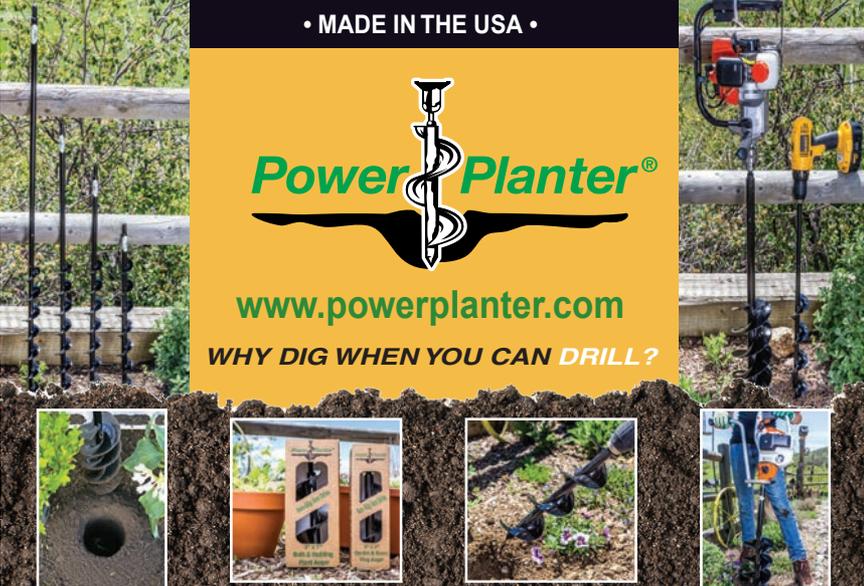
• MADE IN THE USA •



Power Planter[®]

www.powerplanter.com

WHY DIG WHEN YOU CAN DRILL?



NEWLY REVISED & ENHANCED SUPPLIER DIRECTORY

What you get:

- Superintendents view in-depth information at a glance.
- Now with video available!
- Capture & engage with buyers INSTANTLY!

www.tradesweb.com



ALL YOU NEED IS CLIQUE®

STAFF WEARABLES • EMBROIDERY CAPABILITY
• VALUE PRICE

For more information or to place an order for your staff, please contact your local sales representative.



The Next Generation of Turf Nutrition

Pre-Digested Nutrients Nutrient Mining Technology



Discover the STS difference!

Delivery of essential nutrients in available forms
(ionic, complexed and chelated)
Soil products with donating charge technology
Nutritional and Agronomic Solutions for Optimum Turf Quality!

Brad Snavely
STS Corporate Technical Director

— Distributor opportunities available —

831-224-3179
Call for the STS representative nearest you

Visit us online at
www.ststurf.com

HELP WANTED

GlobalTurf is rowing and we are looking to add some energetic, talented people to our team! We offer competitive pay, 401k, Insurance and upward mobility opportunities. If you are interested in one of the positions below, contact us and come along for the ride!

- Salaried Southeast Regional Sales Representative (Florida Based)
- Technicians/Mechanics at our corporate office in Tampa. We have a newly remodeled service workshop!
- Sales Representatives in the Florida, Georgia, Alabama & the Carolina's

Contact us at 352-588-3092

AFFORDABLE
TURF & SPECIALTY TIRE

The #1 Dealer
for Price, Selection
and Service!

Warehouse Sale

FOR A LIMITED TIME ONLY!

We've been serving golf courses for over 40 years! Call Us Today!



Carlisle LinkSport 18x8.50-8 Golf Cart Tire

Looking for the most advanced golf cart tire? Carlisle's newest design, the LinkSport 18x8.50-8, is the tire you're looking for. With a progressive interlocking matrix tread design, the LinkSport reduces the chances of tire marks and lowers the impact to grass surfaces to the minimum threshold.

\$25.00 Each

OR
\$35.00 Each

On 4-Hole White Wheel

CARLISLE'S MOST ADVANCED AND BEST GOLF CART TIRE.

We Specialize in All Kinds of Golf Course Equipment Tires



Amerityre Solid Tires



BKT Tires



Carlisle Tires



Deestone Tires



GBC Motorsports Tires



Greenball Tires



InnovaTires



ITP Tires & Wheels



Trelleborg Tires



Wheel Mate Tires

Call and Order Now!

Corporate Headquarters: 1-866-485-0089
Sales Representative: 1-623-258-8277



The Professionals For All Your
Turf and Specialty Tire Needs!

400+ PRE-OWNED EQUIPMENT ONE CLICK AWAY

TradesWEB.com

What are you looking for?

Carts, chemicals, equipment, mowers, and more....
Searching for pre-owned equipment just got a whole lot easier.



931.484.8819

TradesWEB.com

Golf-Lift

America's #1 Turf Equipment Lift



GL-9

- * The Patented GL-9 is now *to the rigid OSHA recognized ANSI/ALI ALCTV-2011 turf/auto standard.*
- * Exclusive *Tire-Wedge* turf arm system allows Total Vehicle Coverage
- * Eliminates all double ramp and protruding beam obstacles
- * Manufactured and warranted by the largest lift company in the world

(800)788-9789

www.golf-lift.com

The **Original** and **Most Powerful Turbine Blower**



CYCLONE PTO

CYCLONE KB4



(716) 592-2700
VISIT OUR **WEBSITE**
BuffaloTurbine.com

DON'T SETTLE FOR **KNOCKOFFS!**



*Consistent & Dependable Results.
Trusted for Over 40 Years.*



www.WILGER.NET

COMBO-JET®



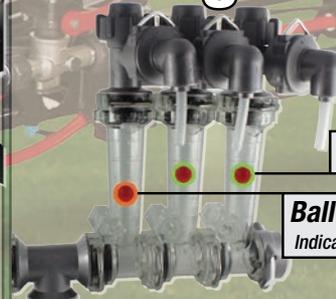
Drift Reduction Tips

COMBO-RATE®



Nozzle Bodies

Wilger Visual



Flow Indicators

Easy to Use
Desired Flow

Ball Suspended Lower
Indicates blockage or plug

Wilger manufactures accurate, cost effective sprayer components that minimize waste and improve effectiveness.



Tip Wizard is the easiest way to choose the best spray tip. Download it on free smartphone app, or on www.wilger.net



Call Today
(877) 968-7695

Ready... Willing... Abell Turf and Tractor



John Deere 7700 Fwy,
4wd...priced to move!



Club Car Turf 2's, refurb-
ished... 20 to choose.



Jacobsen LF-570,
4wd!



Turftime Dual Spin 2430 Top Dress-
ers ... 2 demo units to choose!



John Deere 7700a,
4wd, 600 hrs!



Mint! AR-722 with
under 1000 hrs!



Late Model Toro 1250 Spray-
ers... fully refurbished



Salsco HP11 rollers, low
hours, 2 to choose!



Toro 3300 T
to choose, 2015 models with
under 1000 hrs!



Nice Tycrop MH-400
with all attachments!



Toro 686, demo condition



Toro 5040's fully loaded, and
refurbished... 6 to choose

PARTS SPECIAL!

John Deere 1200A Carb -- \$155
Best Starter prices around... Call to check pricing

John Deere Aercore 800 lift actuator direct replacement!!!
Only \$325 each! Plug and play

Progressive Pro Flex PTO shafts complete!! Replaces #
521738 ... \$560 plus shipping!

Progressive Pro Flex 120 complete blade sets!! Replaces
522374 and 522372... \$85 plus shipping per set!

Pro Gator Radiator Fans!! Replaces# AM129853...
\$175.00 plus shipping!



Late model Toro 5510's,
some with 4WD

Abell Turf Rents!

Toro 648's, Toro 1298 w/trac-
tor, Fairway Verticutters, Mate-
rial Handlers, Greens
Rollers...and much much
more!

Call for details!



Seats for Sale!
only \$100 ea
+ shipping

Fit's any Jacobsen, John Deere,
or Toro machine and utility vehicle
in the mfg.'s color (grey or yellow)



Arag Sprayer Valves -- for Toro, Jacobsen John
Deere Sprayers! Much cheaper than OEM.

TWO LOCATIONS TO SERVE!
Canton, GA • Loxahatchee, FL
Call Franklin Abell
(678) 296-0822
fabell@abellturf.com

All major brands available
We ship worldwide
60 Day warranty on all purchases

www.AbellTurf.com