

MAY 2013
golfcourseindustry.com

Download the app version and watch this cover come alive.

GOLF COURSE[®] INDUSTRY

SERVING THE BUSINESS
OF GOLF COURSE MANAGEMENT



The
Sustainability
Issue

Stories focused on how you influence the environment, the community and our lives.



Are your greens ready for summer?

Protect your turf from the elements with our Summer Stress Reduction Program.

Guard your turf from the threats of summer stress by strengthening your turf with our exclusive Signature® brand fertilizers. These advanced foliar nutrients and plant health products keep turf resistant and resilient by growing better roots, stronger shoots and triggering plant defense mechanisms.

Contact your local Direct Solutions representative today, and see for yourself the benefits of our exclusive program.

DIRECT SOLUTIONS™
Committed to Growth™

Learn more about these products or to find your local sales rep at :
www.aatdirectsolutions.com



Beat Summer Stress With These Proven Signature Brand Fertilizers

ALPHA NOVA

Provides energy boost and activates plant triggers to fight turf stress

Feature Professional

Made for best turf color possible, with 1:1 iron to magnesium ratio and a balanced micro pack



8% Calcium

Stabilized Silica Technology (SST) provides increased cell strength to help turf withstand traffic and a defensive shell to protect against stress factors

Silstar 0-0-26

Unique potassium phosphite fertilizer with SST to protect and improve plant health

Sirius 17-0-11

Premium foliar feed with 60% slowly available nitrogen, and fortified with potassium phosphite, potassium acetate and SST



A strategic division of
Agrium Advanced Technologies

© 2013 Agrium Advanced Technologies (U.S.) Inc. DIRECT SOLUTIONS is a trademark owned by Agrium Inc. Alpha Nova, Feature Professional, Signature, SilStar, Sirius and SST are registered trademarks of Loveland Products, Inc. Always read and follow label directions.

The Sustainability Issue



COLUMNS

- 10 **From Dodson, with Love**
Ron Dodson and Bill Love: Brett Favre Did It [Twice], So Why Can't I?
- 30 **Outside the ropes**
Tim Moraghan: An Open Case For Sustainability
- 46 **Irrigation issues**
Brian Vinchesi: Sustainable Irrigation: Different Soaks For Different Folks
- 78 **The Monroe Doctrine**
Monroe Miller: Sustainable Before Sustainability Was Cool
- 93 **Design Concepts**
Jeffrey D. Brauer: Better Practice Ranges
- 97 **Game plan**
Henry DeLozier: Right On
- 104 **Johnny Turf Nerd**
John E. Kaminski: Why Push What You Can't Define?
- 110 **Parting shots**
Pat Jones: Doing the right thing

DEPARTMENTS

- 4 **Teeing off**
Habit-forming
- 6 **Letters**
- 8 **The Whiteboard**
- 106 **Travels with Terry**
Equipment ideas
- 109 **Classifieds**
- 109 **Ad index**

FEATURES

- Q&A**
20 **UP TO THE CHALLENGE**
The new Audubon International CEO is ready to take on the group's evolving mission.
- Course**
40 **ROUGH CUT**
TPC Southwind uses fine fescue as natural areas, and saves time, resources and money in the process.
- Community**
72 **COMMUNICATION IS KEY**
When it comes to wildlife, the staff at The Sanctuary knows it can't isolate the club.
- Species**
90 **TALKIN' TURKEY**
Paul Carter's efforts to increase the turkey population at The Bear Trace in Harrison got golfers to gobble in delight.
- Course**
32 **DESERT FOREST**
Wildhorse Golf Club's Scott Sutton says toodle-oo to 52 acres of turf in favor of desertscapes and thousands of trees to save water and boost the course's wildlife population.
- Course**
42 **TWO BIRDS, ONE STONE**
Instead of spending thousands on both removing dead brush and purchasing pine straw, The Club at Mediterra combines the two?
- Species**
80 **STICK YOUR NECK OUT**
When endangered animals depend on your environment for survival, it's time to coexist.
- Species**
84 **STRICT BALANCE**
Raptor Bay GC features unique and innovative wildlife conservation initiatives.
- Community**
48 **TEXAS PRIDE**
The City of Arlington employed comprehensive, sustainable resource management principles when designing, building, and then managing Tierra Verde Golf Club.
- Species**
88 **BIRDS OF A FEATHER**
Among its sustainability initiatives, Currituck Golf Club is a temporary home for more than 400 bird species.
- Sustainability**
94 **A JOURNEY, NOT A DESTINATION**
GCI's Bruce Williams outlines a practical guide to adopting sustainability principles at your course.
- Species**
92 **MORE THAN A HOLE IN ONE**
When a colony of animals calls your golf course home, it may be easier to just move them.
- REAL SCIENCE**
99 **REAL SCIENCE**

GOLF COURSE INDUSTRY (ISSN 1054-0644) is published monthly. Copyright 2013 GIE Media Inc., 4020 Kinross Lakes Parkway, #201, Richfield, OH 44286. All rights reserved. No part of this publication may be reproduced or transmitted by any means without permission from the publisher. One-year subscription rate, \$33 in the United States, \$42 in Canada and Mexico, and \$88 in other foreign countries. One year foreign airmail rate: \$102. Two year subscription rate: \$65. Single issue rate, \$10. Subscriptions and classified advertising should be addressed to the Richfield office. Periodicals postage paid at Richfield, Ohio, and additional mailing offices. Postmaster: Send address changes to GOLF COURSE INDUSTRY 4020 Kinross Lakes Parkway, #201, Richfield, OH 44286. Canada Post: Publications Mail Agreement #40612608 Canada Returns to be sent to Bleuchip International, P.O. Box 25542, London, ON N6C 6B2



HABIT-FORMING

As I write this, I have been tobacco-free for about two months. Yay.

This is the first time I've ever seriously attempted to quit after 30 years of furiously sucking down a pack (or two) a day, every day. I'm afraid I'm now addicted to nicotine replacements like the gum and inhalers, but I'll get off those soon enough. I honestly believe I won't ever smoke another cigarette again. The fact is that I'm tired of the stink, the obvious health risk, the expense and the indignity of being shoved outside into the smoker leper's colony all just to feed this ludicrous addiction. But mainly I'm fed up with being a hypocrite and telling my sons and others I love that they shouldn't smoke. For once, I'm practicing what I preach and trying to be a halfway decent example.

This event is not nearly as life-changing as getting sober three-and-a-half years ago, but it's actually been harder to quit cigarettes than it was booze. With alcohol, I sort of had an epiphany and simply didn't need to drink anymore. It was a friggin' miracle, to be honest.

Conversely, smoking is a nasty beast of an addiction. The constant craving for nicotine gnaws at you like a little demon slowly clawing his way out of your body. But, the habit – the physical act of lighting up, inhaling, waving the burning tube around and finally crushing it out underfoot – is the hardest thing to shake. This enormously self-destructive and stupid habit had simply become part of me. The idea of giving it up was incomprehensible...until I did.

Habits are, I think, mostly good. Wake up the same time, exercise the same time, go to work the same way, stop at the same Starbucks, etc., etc. Habits create predictability and generally allow you to streamline your day-to-day life. Being a creature of habit is largely a positive thing (except if your habits include Marlboros, cheap vodka, meth, farm animals, etc.).

Superintendents are enormously habit-

driven professionals. In my experience, you find routines and programs that work and you stick with them. You may tinker, you may adjust but you generally don't try to fix what ain't broken.

That's why I want to suggest that we, as an industry, develop a new habit: telling our environmental story every day.

Repeat after me:

Golf courses are living, breathing community assets. Greenspace is an invaluable part of every city. Courses provide habitat for wildlife. Turfgrass has the amazing ability to cleanse the air, filter pollutants from water and cool the atmosphere. We use water wisely and well. We are stewards of the land first and foremost. Golf sets an example others should follow.

Not only should you make a habit of telling that story, but your employees can make it a habit, too. So should the golf professional, the general manager, the owner, the green chairman and any or all of your

members/players who value the course for the gifts it gives them.

Communicate with all of them via blogging, posting those simple GCSAA fact sheets on your bulletin boards, giving little talks to the whole staff and generally always having your "elevator speech" ready to go when you meet anyone who you can influence.

You can make a habit of changing minds and attitudes about golf. You can make a habit of helping to transform the average person's perception of golf from "Tiger Woods" and "guys in funny pants" and "manicured and artificial" to "a beautiful place where people exercise and enjoy an outdoor experience."

We, as an industry, have largely broken many bad habits like over-reliance on inputs, using water unwisely and assuming that resources are unlimited. Now our next challenge is to make sure that future generations view us for what we are: wonderful sustainable greenspaces.

Make a habit of telling our story and we will overcome that challenge. **GCI**



Pat Jones
Editorial director and publisher

GOLF COURSE INDUSTRY

Serving the Business of Golf Course Management

Vol. 25 No. 3

GIE Media, Inc.

4020 Kinross Lakes Pkwy, 2nd floor

Richfield, OH 44286

Phone: 800-456-0707

Fax: 330-659-0823

EDITORIAL

Pat Jones

Publisher/Editorial director

pjones@gie.net

Mike Zawacki

Editor

mzawacki@gie.net

Kyle Brown

Associate Editor

kbrown@gie.net

Bruce Williams

Senior contributing editor

Katie Tuttle

Assistant Editor

ktuttle@gie.net

SALES

Russell Warner

National account manager

216-236-5802

Martha Corfman

Manager, books

330-523-5366

Ted Schuld

Account manager

216-236-5937

Maria Miller

Conferences manager

330-523-5373

Bonnie Vellikonya

Classified sales

330-523-5322

Jodi Shipley

Marketing coordinator

330-523-5368

GRAPHICS / PRODUCTION

Andrea Vagas, Creative director

Helen Duerr, Production director

Heidi Clevinger, Production coordinator

CORPORATE STAFF

Richard Foster Chairman

Chris Foster President and CEO

Dan Moreland Executive Vice President

James R. Keefe Executive Vice President

Marco Urbanic Director, Integrated Data Systems

Andrea Vagas Director, Creative

Helen Duerr Director, Production

Melody Berendt Director, Circulation

Maria Miller Manager, Conferences

Kelly Orzech Director, Accounting

Irene Sweeney Manager, Corporate Communications

Kevin Gilbride Business manager, GIE Ventures

Golf Course Industry is a member of:

Golf Course Superintendents

Association of America

National Golf Foundation

Golf Course Builders Association of America

The Irrigation Association

Responsible Industry for a Sound Environment





Who Says Three's a Crowd?



There's a Reason why the Top 3 Golf and Utility
Manufacturers use Trojan Batteries in their Vehicles.

When you calculate how well we perform against the competition, consider that our battery technology is backed by over **200+ years** of engineering expertise, acknowledge our industry leading performance at **40,000+** tested ampere hours,* plus the fact that we have been in business since **1925**, it is easy to see why all paths lead to Trojan Battery.

ALSO AVAILABLE IN:

Columbia Par Car | Cushman | Eagle | Garia | Melex | Star Car | Tomberlin

*Independent laboratory testing validates the sustained capacity and superior performance of Trojan Batteries.

Check out our innovative
New
Golf Batteries
for better performance on and off the course.



 **Trojan**
BATTERY COMPANY

FOR MORE INFORMATION:
(800) 423 - 6569 or +1 (562) 236 - 3000

TROJANBATTERY.COM

CONTROLLING THE TOUGHEST WEEDS REQUIRES A POWERFUL PUNCH!

Particularly stubborn weeds – such as wild violet, ground ivy, black medic, clover and other species found in cool-season turfgrasses – call for tough weed control. That is the constant challenge of herbicide producers, who are leveraging the latest field research and chemistry to develop formulations that pack a punch against these particularly hard-to-control weeds.

A formulation with active ingredients including sulfentrazone, a phenoxy and triclopyr creates a potent, fast-acting solution for tough weeds, says Jim Goodrich, product specialist for Kansas City, Mo.-based PBI-Gordon Corp. Sulfentrazone is a protox inhibitor, which works by preventing a key enzyme required for chlorophyll production, and it provides enhanced speed as well as yellow nutsedge suppression. Triclopyr provides an extra kick for controlling problem weeds such as wild violets.

One product that includes this formulation and provides a precision performance tool for turf managers is T-Zone™ Broadleaf Herbicide for Tough Weeds. Even hard-to-control weeds show visible injury within a few hours, and weed death can occur within 10-14 days.



As shown in this before and after treatment photo, wild violet was eliminated from the treated area after 14 days.

The low-odor, oil-based formula opens up more application opportunities than most herbicides. Improved cool-weather resistance allows for a wider span of applications in the growing season. And because T-Zone is rainfast in just three hours, weather interference is less of a concern.

T-Zone™ is a trademark of PBI-Gordon Corporation. T-ZONE™ has a CAUTION signal word and good toxicological, environmental and ecological properties compared to standard herbicides. Always read and follow label directions. 2/13 02443

FEEDBACK

We'd like to hear from you.

E-mail us at gci@gie.net with your thoughts and opinions.



More on the fire

You do a wonderful job with GCI. I really admire and respect people who have great energy and passion for what they do no matter the vocation... The writing seems to be ahead of the curve and at times has some edgy insight. Most of all, you seem to strike a chord with [superintendents] that other industry publications seem to miss at times.

Keep up the good work. You are a wonderful asset to the turfgrass industry.

I find the cause of the FarmLinks fire (After the fire, March 2013) so curious because I fear fire in our shop.

Many years ago I had a electric roller start on fire on the first green and it needed a fire extinguisher to put it out, I wish I had investigated the issue more thoroughly. I wonder now, "What if that had started in the shop?" I have seen electric golf carts go up in flames, and now wonder how that happen?

Enter **bit.ly/14i4V4p** into your web browser to read "After The Fire." If you're reading this on the iPad/iPhone app, simply click the image.

Andrew Kjos, CGCS
Trump International Golf Club
West Palm Beach, Fla.

The editor's respond: That's a great question, Andy. In our excitement and enthusiasm in putting together the cautionary tale that came out of the FarmLinks fire, we simply forgot to add its cause. We went back and asked, and according to the good people at FarmLinks, the fire was started by a simple lightening strike. This just adds to the tale that this act of God could happen to any facility, anywhere, and it's best to be prepared for any contingency.

Believe it or not



EDITOR'S NOTE:

We received an unprecedented amount of feedback about Pat's February Parting Shots column. If you haven't read it yet, enter **bit.ly/Xqr5vu** into your Web browser. If you're using the iPad/iPhone app, just click the image to access a copy of the column.

I enjoyed reading your February Parting Shot. Well said.

I thought you might enjoy an article ("A Worthy Calling, August 2011) I wrote on the subject for The

Perfect Lie newsletter a few years ago. I doubt I will push turf on my kids, but if they want to go that way I will fully support them because our world needs more people with the character qualities refined by the life of a superintendent.

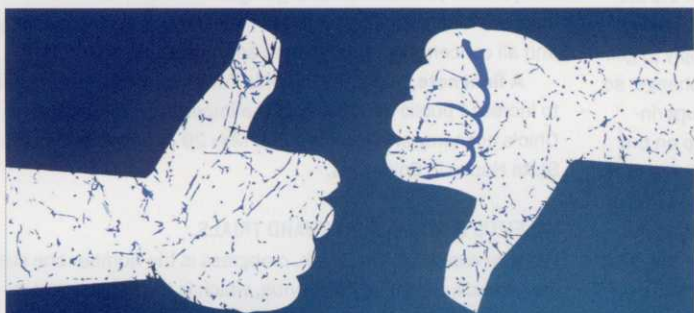
Dan Tolson
Superintendent/
3 Creek Ranch Golf Club
Jackson, Wyo.

Whenever I get the opportunity to read Pat Jones' column, it either brings a tear to my eye, as "You Gotta Believe" did, or it makes me laugh like hell, as "You Gotta Believe" did, as well. Great article, Pat. Hit the nail hard on this one, my friend.

John V. Andersen, CGCS
Regional director of agronomy
Century Golf Partners

Damn near brought a god damn tear to my eye. Well written and extremely well thought out. You hit the nail on the head. My own boys will read it when they visit their superintendent dad this weekend. Thanks for this, Pat.

Thad Thompson
Terry Hills Golf Course
Batavia, N.Y.



We want your feedback.

Did you like an article in a recent issue?
Let us know.

Does your opinion differ from that of one of our columnists? **Then share it.**

GCI prides itself with being its readers' magazine, and we want to make sure you have a forum to voice your thoughts and opinions.

Got something to say?

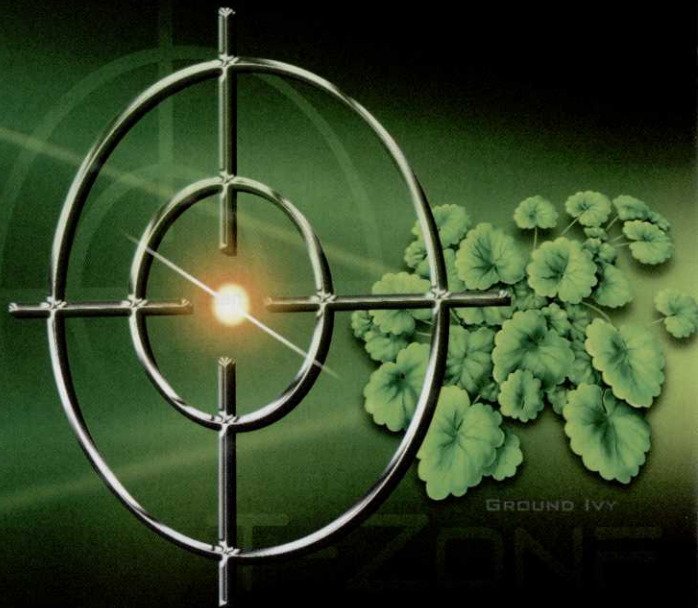
Give us your feedback online!

Send us an e-mail at gci@gie.net, connect to us on Facebook or on Twitter @GCIMagazine.

twitter

facebook

TARGET TOUGH WEEDS



GROUND IVY

- CONTAINS TRICLOPYR FOR TOUGH WEEDS
- FAST VISUAL RESPONSE
- COOL WEATHER PERFORMANCE
- ENERGIZED WITH SULFENTRAZONE



WILD VIOLET



BLACK MEDIC



CLOVER



YELLOW NUTSEDGE
(SUPPRESSION)

Qualifies for 2011 - 2012

THE POWER
OF
MORE[™]

DOW AGROSCIENCES PROVEN SOLUTIONS

Visit: powerofmore.com for details

G pbi / GORDON
CORPORATION

An Employee-Owned Company

800.821.7925

PBGORDON.COM/TZONE

Checkered Flag/Label Design[®], Gordon's[®] and ProForm[®] are registered trademarks of PBI-Gordon Corporation. TZone[™] is a trademark of PBI-Gordon Corporation. Always read and follow label directions. 3/12 01751
The Power of More[™] is a trademark of Dow Agrosciences.

[REPORTER'S NOTEBOOK]

Dispatches from a **USGA REGIONAL CONFERENCE** and **GEORGIA TURF TRIALS**

Last month GCI's assistant editor Katie Tuttle trekked to Georgia to check in on Valent's herbicide trials, then on to Dayton, Ohio, to attend the USGA Regional Conference. Here are a few items of note she picked up along the way.

USGA REGIONAL CONFERENCE, DAYTON, OHIO.

New Legislation. A draft bill on nutrient management for water quality in Ohio circulated back in March. Comments on the bill

were due by April 5. While the bill does not apply to golf courses, this may change, so it's important for superintendents to keep up on the bill. There's a possibility that fertilizer certification (education) could be added to the pesticide applicator licensing.

Better education. The USGA is working on a new way to present the rules of golf, making it easier for newbies and students to understand the game. The five-year campaign will position the

USGA as the leading educational resource to help golfers better understand the rules, thus making the game less intimidating and more welcoming.

Augusta quality? No way! If you think you can get tournament quality playing greens all year round, think again. Paul Vermeulen, the PGA Tour's director of competitions agronomy, shared what exactly goes into making Augusta tournament-ready. The time and effort in the days leading up to the tournament can't be maintained year round, even at

tournament courses. To prove his point, Vermeulen showed pictures of Augusta not during the Masters. Believe me, it looked just like your course probably does.

Excite, Engage, Execute! If you want a good, well-running course, you're going to need to do one major thing: communicate. Whether it's your staff, your members, or the community you're a part of, it is important to stay in contact with everyone so you know what is going on. A course can't run on income alone, and it's your job to make sure everyone is happy and all concerns or problems are addressed.

A final note. May 26-31 is Ohio Turfgrass Week, designated to increase public awareness of the importance of turfgrass to Ohio's economy and environment. May 29 is Turfgrass Day at the State House in Columbus.

VALENT'S GEORGIA SUREGUARD TRIALS.

What to expect. In the south, crabgrass is the number one summer annual, replacing *Poa annua*, which is the biggest winter annual to control. Another problem grass you might see this summer is goosegrass. Once goosegrass is up and the plants mature, it becomes extremely tolerant to herbicides.

Careful where you step. Herbicides can be tracked, both by foot traffic and cart traffic. If you have warm season grass boarding cool season grass, they require completely different care and you want to be extra careful that you don't overlap the products. However, SureGuard solves that problem. You can apply SureGuard close to cool season turf and not have to fear tracking or damage to the grass.

Temperature is everything. When examining the testing plots, it was somewhat difficult to see extremely obvious results. The results were still there, but the unseasonably cold weather in Georgia had a very obvious effect on growth.



What a difference a year makes...

Big thanks to our buddy Brian White, superintendent at Wichita Country Club, Wichita, Kan., for sharing these starkly contrasted images of his course with us.

"Here's an interesting comparison between a warm year and a cooler year," White says. "Zoysia is slowly starting to come around in the (2013) picture, whereas at this point last year we were already green." Credit goes to assistant superintendent Dallas Cockrell for taking the pictures.



From THE FEED



[DISPATCHES]

When Randy Samoff's crew at the Redstone Golf Club gets ready for a tournament, he makes sure everyone knows what's going on. But his Twitter feed isn't just photos of beautiful greens - it's full of shots of those greens in the making, so the public can see his crew in action. Here are some of our favorites from the recent PGA Tour Shell Houston Open.



Randy Samoff @RedstoneSuper



Bunker plate packing crews getting some TV time for some of the upcoming preview shows.



Toro 5510s making some magic happen out there today. Precision cutting tool finely tuned by the best equipment staff!



Don't be long on #4. Trust me, it won't stop.



Euro Connection knocking it out on 10 today. Sweden and Denmark representing! Simon Mansson and Michael Jorgensen.



Join the conversation
on Twitter @GCIMagazine!



Bruce Williams reports in from China, Malaysia and Singapore

Bruce Williams, GCI's globetrotting reporter, recently returned from an extensive Asian trip that involved teaching, listening and learning. Here are some dispatches from his travel journal. Be sure to check out the iPad/iPhone app version of the May issue to read Bruce's entire Asia golf report and to view a slideshow spotlighting his trip highpoints.

Making the trip

"A valuable lesson is to always take a business card or two from your hotel that will get you back home. The address is both in English and Chinese characters."

The China Golf Show

"The show is not your typical golf trade show, but a show that involves all of golf. The goal is to promote all phases of golf including the consumer side of the business. So imagine a trade show that has several components... I do not have any firm statistics from the show but I have a gut feeling that numbers were up slightly in terms of booth space sold and also participants."

Education

I attended seminars taught by Dr. Beth Guertal from Auburn University and also by Pat Finlen, President of GCSAA. All the seminars were in English and with standing room only. Simultaneous translation was available and used by about 25 percent of the participants. I have found that Chinese superintendents are eager to learn. They are bright and pick up things quickly. Undoubtedly it is imperative to keep providing continuing education in order that golf course maintenance can prosper in Asia.

Kuala Lumpur, Malaysia

"Imagine a golf course with 18 holes and 200 workers. I saw greens being aerified with a single bit from an electric drill run off of a generator (it could take a week to finish a green). Fairway verticutting was cleaned up by ladies that were elbow to elbow with brooms and dustpans. All weeding was done by hand."



Singapore

"There are some great golf courses on this city/country island and the superintendents are veterans. As usual I pick up new tricks on weed control and pest management on every visit."





BRETT FAVRE DID IT (TWICE), SO WHY CAN'T I?

I recently announced my intention to retire from Audubon International, effective Aug. 2, 2013. That date seemed appropriate as it is my 65th birthday.

Some people thought this meant I was going to simply sit on a boat dock somewhere and occasionally cast a line, while sipping an adult beverage. While that sounds pretty good, I have no intention of putting away my ambitions to improve the quality of the planet we all live on.

I've been involved in the environmental movement for around 35 years, with the last 25 being spent mostly working with private property owners and managers in an effort to encourage them to include environmental conservation in the way they manage their properties. But, my primary goal was to offer educational

programs, and initiatives of ISC-Audubon – quite frankly because I feel they have developed an approach and attitude superior to what anyone else offers. The ISC-Audubon programs and my new approach is not only the natural evolution of what I started and created over two decades ago, it's an approach everyone should get behind.

ISC-Audubon is a collation – an umbrella organization – of several not-for-profit organizations and initiatives that have combined forces to advocate sustainable living and lifestyles. The three primary organizations include the International Sustainability Council (ISC), Audubon Lifestyles, and Audubon Outdoors.

The ISC is a think-tank organization focused on stimulating discussion and actions connected with the ISC Principles of Sustainability. The ISC

between people and natural resources. As our society becomes more urbanized, we are distancing ourselves from natural resources. We have become a computer-based, information-based society and the last cow we saw was in a Chick-Fil-A commercial! Simply put, if people are disconnected from nature, they do not understand it, appreciate it, respect it or value it. If they don't value it, then they will not be motivated to conserve it, and our global environmental problems will spiral completely out of control.

Earth's ecosystem are in rough shape. Millions of people around the globe are "living" on less than one U.S. dollar per day. Billions of people are living without access to clean water and sanitation services. Fresh water supplies are dwindling around the globe, which will lead to conflicts over water. We are not on a sustainable path. Not here in the U.S., not anywhere on Earth.

So, this is not a time to retire. I certainly have no intention of doing so. I never really did. This is a time to get busy, to get focused, to say it like it is, and to get in people's faces who just don't "get it." This is a time to take a new approach. A better approach. And I hope that each and every one of you who have supported me through the years come with me once again, and help me as I continue my lifelong crusade to get people to be better stewards of the environment.

After 35 years, I have two grandsons and a granddaughter, and the question I have is, "What sort of a legacy am I going to be leaving my grandchildren?" What sort of legacy are you going to be leaving the next generation and the one after that?

So let's get going. I want you to join me in this cause, and more importantly I want you to join ISC-Audubon today. No, make that right now! **GCI**

This is a time to take a new approach. A better approach. And I hope that each and every one of you who have supported me through the years **come with me** once again, and help me as I continue my lifelong crusade to get people to be better stewards of the environment.

information and motivation to individuals in the hopes at least some of the owners/managers would become leaders and advocates of conservation beyond the borders of the properties they were responsible for.

With a few rare exceptions, looking back at my life's work I feel that goal has been somewhat of a failure and still remains unrealized.

In this next chapter I intend to take a more proactive, in-your-face approach to environmental stewardship. I am pleased to say I have accepted the position of chairman of ISC-Audubon, and in this new role I intend to focus on promoting the membership,

is also the "keeper" of the ISC Seal of Sustainability, which is a rating system that will be applied to the various certification programs in existence, in an attempt to level the playing ground and take some of the "spin" off the "spin" that many groups are now slinging around the media outlets.

Audubon Lifestyles is focused on delivering programs directly to people and businesses who have an interest in embedding sustainability and environmental stewardship into the way that they manage their homes and businesses.

Audubon Outdoors is aimed at bridging the growing disconnect



Everyone wants to take on the best courses on Earth.
We're no exception.



For the good of the game: our commitment to golf.

We are now a Trustee of The First Tee®, a youth development organization that uses the game of golf to impact the lives of millions of young people. Besides supporting The First Tee network, funds will be used to create and launch a golf maintenance career-oriented curriculum, in conjunction with the PGA TOUR. Chapters of The First Tee will partner with the PGA TOUR's network of Tournament Players Clubs® (TPCs) to provide the opportunity for high

school-aged participants to learn about topics in agronomy and golf course maintenance careers. And we support an array of other industry initiatives, including the Green Start Academy for Assistant Superintendents and the Golf Course Superintendent Association of America's Collegiate Turf Bowl Competition. The Company is also a Platinum Partner of the GCSAA.



Why we're trusted by the best courses on Earth.

Since 1837, John Deere has been both a pioneer and a partner to people that claim a unique relationship with the land. Over a quarter century ago, John Deere Golf brought that tradition of trust and excellence onto fairways and greens. And in doing so, our equipment and service has earned the confidence of some of the more storied courses around the world, including the landmarks of the game in England and Ireland.



Official
Golf Course
Equipment
Supplier

We've also become the Official Golf Equipment Supplier of the PGA TOUR®, where the conditioning standards of some of the most demanding players need to be met, day-in and day-out.

Desert Mountain, Scottsdale, Arizona



Lahinch Golf Club, Lahinch, Co. Clare, Ireland



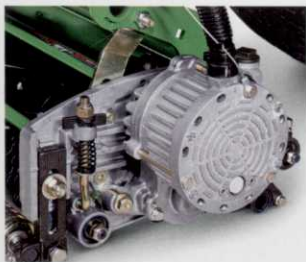
Royal Lytham, Blackpool, England



East Lake Golf Club, Atlanta, Georgia



A cut everyone
can appreciate.



Proven Technology

You can have total confidence in our E-Cut Hybrid technology that's been in the field since 2005.

The 2500E E-Cut™ Hybrid Riding Greens Mower

Thanks to the advantages of surprisingly affordable hybrid technology, the 2500E E-Cut Hybrid Riding Greens Mower eliminates the possibility of a hydraulic leak from the reel circuit. It also allows the mower to run at reduced throttle to lower fuel consumption and noise. And keeps reel speed running at a consistent clip.

Best of all, when it comes to maintenance, the 2500E is serviced like a normal triplex greens mower. So your technicians won't need to master any additional steps. And they feature labor-saving conveniences like Quick Adjust cutting units and white-box diagnostics.

With an exclusive offset cutting unit design, the 2500E greatly reduces "triplex ring" caused by tire wear-in. It's a simple solution but remarkably effective. By alternating the direction of the clean-up cut every day, you can dramatically reduce the number of times the tires run over the same turf. This gives the turf an extra day to recover before being driven on again, which minimizes compaction.

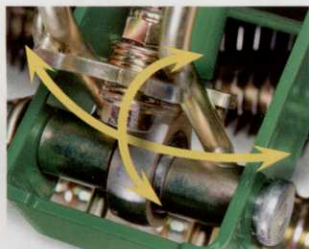


Low-Rate Financing
on our full-line of
John Deere Golf equipment.*

You've never seen
a greens mower
follow undulations
like this.



Adjustable Frequency of Clip
Dial in the ideal frequency of clip
for your course conditions with a
straightforward, rotary dial that's
secured by a locking cover.



**Industry-Exclusive
Ball-Joint Suspension System**
There's virtually no mechanical
linkage to restrict cutting unit
movement with the ball-joint
design and freedom of connecting
the reel drive to a wiring harness.

The 180 and 220 E-Cut™ Hybrid Walk Greens mowers

Available in both 18- and 22-inch widths-of-cut, E-Cut Hybrid Walk Greens Mowers offer an unparalleled ability to follow contours and steer around the clean-up pass. Thanks to the signature ball-joint mounting system, the cutting unit can rotate in any direction with limit chains to adjust to your green's conditions. Frequency of clip can be precisely set, and then is monitored by a controller to ensure consistency no matter the traction speed of the machine.





Trusted hybrid technology
since 2005.

The industry's only hybrid fairway mowers.

No fairway mowers generate more confidence than our E-Cut™ Hybrid models. And eliminating the possibility of a hydraulic leak in the reel circuit out on your fairway is just the beginning. The engine can be throttled down to save fuel – savings that add up over the cutting season. Plus throttling the engine down has the added benefit of significantly reducing noise. The reel speed always stays rock steady for a consistently ideal frequency of clip. And these mowers are even easier to maintain than conventional models for technicians, thanks to maintenance-free brushless electric motors and all the standard benefits of our mowers like Quick Adjust cutting units and white-box diagnostics.



Quick Adjust Cutting Unit

Quick Adjust cutting units' Speed Link™ system makes it possible to adjust height-of-cut to both sides of the reel in seconds.

Low-Rate Financing
on our full-line of
John Deere Golf equipment.*

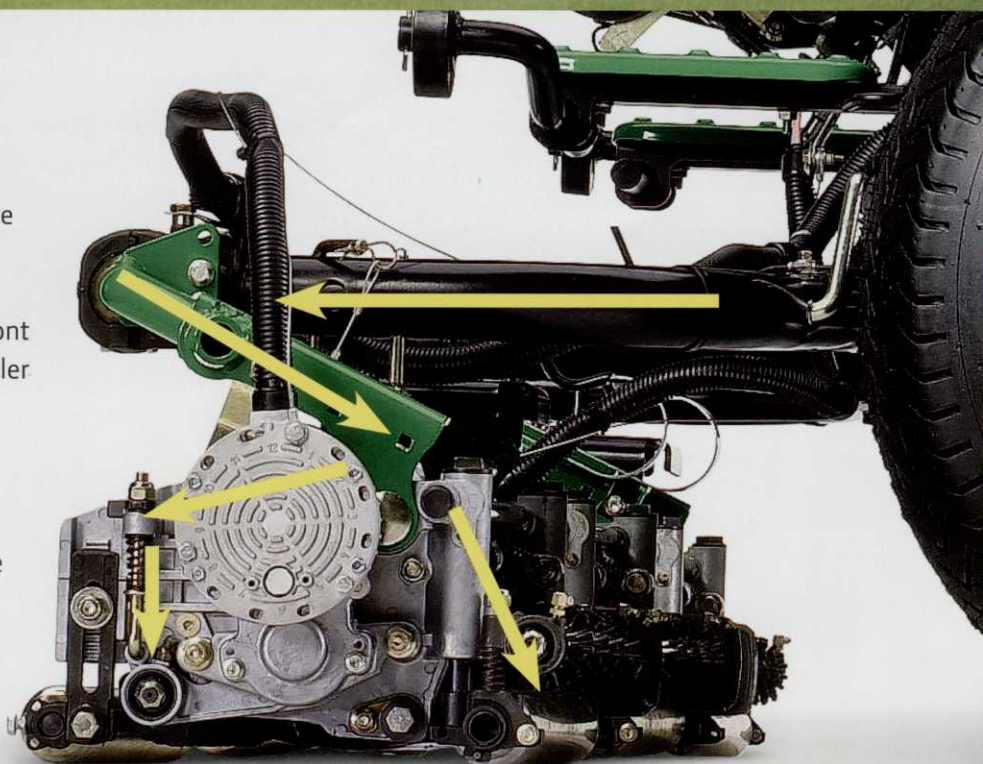


The easy approach to great looking fairways.

**Handles anything.
Even Monday morning.**

On all our fairway mowers, like the 7500 and 7700 PrecisionCut™ models, there are 2 exclusive designs to give you the best cut on your fairways. The first is a rear attaching point yoke system (versus a front attaching system) that keeps the rear roller engaged with the turf. The second is hydraulic down pressure that can apply additional force to the rear roller. These two features work together to prevent the unit from bouncing, which can cause ripples in the turf.

The result: A consistent cut. Every time.



Models shown in this insert fall under the EPA's Transition Provisions for Engine or Equipment Manufacturers. This means many Model Year 2013 products shipped on and after January 1, 2013 will be fully compliant with EPA regulatory requirements, but may be equipped with Interim Tier 4 engines.



A fierce commitment to you.

It's not enough to offer the best equipment, engineered and assembled at an award-winning dedicated commercial turf factory. That's why John Deere Financial is there to custom-tailor the best options for specific leasing and buying needs to make the numbers work for you. And our network of distributors is incredibly responsive, with a long, stable history of dedicated service to the Golf industry. No wonder when you work with John Deere, you can be sure commitments that are made are kept long into the future.



Stay on the cutting edge

The Approach is our new link to the latest products, news and updates from John Deere Golf. Sign up today at: JohnDeere.com/Approach



JOHN DEERE
GOLF

This literature has been compiled for worldwide circulation. While general information, pictures and descriptions are provided, some illustrations and text may include finance, credit, insurance, product options and accessories NOT AVAILABLE in all regions. PLEASE CONTACT YOUR LOCAL DEALER FOR DETAILS. John Deere reserves the right to change specification, design and price of the products described in this literature without notice. John Deere's green and yellow color scheme, the leaping deer symbol, and JOHN DEERE are trademarks of Deere & Company.

* Subject to approved lease credit with John Deere Financial. See your John Deere Golf distributor for complete details and other financing options.

DSTIN55792US (13-04)

JohnDeere.com/Golf

→ Same favorite content
at your fingertips
anytime you want it

→ Even more engaging
and interactive

Download the all-new
Golf Course Industry app
for FREE in the iTunes
app store and Android
Marketplace today!

MAY 2013
golfcourseindustry.com

GOLF COURSE
SERVING THE BUSINESS
OF GOLF COURSE MGMT.

BRAND NEW APP



*Current app users must
download the new app in
order to view 2013 issues
of Golf Course Industry

Up to the *Challenge*

The new Audubon International CEO is ready to take on the group's evolving mission.

Impossibly young. That was my first thought when I met Ryan Aylesworth in person last year. But, he seems to be used to that response and he quickly showed me that appearances can be deceiving.

Here's a guy who, before taking over leadership of Audubon International last June, had a big job with the U.S. Fish and Wildlife Service working as a liaison with federal and state government agencies and dealing with a myriad of public affairs issues. He holds degrees in conservation-related sciences from UMass and Cornell and he's in the process of earning a doctoral degree in natural resources science and management from the University of Minnesota. Most importantly, Aylesworth has spent his life outdoors – fishing, hunting and, yes, golfing. To put it bluntly, he speaks turf pretty well.

Now Aylesworth will lead one of game's most important organizations as it changes along with the evolution of both the sport and business of golf. We caught up with him as part of this month's focus on sustainability.



2013

CELEBRATE YOUR IND

**Blooma
Palooza**

AUGUST 1-3, 2013
RAKER TRIAL GARDENS
LITCHFIELD, MICHIGAN

Held at one of the largest trial gardens in North America and in conjunction with the Michigan Garden Tour, **BloomaPalooza 2013** will celebrate the hard work, entrepreneurial spirit and unique style of the independent retailer, grower and supplier.

GET BACK TO YOUR INDEPENDENT ROOTS AT BLOOMAPALOOZA 2013!

BROUGHT TO YOU EXCLUSIVELY BY



DEPENDENT SPIRIT

REGISTER TODAY
www.BloomaPalooza.com

Retailers, growers, lawn care professionals, suppliers and passionate gardeners will find themselves immersed in this never-held-before event.

The BloomaPalooza 3-day experience includes:

- Independent garden center centric trade fair with the top industry vendors arranged in an outdoor, flexible space.
- Educational presentations from the most talented minds in the industry intermingled with bands on the main stage.
- Music festival format with live bands.
- Family oriented fun with special children-oriented activities throughout.
- Exceptional value including free admission for those 17 and under accompanied by a paying adult.
- Opportunity to view over 3,500 unique plant varieties in multiple forms and settings amidst the famed Raker Trial Gardens.



Describe your first 10 months at the helm of AI in one word...

Energizing. It really is exciting to come to work every day and do this kind of work. It's easy to get cynical in today's world but this organization tries to do good things for the right reasons. It's inspirational.

Is this what you thought you'd be doing when you were a kid?

I wish I could say that I knew when I was 10 years old I'd be doing this. I grew up in a very rural area of northwest Maine going hunting and fishing and skiing and snowshoeing. My family owned a fly-fishing business and my dad was the high school science teacher in a small, small school. I actually had my dad as a teacher for eight classes!

Oh, I feel your pain! I had my mom as an English teacher and it was brutal.

I hope she likes your journalistic writing style! Anyway, I thought about a variety of career paths but I knew early on that con-

“There’s something still psychologically daunting about spending the money to become a member of our program – even though **it will pay for itself** many times over in terms of cost savings and other fiscal benefits. It’s not a negative – just a challenge to keep educating people.”

– Ryan Aylesworth

servation and resource management was right for me. I wanted to be a field biologist or wildlife manager and be outside. It never occurred to me that a career in this field would require going to as many meetings, managing people, and all the other “office” stuff that comes along with it.

But, I learned pretty quickly during my undergrad training that so many policies and decisions are made by non-scientists, and, frankly, without considerable input from scientists. I got excited about using my technical knowledge to help inform the decision-making process. So, I sort of took

one for the team in terms of getting to be outside and moved more into administration and leadership.

Miss it?

There are plenty of days I yearn a little just to be a field guy! I have a pointer and get out frequently to hunt upland birds in the fall and winter, and I still get to go fishing when I’m visiting my father or friends up north. There’s no better feeling than being on the bank of a river trying to match the hatch. You’re in Earth’s church. It’s a primal experience.

THE PERFECT BLEND OF
BRAINS AND TOUGHNESS.



POWER-LOK

Introducing Power Lok™, a comprehensive, professional grade landscaping system. Comprised of a unique, GasLess Power™ Drive Unit and multi-disciplined motorized attachments.



THREE ESSENTIAL LAWCARE TOOLS. ONE POWERFUL SYSTEM.

The electronic controller recognizes each unique attachment and activates the appropriate internal program, optimizing power and output for each tool. You get an “intelligent” lawncare tool system that maximizes run time and helps you work smarter.



C(•)RE™
GasLess Power™
Intelligent technology to Replace Gas.

DON'T JUST MANAGE POA.
ELIMINATE IT.

Introducing a product that doesn't just manage or suppress Poa, it actually eliminates it. XONERATE® herbicide from Arysta LifeScience is a major breakthrough in turf management, giving you control of *Poa annua* that's 90% effective — more than any current product on the market. For the whole story, talk to an Arysta LifeScience representative or visit www.eliminatepoa.com.



Always read and follow label directions. XONERATE and the XONERATE logo are registered trademarks of Arysta LifeScience North America, LLC. Arysta LifeScience and the Arysta LifeScience logo are registered trademarks of Arysta LifeScience Corporation. ©2013 Arysta LifeScience North America, LLC. XON-1308

Xonerate®



Syngenta Business Institute™
ALUMNI UPDATE

The Syngenta Business Institute has enhanced the communication with my staff. I've been able to increase their understanding of our course standards. I also learned how to give effective feedback to my crew by using four simple steps called DASR: Describe, Acknowledge, Specify and Reaffirm.

My employees and I have a better understanding of what I want and expect, while improving the morale of the crew. It validates the employees' importance to the operation and sets a standard for future operations. This also provides a team atmosphere, with everyone knowing what's expected and the consequences if standards are not met.

The format was great; the length of the course was just right. I would definitely recommend this course to other superintendents, no matter what their level of experience, who want to gain knowledge in how to manage their crew more efficiently.



Tyler Tang
 Bermuda Dunes
 Country Club
 Bermuda Dunes, Calif.



Exclusively Sponsored by

To learn more or to apply for the Syngenta Business Institute, visit greencastonline.com/SBI



© 2013 Syngenta. Syngenta Business Institute™ and the Syngenta logo are trademarks of a Syngenta Group Company.

Q&A

What's been the biggest pleasant surprise about AI thus far?

I'm really excited about how mission-driven the staff is. There were a few people along the way in my experience in government who were like that, but that mission-driven spirit tends to get beaten out of folks over the course of a long career in public service. It was a really pleasant surprise to see how engaged and connected this crew is, especially the folks who have been with us for 15 or more years. It's really refreshing to work with people who are often putting their personal best interests in the background to do more for the organization and our members.

I've hired three new staff since coming on board and the combination of these folks with long-tenured staff like Joellen, Nancy and Fred has been amazing. It's a really positive dynamic.



Check out the GCI app edition for our exclusive video interview with Ryan Aylesworth, president and CEO of Audubon International, to learn how superintendents can get the most out of their memberships and where the organization is going in the next few years. Also, he outlines how to talk about the environmental benefits of golf in your community for our Superintendent Radio Network podcast.

What's been less pleasant?

I've been a little surprised at how some non-members (facilities) still haven't bought into the program. There's something still psychologically daunting about spending the money to become a member of our program – even though it will pay for itself many times over in terms of cost savings and other fiscal benefits. It's not a negative – just a challenge to keep educating people.

How much did you know about golf before you signed on?

I started golfing when I was a kid. I went to the driving range with my grandfather and played as a teen. We actually helped start the first golf team at my high school and I worked a couple of summers helping manage a course and even taught some youth lessons. I knew that the (superintendent's) job was more complicated than what most people thought. But I also understood that supers have this land-based ethic...kind of like farmers. They understand stewardship.

What does AI mean to superintendents?

As I've interacted with them over the past 10 months, the number of people who have told me that the program has changed their life has blown me away. They've said that the values they've learned from AI are things that have molded them personally and that they've passed along to their kids. That's the magic of what AI has done and continues to do.

Dig down on that a little...

Too often, in society, there's the "Us vs. Them." It's "the economy vs. the environment." There's this notion that you can't be a good steward and be a good businessman. I've talked to a lot of members who initially thought



Trust

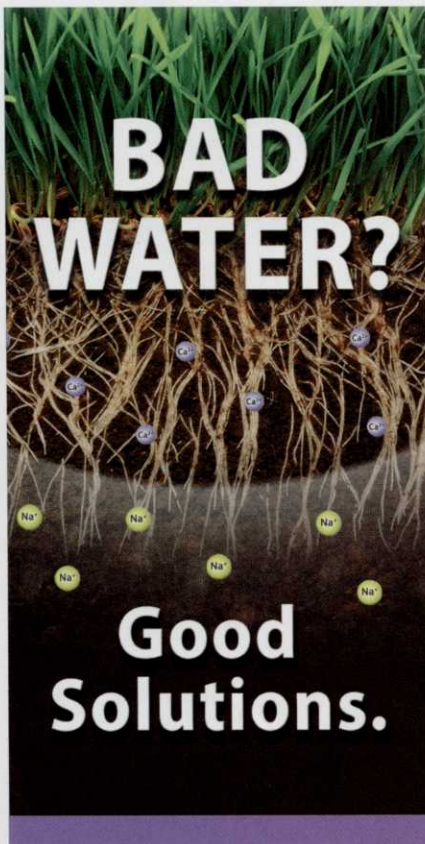
It's why Shawn Emerson uses us on every one of his 108 holes.

Desert Mountain, Cochise Course

Six courses. 200 employees. To put it mildly, Shawn Emerson, Director of Agronomy at Desert Mountain, has a lot on his plate. Which is why he counts on John Deere to keep this collection of Jack Nicklaus courses in perfect shape. From our hybrid fairway and greens mowers to our heavy-duty utility vehicles, Shawn and his crew use only John Deere equipment, sun up to sundown. Says Shawn, "There's a lot of things I worry about. But John Deere isn't one of them."

Trusted by the best courses on Earth.





AQUAPLEX amino®

Manage Salt Stress

- Contains 16 essential amino acids plus soluble calcium
- Amino acids provide immediately available nutrients to support plant recovery and growth in high EC conditions
- Improves ability to absorb water by balancing the plant's osmotic potential
- Increases turf's ability to survive and maintain growth in high EC growing environments

For more information, contact your Aquatrols distributor today.

 **Aquatrols®**
www.aquatrols.com

“Energizing. It really is exciting to come to work every day and do this kind of work. It’s easy to get cynical in today’s world but this organization tries to do good things for the right reasons. It’s inspirational.”

—Ryan Aylesworth

getting certified was going to be a bunch of paperwork and bureaucracy and would take too much time and money. But, after working with our people, they’ve realized that it’s not like that. Instead, they see cost savings and direct improvement to their operations, but they also know they’re safeguarding the environment and being a better role model for the entire community. It’s changed how they perceive their role in society. That’s even trickled down to their kids, the people that work for them, etc. It’s had an impact on them far beyond their daily job.

Let’s talk about a dirty word...*greenwashing*. A few critics have said AI is just a PR program to help courses sell themselves as eco-friendly.

There a lot of entities out there that will say, “We’ll help you brand yourselves as ‘green.’” No planning, no education, no implementation support, no verification...just a rubber-stamped certification or a logo. What we’ve done is just the opposite. We’re an environmental organization that uses certification and education to promote good outcomes. We are not the sustainability arm of golf.

It’s a myopic view for other environmental groups to criticize us for “collaborating with evildoers.” Our position is that you’re going to make far less headway by suing to create change than by exploring the issues, finding a pragmatic path forward and creating incentives to do things sustainably. That’s what’s so exciting. With others, it’s about using sticks. We try to use carrots.

Yet there are facilities that join and don’t ever do much.

The claim that once a member pays their dues they can call themselves “certified” and start using our logo to prove that they’re a good steward is patently false. Our program does not allow a member to become certified until their operation has been carefully evaluated

and verified – typically with site visits – using explicit criteria and standards. That said, a lot of courses will join and then put certification on their “to do” list in a drawer for a while. But they can’t market themselves as a certified member until they actually complete the steps.

Is being “green” that big of a deal from a facility’s marketing standpoint?

Absolutely, but cost reduction and good stewardship matter to a facility even if being “green” doesn’t. I don’t disagree that a relatively small percentage of golfers think today about the environmental management practices at the courses they join or play at. But, the demographics of golfers are changing rapidly. There is going to be a major transition in terms of why people golf and why they golf where they golf. We see this in the growing market for “green” lodgings. We already see people in that market actively seeking out environmentally responsible hotels and resorts. I do think it’s going to grow. Courses need to think about the long term when it comes to consumer demand.

How do you feel about the whole “brown is beautiful” thing?

I’m not ready to say that lack of green means something is wrong, but green doesn’t necessarily mean too many inputs, etc. Let’s not focus on color or “greenness.” The larger point is that there are ways to achieve green that are less input intensive.

When I applied for this job I said very candidly that we should focus as much on communicating the economic benefits of sustainability as we do the ecological benefits. We need to make it very clear that this is about economics and social values and the environmental and socioeconomic objectives need not be mutually exclusive. In some cases, the ethical “it’s just the right thing to do” argument is very important and enough



Aylesworth: "...the demographics of golfers are changing rapidly. There is going to be a major transition in terms of why people golf and why they golf where they golf."

to get people to act. But, the potential for a facility to simultaneously achieve economic, social and environmental goals through certification is a pretty compelling message.

Put on your "outsider" hat...what do you still think we need to improve on?

Education, education, education... Don't let the vocal minority at your club rule when it comes to conditioning. Talk to your members, explain how enhanced management practices will maintain – or even improve – the playability of the course while improving aesthetics and protecting wildlife and other natural resources.

As an organization, we are committed to helping superintendents feel empowered and

comfortable in communicating their work to the public.

When we do this interview again in five years, what will the headline be about how AI and Ryan Aylesworth have evolved?

I hope we'll be able to say we moved through this crossroads and we took this transition as an opportunity to improve and get better.

We didn't ignore the challenges. Instead, we embraced them and left it all on the field. We worked passionately with our dedicated membership to ensure that the waters and landscapes inherited by future generations are as – or more – healthy than the ones we manage today. GCI

Innovative and Exceptional!!!



Terra Spike XF
Fastest on the market.



CORE RECYCLER
Re-use sand, collect thatch.



SUPER 600
Verticut, sweeps and more.



912-790-3004
866-790-3004

www.wiedemannusa.com



Tim Moraghan, principal, ASPIRE Golf (tmoraghan@aspire-golf.com). Follow Tim's blog, Golf Course Confidential at <http://www.aspire-golf.com/buzz.html> or on Twitter @TimMoraghan

AN OPEN CASE FOR SUSTAINABILITY

The USGA chose to hold this year's U.S. Open Championship at Merion Golf Club outside of Philadelphia because it's a wonderful, classic course, the kind we don't build anymore. But besides providing a terrific test of golf for the best players in the world, Merion is a living laboratory for sustainability, which is the theme of this issue.

And since "inside the ropes" is the theme of this column, I recently spent a day with Merion's superintendent, Matt Shaffer, to see first-hand how he treats the course. Even before the Open was coming to Merion, Matt was using methods that have important and proven benefits for both the environment and golfers. And while this is Merion — "we have the means to try different things," as Matt puts it — he is quick to say that, "the practices I have implemented can be done in some form or fashion at other clubs around the country."

In preparing for the Open, "We aren't doing too much different than we do on a daily basis, except we're ramping it up a bit," Matt explains. That starts with water.

"I find it hard to reduce water use here because I don't water at all," he said with a grin. The members want the course to play firm and fast, and are fine with a brown look because "they want a links feel to their golf course." So he waters, if at all, only when moisture sensors tell him it is absolutely necessary. And he doesn't irrigate at night, preferring to wait until morning when he can first check tee, fairway, and green dew patterns.

He also sprays as little as possible. "I go at least 200 days a year without spraying. I hate to spray anything. As an industry, we've been conditioned and trained to spray something every 14 to 21 days whether we need to or not. I'm opposed to this."

One of the most interesting techniques Matt employs is also one of the most basic: walking. Whenever possible, he and his crew walk the course rather than ride. This started after he noticed something unusual on the fairway of the sixth hole, located at the far corner of the property, which is narrow and tight.

"The guys would take equipment out to number six, park, and ride the putting green roller up the fairway to the green. I noticed there was much less dollar spot in the swath of grass within the roller track in the fairway leading up to green." This caused Matt to wonder, "What if I rolled all

down on disease concerns. Also he noted there is less thatch in the upper soil profile. In conjunction with a sand-top-dressing program for fairways, the insect population also has been reduced. Furthermore, height-of-cut can be maintained at a healthier level. And less abrasion on the leaf blade reduces the need for preventative/curative fungicides as temperatures rise.

Walking has other benefits. "It takes utility vehicles off the golf course, reducing the number of cart and equipment trails on the property, making Merion look more natural. Given the small size of this property, tracks and

And while this is Merion — "we have the means to try different things," as Matt puts it — he is quick to say that, "the practices I have implemented can be done in some form or fashion at other clubs around the country."

my fairways? Would dollar spot be reduced?" If it were, he realized there would be other advantages, including less emission from mowing and the need for less pesticide.

So in the late summer of 2009 just after The Walker Cup, Matt asked mechanic Jay Rehr to rig something up, and Jay fabricated a five-gang, one-ton fairway roller. Once the crew started rolling fairways, dollar spot was drastically reduced throughout the course.

But the jerry-rigged equipment was large, cumbersome, and hard to maneuver. So Matt turned to an old friend Sal Rizzo, owner of Salsco Rollers, who created a riding greens roller that is now commercially available. Merion uses two of these Tranz-Former fairways and greens rollers, which can roll four and a half acres an hour.

According to Matt, rolling reduces moisture on the plant, which cuts

trails tend to be more noticeable."

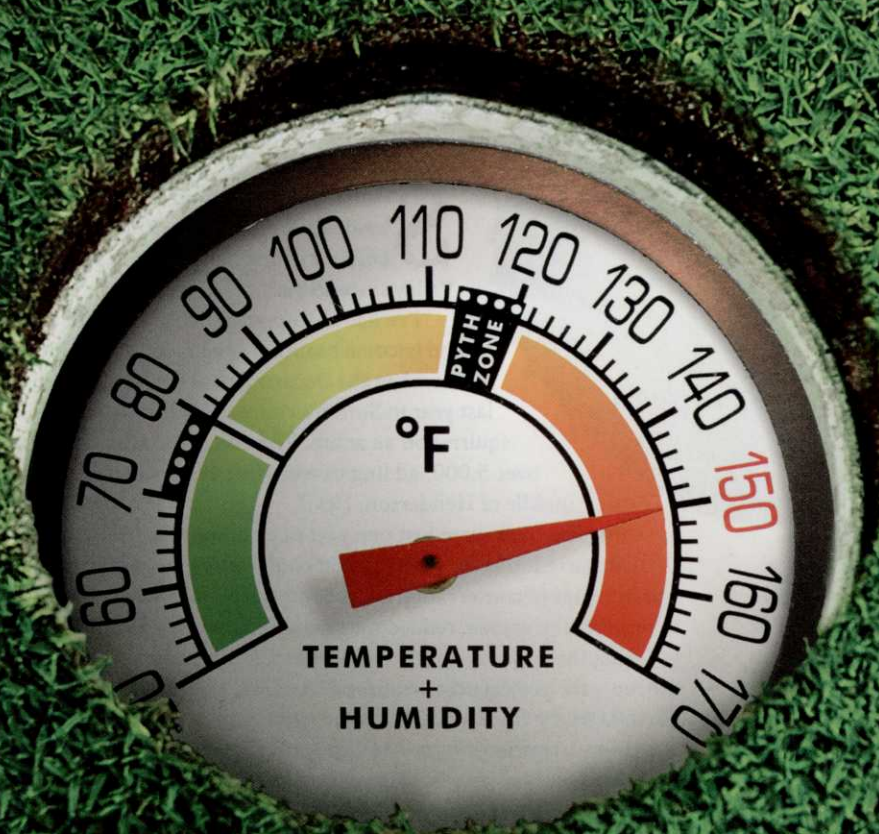
More walking also means greens and bunker surrounds are hand-mowed. The crew collects and bags all clippings, reducing cutworm populations and creating a compost source that is used off-property and this year in U.S. Open reforestation areas such as spectator drop-offs, tent pads and parking areas.

Matt regards insecticides as he does water: Less is better. He believes the new products are so good, and the prolonged residual effects so effective, that fewer sprayings are needed. "I researched the pests found on our golf course to figure out their lifespan, reproductive and egg hatching processes and apply accordingly only when necessary." Fewer pests require fewer, and less frequent, applications.

(MORAGHAN continues on page 108)

In the **Pythium Zone?**

Trust in **Terrazole**[®]



ohp Partners
with
solutions

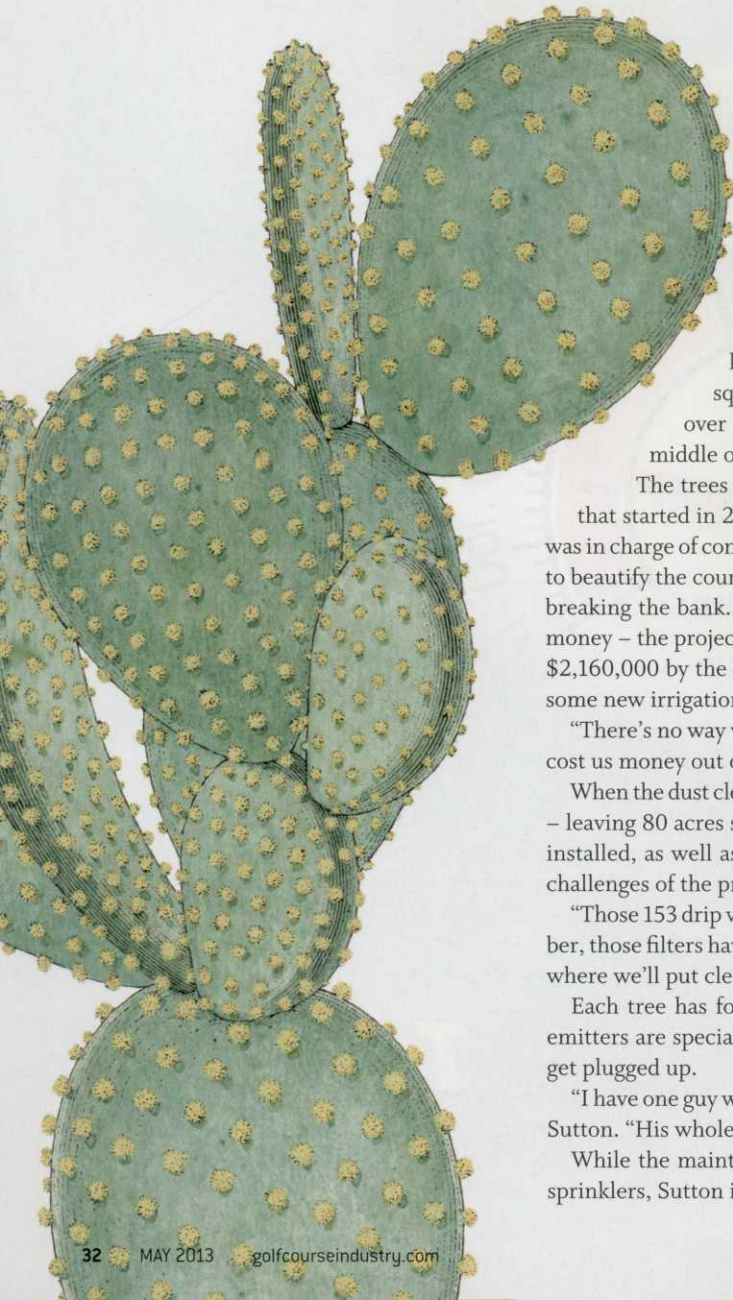
- Curative and Preventative
- New Liquid Formulation
- Effective on resistant strains

Terrazole[®]
Turf and Ornamental Fungicide



Desert *forest*

Wildhorse Golf Club's Scott Sutton says toodle-oo to 52 acres of turf in favor of desertscaapes and thousands of trees to save water and boost the course's wildlife population. by Jason Stahl



Scott Sutton is a self-professed tree lover. A golf course superintendent for more than 30 years and a Las Vegas native, he has built six courses and planted many trees all over the Las Vegas Valley since 1980.

"I've had the opportunity to see a lot of the trees I've put in grow and become beautiful specimens," says Sutton.

So when the Department of Forestry offered to donate nearly 350 trees last year to Sutton's course, Wildhorse Golf Club, he was all over it like a squirrel on an acorn. The donation bumped up his total tree count to just over 5,000, adding to what he calls his creation of a "suburban forest in the middle of Henderson, Nev."

The trees were just one part of an ambitious turf conversion project at Wildhorse that started in 2006 when Sutton contacted an ex-superintendent and friend of his who was in charge of conservation at the Southern Nevada Water Authority (SNWA). The idea was to beautify the course, reduce water usage and attract more wildlife to the property without breaking the bank. Not only did Sutton not break the bank, he made money – the project cost just over \$2 million, and he was reimbursed \$2,160,000 by the SNWA. With the extra money, Sutton purchased some new irrigation controllers and sprinklers.

"There's no way we would have been able to do this if it would have cost us money out of pocket," Sutton says.

When the dust cleared, 52 acres of turfgrass were converted to desertscaapes – leaving 80 acres still covered in turf. More than 5,000 trees and 3,000 desert plants were installed, as well as 153 drip valves. The irrigation switchover has been one of the biggest challenges of the project, especially considering the course uses reclaimed water.

"Those 153 drip valves each have a filter, and during the growing season from April to October, those filters have to be cleaned twice a month," says Sutton. "We actually have extra ones where we'll put clean ones in and take the others out and manually scrub and clean them."

Each tree has four emitters, which translates to more than 20,000 emitters total. The emitters are special ones from Toro that can be taken apart and cleaned as they frequently get plugged up.

"I have one guy who does this task full-time, and he will never in his lifetime catch up," says Sutton. "His whole life is cleaning filters and emitters and trying to keep everything alive."

While the maintenance on the drip irrigation system has been more intensive than the sprinklers, Sutton is banking on that changing one day.





Fifty-two acres of Wildhorse's turfgrass were converted to desertscapes.

“They have a 40- to 50-year lifespan, so they’re at the end of their lifespan. That’s one of the reasons we put in all these new trees: to kind of enhance all the older trees that are starting to check out.”

– Scott Sutton, Wildhorse Golf Club

“I’m hoping eventually that the trees will get big enough where they will sustain themselves and not need much maintenance,” he says. “As of right now, though, it is one of the biggest budget items.”

The trimming is also a constant chore. One person is dedicated full-time to training, trimming and staking all the trees.

“He comes in with truckload after truckload of branches,” says Sutton. “We recently had 60-mile-per-hour winds, so he had to go through and make sure all the trees were staked and that we didn’t lose any.”

Sutton says the trees don’t experience a lot of diseases due to their dry environment, but insects can wreak havoc on occasion. Elm trees that were planted when the course was built 54 years ago are currently deteriorating due to Dutch elm disease.

“They have a 40- to 50-year lifespan, so they’re at the end of their lifespan,” he says. “That’s one of the reasons we put in all these new trees: to kind of enhance all the older trees that are starting to check out.”

With more trees has come more wildlife, which was a big reason why Sutton started the project in the first place. He estimates the animal population has increased tenfold since 2006, especially the birds. At last count, the course had 97 different species of birds, including herons, egrets and osprey that feast on the fish Sutton stocks in the nine lakes he cleaned up. There are no birdhouses on the course as they get



too hot for anything to live in, but there are bathhouses placed high in the trees on the course’s north side where it’s cool.

Sutton installed small, five-gallon trees and let them grow on their own – a method he is a big proponent of. Now, some of the trees that were planted in 2006 are big enough to offer significant shade that is appreciated by the rabbits and other animals, not to mention the humans.

Initially, the golfers were upset by the removal of turf since, in their minds, it created less playable lies for their errant shots. But Sutton says most of the turf was removed from out-of-play areas and also the property lines.

“But you can’t just leave it dirt,” says Sutton. “You’ve got to put in some decomposed granite or bark to cover it. We put in a fine screen decomposed granite of 5/16 minus, which enabled the golfers to hit right off the top of it. It’s just like playing off dirt.”

The homeowners also didn’t like the conversion initially because they says the trees blocked their view, but they eventually warmed to them when they realized they also blocked balls from hitting their houses.

“But as far as beautification, they absolutely loved it,” says Sutton.

Many courses in the Las Vegas Valley are now taking advantage of the water district program that Wildhorse did, but none have gone to the extent Sutton has to turn his course into a wildlife oasis. Also, the program has changed slightly with the downturn in the economy, with courses only allowed to perform up to \$300,000 per year (up to 300,000 square feet at \$1 per square foot) of turf replacement now.

“Before, they didn’t have a cap on it, so instead of only doing 6.7

CHAMPION TURF FARMS

Our focus is Bermudagrass Greens...

- Over 45 Years of Planting Bermudagrass Greens
- Installing Greens on Over 600 Courses in 19 States
- Breeders of CHAMPION Dwarf Bermudagrass Released in 1995
- Breeders of EMERALD Dwarf Bermudagrass Released in 2007
- Creators of the No-Till Renovation Process Used to Convert Over 400 Courses to CHAMPION
- Developing Numerous Innovations in Production and Planting Techniques

Nobody does it better...

- Guaranteed Purity
- Guaranteed Establishment
- Refrigerated Transportation Of Planting Stock
- Sprigs Treated With Fungicides Before Shipping
- The Fastest Grow-In Possible
- No Contamination During Installation
- No Weeds In Planting Stock
- No Soil In Planting Stock
- No Heavy Equipment On Your Greens
- We Are Always There In Person To Install Your Greens

Follow-up support after installation...

Because we are the breeders of the grasses we install, we will be there to ensure your success for the life of your greens. We make follow-up visits, take soil tests, and make agronomic recommendations for every set of greens we install.

CHAMPION
DWARF BERMUDAGRASS

*Specializing In
Bermudagrass Greens
Since 1966*

EMERALD DWARF
BERMUDAGRASS FOR GREENS

2012 GREENS INSTALLATIONS PERFORMED BY CHAMPION TURF FARMS

Ansley Golf Club at Settindown Creek – Roswell, GA

-No-Till conversion from Bentgrass to CHAMPION

Atlantis Country Club – Atlantis, FL

-No-Till conversion from Tifdwarf to CHAMPION

Barefoot Resort - Love Course – North Myrtle Beach, SC

-No-Till conversion from Bentgrass to CHAMPION

Barnsley Gardens Resort - The General – Adairsville, GA

-No-Till conversion from Bentgrass to CHAMPION

Birchwood Country Club – Nashville, NC

-No-Till conversion from Bentgrass to CHAMPION

Bonita Fairways Golf Course – Bonita Springs, FL

-No-Till conversion from Tifdwarf to CHAMPION

Breckenridge Country Club – Breckenridge, TX

-Course renovation, greens planted with EMERALD

Brier Creek Country Club – Raleigh, NC

-No-Till conversion from Bentgrass to CHAMPION

Buckhorn Springs Golf and Country Club – Valrico, FL

-No-Till conversion from Tifdwarf to CHAMPION

Charleston Country Club – Charleston, MO

-No-Till conversion from Bentgrass to CHAMPION

Colonial Country Club North Course – Cordova, TN

-Course renovation, greens planted with EMERALD

Country Club of North Carolina – Pinehurst, NC

-No-Till conversion from Bentgrass to CHAMPION

Cypress Woods Golf & Country Club – Naples, FL

-Course renovation, greens planted with CHAMPION

Desert Pines Golf Course – Fort Stockton, TX

-Greens renovation from Bentgrass to CHAMPION

Emerald Greens Golf Resort & Country Club – Tampa, FL

-No-Till conversion from Tifdwarf to CHAMPION

Fields Ferry Golf Club – Calhoun, GA

-No-Till conversion from Bentgrass to CHAMPION

First Tee of Central Arkansas – Little Rock, AR

-No-Till conversion from Bentgrass to CHAMPION

Fort Bend Country Club – Richmond, TX

-Greens renovation from Tifdwarf to CHAMPION

Goldsboro Municipal Golf Course – Goldsboro, NC

-No-Till conversion from Bentgrass to CHAMPION

Grande Dunes Resort Club – Myrtle Beach, SC

-No-Till conversion from Bentgrass to CHAMPION

Greenville Country Club – Greenville, NC

-No-Till conversion from Bentgrass to CHAMPION

Griffin Bell Golf Course – Americus, GA

-Greens renovation from Tifgreen to CHAMPION

Griffin Golf Course – Griffin, GA

-No-Till conversion from Tifgreen to CHAMPION

High Point Country Club - Willow Creek – High Point, NC

-No-Till conversion from Bentgrass to CHAMPION

Hillandale Golf Club – Durham, NC

-No-Till conversion from Bentgrass to CHAMPION

Inverrary Country Club - West Course – Lauderhill, FL

-Greens renovation from Tifdwarf to CHAMPION

Lady Bird Johnson Golf Course – Fredericksburg, TX

-Greens renovation from Tifdwarf to CHAMPION

Lake Hickory Town Club Executive Course – Hickory, NC

-No-Till conversion from Bentgrass to CHAMPION

Lansbrook Golf Club – Palm Harbor, FL

-No-Till conversion from Tifdwarf to CHAMPION

Lely Resort - Classics Course – Naples, FL

-Greens renovation using CHAMPION

Lely Resort - Flamingo Course – Naples, FL

-Greens renovation using CHAMPION

Magellan Golf Course – Hot Springs Village, AR

-No-Till conversion from Bentgrass to CHAMPION

MBN - King's North Course – Myrtle Beach, SC

-No-Till conversion from Bentgrass to CHAMPION

Moss Creek Golf Club - Devil's Elbow South – HHI, SC

-Course renovation, greens planted with CHAMPION

Mystic Creek Golf Course - El Dorado, AR

-Newly constructed course using CHAMPION greens

North Shore Country Club – Sneads Ferry, NC

-No-Till conversion from Bentgrass to CHAMPION

Occoneechee Golf Club – Hillsborough, NC

-No-Till conversion from Bentgrass to CHAMPION

Orange County National Crooked Cat – Wintergarden, FL

-No-Till conversion from Tifdwarf to CHAMPION

Old Chatham Golf Club – Durham, NC

-No-Till conversion from Bentgrass to CHAMPION

Olde Liberty Golf Course – Youngsville, NC

-No-Till conversion from Bentgrass to CHAMPION

Page Belcher - Stone Creek – Tulsa, OK

-No-Till conversion from Bentgrass to CHAMPION

Palm Beach Country Club – Palm Beach, FL

-No-Till conversion from Miniverde to CHAMPION

Paul Walker Golf Course – Bowling Green, KY

-No-Till conversion from Bentgrass to CHAMPION

Pine Forest CC Green & Gold Courses – Houston, TX

-No-Till conversion from Tifdwarf to CHAMPION

River Hills Country Club – Lake Wylie, SC

-Greens renovation using CHAMPION

River Run Country Club – Davidson, NC

-No-Till conversion from Bentgrass to CHAMPION

RTJ Trail Hampton Cove Short Course - Owens Crossroads, AL

-No-Till conversion from Bentgrass to CHAMPION

Sedgefield Country Club – Greensboro, NC

-No-Till conversion from Bentgrass to CHAMPION

Sherbrooke Golf & Country Club – Lake Worth, FL

-No-Till conversion from Tifdwarf to CHAMPION

The Challenge at Oak Forest – Longview, TX

-Greens renovation from Tifdwarf to CHAMPION

The Club at Olde Cypress – Naples, FL

-Course renovation, greens planted with CHAMPION

The Club at The Strand – Naples, FL

-Course renovation, greens planted with CHAMPION

The Country Club of Coral Springs – Coral Springs, FL

-No-Till conversion from Tifdwarf to CHAMPION

The Course at Eagle Mountain – Batesville, AR

-No-Till conversion from Bentgrass to CHAMPION

The Golden Bear Club – Windermere, FL

-No-Till conversion from Tifdwarf to CHAMPION

Golf Club at Bradshaw Farm Red & White – Woodstock, GA

-No-Till conversion from Bentgrass to CHAMPION

The Peninsula Club – Cornelius, NC

-No-Till conversion from Bentgrass to CHAMPION

The Rustic Golf Course – Rockport, IN

-No-Till conversion from Bentgrass to CHAMPION

Ventura Country Club – Orlando, FL

-No-Till conversion from Tifdwarf to CHAMPION

Verdict Ridge Golf & Country Club – Denver, NC

-No-Till conversion from Bentgrass to CHAMPION

Wekiva Golf Club – Longwood, FL

-No-Till conversion from Tifeagle to CHAMPION

Wilshire Golf Club – Winston Salem, NC

-No-Till conversion from Bentgrass to CHAMPION

3606 Ave F Bay City, TX 77414

1-800-463-TURF (8873)

info@championturffarms.com

For a Complete List of
of Courses Please Visit:

www.championturffarms.com



TAKE ACTION

Getting involved at your course

Incentive programs are available for a variety of projects throughout the country, from turf reduction to energy conservation programs, says Wildhorse Golf Club's Scott Sutton.

"The first step is finding what is available in your area," Sutton says. "For this program, you need to complete an application, host a site visit by a SNWA representative who will pre-measure the area to be converted and take pictures, and sign a consent agreeing that the land will never be converted back to turfgrass. Like a conservation easement, this consent transfers along with the land from owner to owner."

acres per year, we were able to do that in just one phase over a couple months," Sutton says. "There was a certain point in my project where it was going so good that they were paying up to \$2 per square foot."

One of the program rules was that you had to put back at least 50 percent plant cover. In other words, once the plants reached full maturity, they had to cover 50 percent of the land.

"On our project, the water district estimated that we would have 87 percent coverage once our property's plant material was full capacity because we put in a lot more trees," says Sutton.

Sutton estimates that, after

taking out 40 percent of his turfgrass, he has reduced his water usage by 27 percent or 67 million gallons. Budget-wise, that translates to \$56,000 per year, plus a savings of \$14,000 per year on electricity. Unfortunately, he has not been able to utilize those savings as they have been absorbed in the budget.

Aside from the challenges the drip system has brought, another challenge has been weeds. Since 1959, the course's turf had been fertilized and nurtured, so the soil is very fertile. Thus, when the turf was removed, any place that took water suddenly sprouted weeds like crazy. For the most part, Sutton has used

Green is more than just a color

With a 100-year tradition of sustainability leadership, Milliken not only delivers the colorants, turf paints and spray pattern indicators with the performance you've come to expect, our innovative products can help you have less impact on the environment and more impact on the beauty of your facility. Learn more at MillikenTurf.com.



Milliken®
Evergreen®

Green Turf Paint

Milliken®
Aquarius®

Soil Wetting Agents

Milliken®
Blazon®

Spray Pattern Indicator

Milliken®
Bullseye®

Spray Pattern Indicator

Milliken®
Mirage®

Lake and Pond Colorants

Milliken

pre-emergent herbicides to keep the weeds under control, and the times he hasn't have cost him a ton of labor. However, he does have another control method.

"Because we're owned by the city of Henderson, I have access to labor from the court system – people who have to do community service as the result of offenses like speeding, domestic violence, DUI, etc.," Sullivan says. "This has saved me countless dollars in both labor and herbicide expense, and it's a more biological and environmental way of controlling the weeds."

As a result of Sutton and his crew's efforts, Wildhorse has been recognized as an Audubon Certified Cooperative Sanctuary. Sutton himself is one of

only two certified golf irrigation auditors in the state of Nevada.

Looking back on the project, Sutton, who confesses that he only likes to do things one time and thus makes sure it's right the first time, says there isn't much he would do differently with the project if he had to do it over again – other than maybe installing some different species of trees. Overall, he's incredibly thrilled with how it turned out.

"It didn't cost us anything to put in, so it's all gain for the property," he says. "It was all positive and good for the golfers, wildlife, etc. Everyone won." **GCI**

Jason Stahl is a Cleveland-based writer and frequent GCI contributor.



The irrigation switchover has been one of the biggest challenges of the project, especially considering the course uses reclaimed water.

Golf Course Renovation Testing

Start your renovation with testing from Turf Diagnostics & Design

"managing the elements through science"

Rootzone Evaluations

- document current course conditions
- demonstrate turf management successes
- define problem areas
- reveal issues with drainage, contamination, soil layering, organic build-up
- establish soil removal depths
- determine proper replacement soils

Sand & Soil Testing

- programs for greens, tees, bunkers and fairways
- evaluate new materials before you buy
- QC programs during construction

Turf Diagnostics & Design's services provide sound scientific data to help guide your maintenance & renovation efforts.

Contact us now at: www.turfdiag.com
Phone: 913-723-3700 Email: turfdiag@turfdiag.com

The Source Professionals Trust for Expert Weed Identification and Control!

- **Enhanced Weed ID Search Options**
- **Weed ID Photos**
- **Ask the Tech Advisor**
- **Weed Control Options**



Correctly identify the weekly weed for a chance to win this LED flashlight

► An industry service brought to you by: **G pbi / Gordon CORPORATION**
An Employee-Owned Company

weedalert.com is a service mark of PBI-Gordon Corp. 1/13 01250



by John Torsiello

Burning man

Prairie Dunes GC's P. Stan George uses controlled burns to maintain his native areas.

When the legendary architect Perry Maxwell set out to design a golf course in the middle of the rolling prairies of Hutchinson, Kan., he visualized a supremely natural routing, one that would have a distinct links feel to it. Mules and horses moved soil and men worked by hand, scraping and forming the first nine holes.

When Maxwell's son, Press, added a new nine in 1957 to the original 1937 layout, he stayed true to his father's traditional course design, except this time he had more modern equipment at his disposal. So, it was in keeping with the history of Prairie Dunes that superintendent P. Stan George has maintained the natural look and feel of the course.

"Our program consists of burning all appropriate natural areas on a five-year schedule," he says. "We have more than 250 acres of natural prairie, much of which is contained

"As you might imagine, the golf course had a drastically different appearance for a few weeks after the burn."

— P. Stan George, *Prairie Dunes Golf Course*

in the golf course proper. Obviously, we have much more prairie than managed playing surface." Also, they use targeted mowing, target spraying and manual removal of invasive species in its management program.

The natural areas, i.e. prairie, have always

been a part of the charm of playing at Prairie Dunes, says George, calling the areas "an important, appreciated and almost sacred part of the golfing experience here." Thus, the efforts to maintain the course as it was originally designed; to not stand apart from the surrounding environment, but to be almost a part of it. The course has relied since its origins on the natural prairie, wind, design, and undulating greens to challenge players.

Said George, "Obviously, the natural areas were on-site originally, and they have never been seeded or re-established in large measure at any time. Mother Nature takes care of most issues with the exception of the management practices cited."

There is little cost involved in maintaining the natural areas. "We have minimal costs for spraying, mowing, etc. and they are included in the operating budget and not tracked as independent costs," George says.

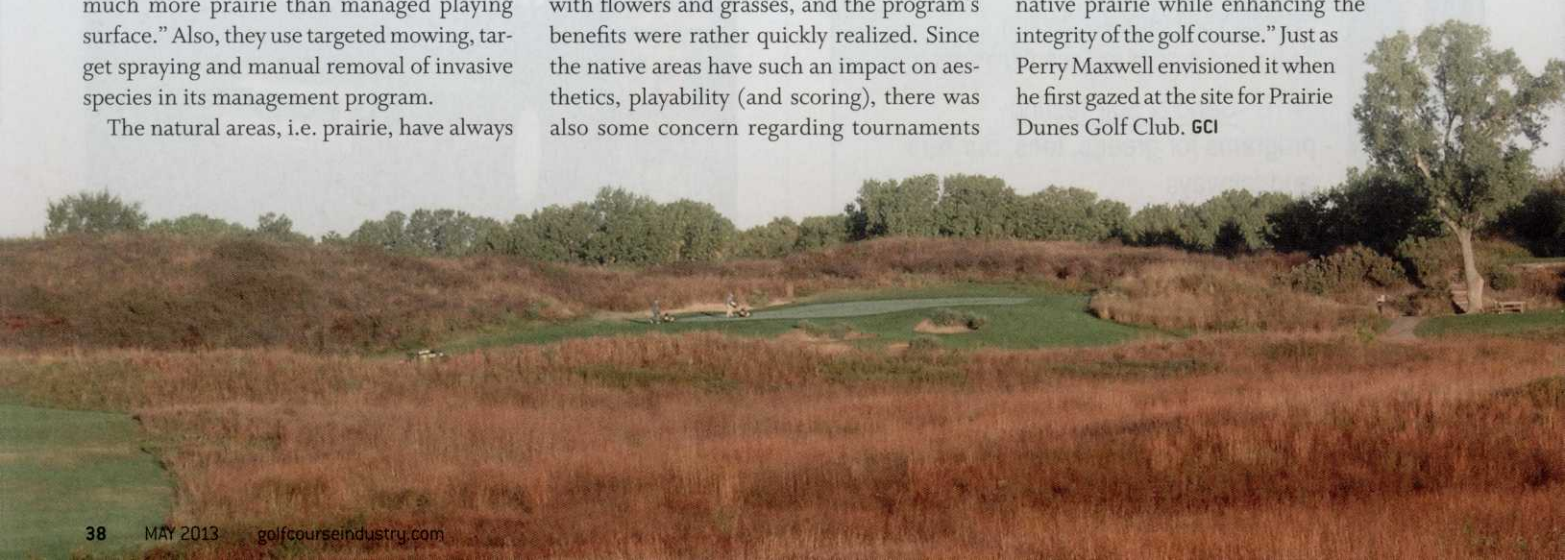
There were some initial challenges with the burning program that was begun in 1993. "As you might imagine, the golf course had a drastically different appearance for a few weeks after the burn." However, re-growth was quick enough with flowers and grasses, and the program's benefits were rather quickly realized. Since the native areas have such an impact on aesthetics, playability (and scoring), there was also some concern regarding tournaments

conducted shortly after the prescribed burns and before significant re-growth could impact wayward shots. As it turned out, tournament scores (a Big 8 Championship in early 1990's and later Big 12 Championships) were not noticeably affected during years that native areas was burned compared to non-burn years.

George adds, "The vast majority of the membership understands and appreciates the necessity of our programs." While it is not tracked, it is believed maintaining Prairie Dunes' natural areas has enhanced wildlife habitat, while significantly diminishing the encroachment of invasive species.

The club's efforts at maintaining the natural look and feel of Prairie Dunes has been widely appreciated. "The community generally recognizes Prairie Dunes as an organization that is serious about prairie renovation and prairie preservation and all of the benefits that come with this program" he says.

George would like to burn more often, but it's difficult due to the amount of play the course receives and the tournaments and other events it hosts on an annual basis. "The program has restored many acres to a more native prairie while enhancing the integrity of the golf course." Just as Perry Maxwell envisioned it when he first gazed at the site for Prairie Dunes Golf Club. **GCI**



You can learn a lot with your head in the dirt.

Our best-in-class products combined with the WinField Insights™ Tech Kit and WinField™ Academy classes can help you look deeper and plan smarter.

VISIT WINFIELD.COM/GOLFINSIGHTS ON YOUR
MOBILE BROWSER, THEN PLACE YOUR PHONE HERE



WINFIELD™

WinField is a trademark of Winfield Solutions, LLC. ©2013 Winfield Solutions, LLC.



By Helen M. Stone

Rough cut

TPC Southwind uses fine fescue as natural areas, and saves time, resources and money in the process.

Memphis – Mecca for music, barbecue, blue-suede shoes... and sustainable golf? Sure enough. TPC Southwind earned the Golf Digest/ Golf Course Superintendents Association of America (GCSAA) Environmental Leaders in Golf Award multiple years and was the first course in Tennessee to be certified as an Audubon Cooperative Sanctuary.

“As a TPC course mandate, we are expected to be environmentally conscious and take a leadership role in sustainability and making positive changes,” says TPC Southwind superintendent Jim Thomas, CGCS. The challenging private course has been working to conserve water, labor and resources since opening in 1988, with numerous upgrades and renovations.

In 2004, an ambitious project began to replace intensively maintained Bermudagrass in the roughs with fine fescue to save resources, money and time. “A few years ago, we did some more renovations and now we have about 20 acres in fine fescue,” says Thomas.

“This is a warm-season grass climate,” he says. “But we treat the fine fescue plantings as natural areas. We’ve let it grow up tall and kept the seedheads, which is a nice look. Most of the time, we mow it a few times a year to keep it around eight to 12 inches. I call it a managed native area.”

Since the original planting was well-adapted Bermudagrass, the renovation required several applications of glyphosate. “However, when you get a good solid, thick stand it does a good job of controlling weeds,” Thomas points out. “But if you get some damage or thinning you have to do some reestablishment.”

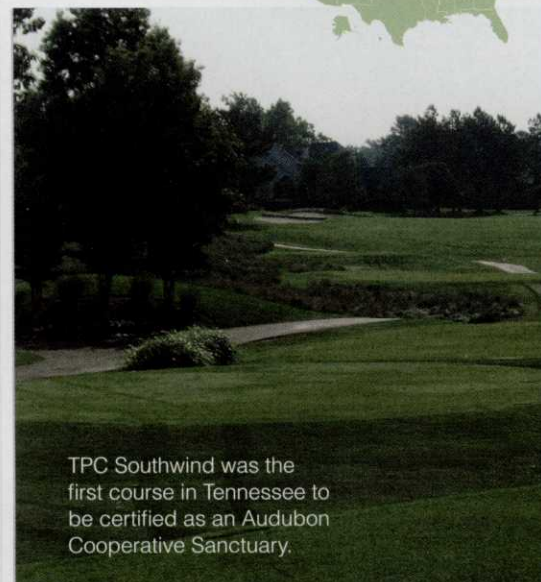
Thomas estimates that the latest renovation came in at about \$10,000, but the dollar savings keep on coming. “We save about \$7,500

or more a year just in mowing costs,” he says. “And that’s just in man hours; that doesn’t count fuel costs or depreciation.”

Since the fine fescue was installed after the course was constructed, Thomas says it’s difficult to quantify the exact water savings. “We’ve set up programs that separate the schedules for the fescue and the Bermuda, though,” he says. “We’ve seen some reduction in water. It’s hard to calculate, but I’d say about 30 percent savings – maybe more.”

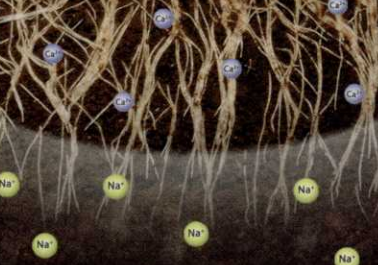
The renovation has resulted in other benefits as well. “How do you put a value on aesthetics?” Thomas asks. “It definitely provides color contrast; especially in the winter when the Bermuda is dormant and the fine fescue is bright green. But even in the summer, it has a different color and grain. It breaks up and divides the golf holes.”

“There are some holes where we’ve utilized it to add to the strength or integrity of the hole. If we have a sharp dogleg, it adds



TPC Southwind was the first course in Tennessee to be certified as an Audubon Cooperative Sanctuary.

BAD WATER?



Good Solutions.

AQUAPLEX Ca® X

Calcium When You Need It

- Ideal for turf managers who use a liquid calcium in their programs
- High quality soluble calcium nitrate source
- Effective calcium solubilizing agent for greater availability
- Patented Synergy Technology for more uniform penetration, distribution and availability

For more information, contact your Aquatrols distributor today.

Aquatrols®

www.aquatrols.com

“We save about \$7,500 or more a year just in mowing costs,” he says. “And that’s just in man hours; that doesn’t count fuel costs or depreciation.”

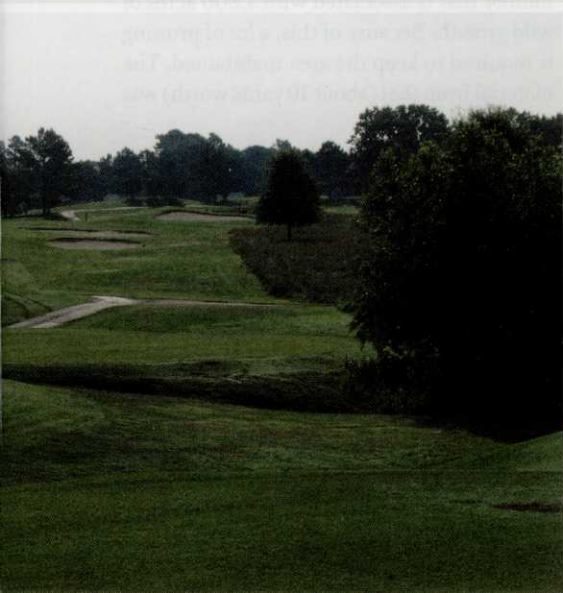
– Jim Thomas, CGCS,
TPC Southwind

a severe penalty if someone is trying to cut the corner. It makes that risk/reward shot cutting the corner have more risk – and more reward,” Thomas explains.

“There are a lot of options you can use to create natural areas,” Thomas says. “I don’t know if you can really call fine fescue a native species, but I really like it fine fescue. We’ve tried tall fescue and it gets clumpy and it has coarse blades. Fine fescue has a uniform look, a finer leaf texture and I like the contrast and color it produces.”

Thomas is quick to give others credit where credit is due. “You have to give Jeff Plotts, the original superintendent, a lot more credit than me,” he says. “They really did a great job with the original design. For the most part, it was out of way and out of play. And the areas brought into play were very well done.” **GCI**

Helen M. Stone is a freelance writer based on the West Coast and a frequent GCI contributor.



SUPERthrive®

1940 WORLD'S FAIR
Gold Medal
The Original Vitamin Solution



Apply **SUPERthrive®**
on Mondays to revive
weekend-stressed turf


Free Trial Available at
www.SUPERthrive.com

Vitamin Institute® - 12610 Saticoy St. South, N. Hollywood, CA 91605

No Water. No Sewer. No Problem.



Clivus Multrum
M54 Trailhead
Composting toilet system & building

 **M54 Trailhead**

clivusmultrum
Incorporated

- Odor free
- Pollution Free
- ADA compliant
- Kit or pre-fabricated
- Single or double stall
- Custom finishes
- 6 oz Foam-flush toilet or completely waterless fixtures

Contact us to learn more **800.425.4887**

www.clivusmultrum.com



By Katie Tuttle

Two birds, *one stone*

Ecologel®

SOLUTIONS LLC

Environmentally responsible solutions for water conservation, plant nutrition, dust control and biological pond maintenance.

Hydretain®

Root Zone Moisture Manager
Fight Drought • Conserve Water
www.hydretain.com

BIOPRO®

TECHNOLOGIES, LLC

Advanced Liquid Plant Nutrients
NPKs • Trace Nutrients • Advanced Blends
www.bioprotechnologiesllc.com

cytogro®

Hormone Root Biostimulant
Seaweed derived • EPA Registered
www.cytogro.com

AQUA-T™

Biological Pond & Lake Management
Digests sludge • Clarifies • Denitrifies
www.aquatproducts.com

Hydretain ES Plus is a



Our flagship technology, Hydretain®, is the only product of its kind that actually captures moisture in the soil otherwise lost to evaporation and passes it to the roots of plants, reducing the burden on irrigation.

Our vision is sustainability without sacrifice. Our mission is to provide innovative technologies for the responsible management of natural resources. Our products help you conserve water, reduce energy use, save time and minimize labor costs while maintaining the exceptional quality that your members and guests have come to expect. Contact us today to learn more.

www.ecologel.com • 4060 SE 45th Court • Ocala, Florida 34480 • 352-620-2020

© Copyright 2013. Ecologel Solutions, LLC. All Rights Reserved.

Instead of spending thousands on both removing dead brush and purchasing pine straw, The Club at Mediterra combines the two?

Imagine walking out to play a round of golf. You take your first swing...and your ball lands in the pine straw mulch. As you walk through it and try not to slip, you wonder to yourself why anyone would landscape with something that could be such a hazard to golfers.

The Club at Mediterra in Naples, Fla. has the solution. Frank Heery, the director of agronomy, has helped implement a program at the club that eliminates the need for pine straw mulch on the course. The best part? The program also has a large, positive environmental impact.

Pine straw is expensive, especially since it only has a six month residual. With Mediterra being about 40 acres, Heery guesses they were putting down upwards of \$200,000 a year.

"[I said] there's got to be a way to cut this cost," Heery says.

Mediterra is located near a housing community that is associated with 1,800 acres of wild growth. Because of this, a lot of pruning is required to keep the area maintained. The material from that (about 10 yards worth) was then hauled off-site.

One day, a man by the name of Robert Oleski stopped by the course. He had just started a new company, called Green Club Recycling. According to their website, the company "offers on-site horticulture shredding which may be used for landscape mulch or compost material." Oleski showed Heery a sample of the shredded product.

"It looks identical to pine straw," Heery says. "It would be safer for the golfer, and from a shot standpoint it works out better because it holds the ball up a little bit better."

OARS[®]

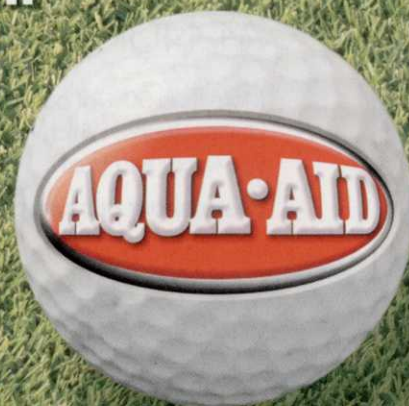
Inoculate Against LDS

For the Prevention and Management
of Water Repellency and LDS



**The Original
Acid Removal
Surfactant System.**

**Patented, Tested,
Proven, and
Guaranteed.**





THE SUSTAINABILITY ISSUE: COURSE

It's also less expensive. Mediterra has eliminated the cost of purchasing pine straw, and the previous cost of hauling the unused material off-site is roughly the same as the current cost to shred it. "We're saving \$100,000 a year," Heery says.

Mediterra has taken it a step further, now doing the same with a soil shredder. Any material that

is grass based and has soil, such as material from the beds, sodwork and grass clipping, are put into a bin and then shredded down to become composted soil. This summer they will use a manure spreader to topdress the rough.

"It should save us some fertilizer applications," Heery says. "We're fortifying the soil with composted material."

One problem Mediterra has run into so far is keeping the shredded material stockpiled. The material is kept in a 30-yard bin and Heery calls the company when the bin is full. Depending on thickness, the shredded material can cover half to a full acre.

Heery is hopeful that there will be a way to convince the community association landscapers to dump their material in the course's bin as well.

"You would be making a tremendous environmental impact because you'd be saving everything that comes off of the grounds and recycling it," he says.

Another problem is that currently, the course still needs to spray herbicides. Heery says they



Any material that is grass based and has soil with it is shredded down to become composted soil.

have a couple of ideas of how to fix that, but for now they still send guys around with sprayers.

"The next phase is to say, 'Alright, how do you get even more environmental and not have to get out and spray weeds,'" Heery says. **GCI**

Katie Tuttle is GCI's assistant editor.



The shredded material is stored in a 30-yard bin.

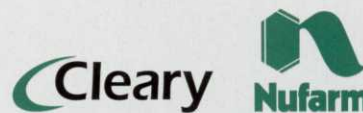


AT NUFARM, WE BELIEVE MORE IS BETTER.

More than 90% of our products to protect and enhance golf course turf are formulated right here in the United States. Which means you can count on Nufarm for more quality products supported by people you know and trust.

Learn about our complete line of products, including the Cleary brands, at Nufarm.com/USGN

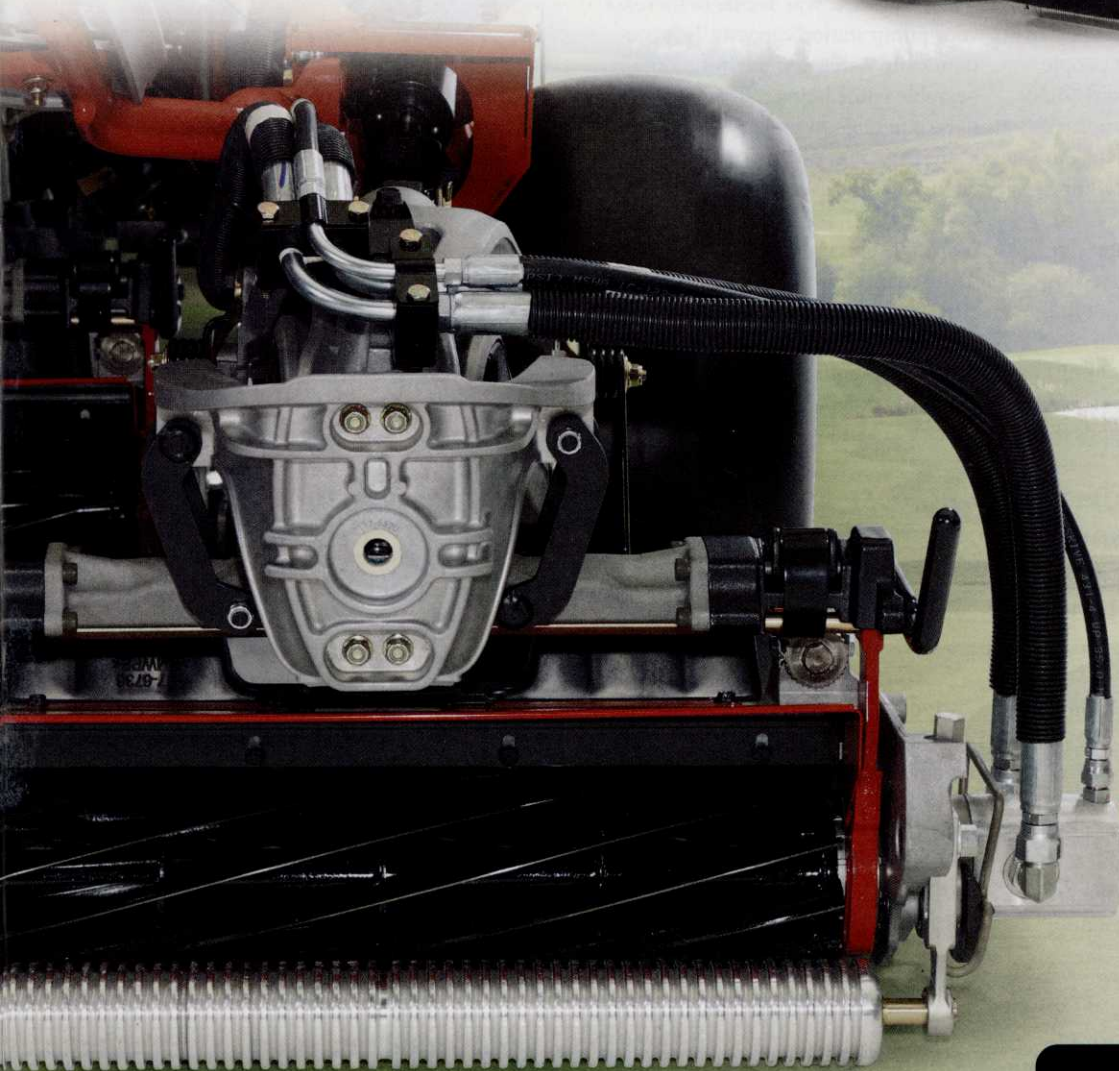
More where it matters most.
www.nufarm.com/us



WE DIDN'T JUST RAISE THE BAR WE PUT IT LIGHT YEARS OUT OF REACH.

The new Toro® Greensmaster® TriFlex™ is the first riding greensmower that cuts with the precision of a walker. But don't take our word for it, see what superintendents are saying. Visit toro.com/leaderboard.

The Leader in Golf.



Greensmaster® TriFlex™ & TriFlex Hybrid
toro.com/leaderboard

©2013 The Toro Company. All rights reserved.

TORO.

Count on it.



Brian Vinchesi, the 2009 EPA WaterSense Irrigation Partner of the Year, is president of Irrigation Consulting Inc., a golf course irrigation design and consulting firm headquartered in Pepperell, Mass., that designs irrigation systems throughout the world. He can be reached at bvinchesi@irrigationconsulting.com or 978/433-8972.

SUSTAINABLE IRRIGATION: DIFFERENT SOAKS FOR DIFFERENT FOLKS

Many people, especially in the regulatory arena, would consider “sustainable irrigation” to be an oxymoron.

Basically they believe irrigation in no way can be considered sustainable because it uses water irresponsibly. So, is sustainable irrigation on a golf course actually possible? And if so, what does it look like?

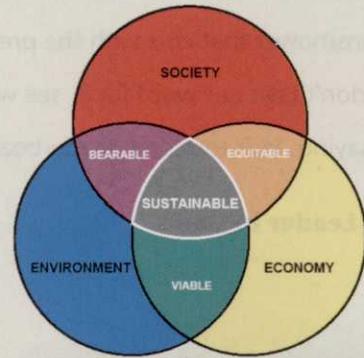
Sustainability is one of this decade’s big buzz words and it has different meanings to different people. If you were to Google the word “sustainability” you would find approximately 115 million results. There are many different definitions, but one of the more recognized definitions – and the one I prefer – is “developments that meet the needs of the present without compromising the ability of future generations to meet their own needs.” With this definition you can pretty much replace the word “development” with other applicable

Sustainability has three aspects to it; economy, environment and social. These all overlap (see the inset image) to show how each affects the other, whether it be variable, bearable or equitable. When practicing sustainability, weigh how your decisions will impact society, the environment and your economics and will the results be bearable, equitable and viable.

For instance, you decide to increase your pump station capacity. Is it economically viable and environmentally bearable while being efficient enough to be equitable to society?

In irrigation, this mostly comes down to water use (everything seems to these days), but it also involves proper equipment selection, proper maintenance, proper installation and efficient use of energy. Some sustainable irrigation practices are simple and very straight forward and you should be practicing them already.

Here are a few examples:



- Check your central control databases so that they are accurate. Theoretical water use from the database and actual water use from the pump station should be within 10% of each other.

- Using the station, area and global adjusts to fine tune each individual sprinkler’s needs.

- Investing in preventive maintenance for your pump system on a regular basis so it is as energy efficient as possible.

- Keeping sprinklers level and set to grade to maximize uniformity.

- Eliminating nutrient migration through proper watering.

Other sustainable irrigation practices require time, planning, thinking and money. A few to think about:

- Investing in technology that helps you use less resources, such as hardware and software that integrates the pump system and irrigation systems or a tablet or smart phone to more precisely fine tune your irrigation scheduling.

For instance, you decide to increase your pump station capacity. Is it **economically viable** and **environmentally bearable** while being efficient enough to be equitable to society?

words such as: operations, actions, procedures, or practices.

For my purposes and this column’s, I will define it as irrigation practices that meet the needs of the present without compromising the ability of future generations to meet their own needs. Basically, don’t do something today that will screw up somebody or something tomorrow.

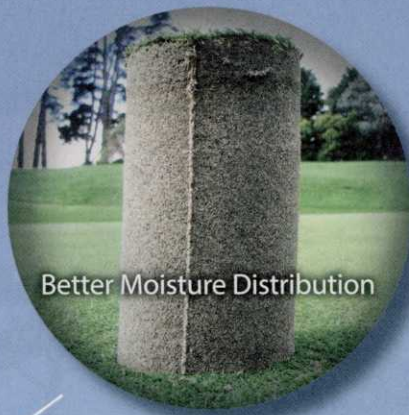
- Properly matching the sprinkler model and nozzle with the required pressure and the proper spacing.

- Adjusting irrigation schedules daily to use only the amount of water necessary.

- Using some sort of ET or soil moisture measurement device as a tool to help you in determining the amount of water to apply.

(IRRIGATION continues on page 108)

The first name in surfactants. The last you’ll need to know.



Better Moisture Distribution



Better Playability

It contains more than you think.



Better Stress Response



Better Root Growth



Aquatrols®
Revolution®

It's no surprise that Revolution is trusted by so many turf professionals around the world. It's the only soil surfactant that goes beyond water repellency issues, providing comprehensive water management and plant health benefits as well.

Revolution's patented formulation balances air and water in the soil profile, leading to a better root system and improved soil health. By maximizing the potential of your growing environment, Revolution helps turf function more efficiently and perform at consistently higher levels, even under stress.

Try it — and see the benefits for yourself.



Aquatrols®
www.aquatrols.com

A photograph of several purple lupine flowers on green stems, arranged in a row across the top of the page. The flowers are in various stages of bloom, with some showing their characteristic pea-like shape.

Texas PRIDE

by Rob Thomas

The City of Arlington employed comprehensive, sustainable resource-management principles when designing, building, and then managing Tierra Verde Golf Club.



Operating a golf course and remaining environmentally conscious can go hand in hand. In fact, it's a message city officials from Arlington, Texas, with assistance from Audubon International, have been consistently communicating to its community.

With three courses already under the city Parks and Recreation Department umbrella – the nine-hole Meadowbrook Park built in the 1920s, Lake Arlington built in the 60s and Chester W. Ditto built in the 80s – Arlington decided in the 90s that a fourth course would be an asset, but Mother Nature mustn't be harmed. The result... Tierra Verde Golf Club became the first golf course in Texas and the first municipal course in the world to be certified as an Audubon Signature Sanctuary.

The Audubon International Signature Program is an environmental education and conservation assistance program created to help landowners and managers follow comprehensive, sustainable resource management principles when designing, building, and then managing new developments.

The city brought on Audubon International and the Texas Parks and Wildlife Department to offer guidance on sustainable design, says superintendent Mark Claburn. The firm of Graham and Panks International – comprised of former PGA Tour player David Graham, designer Gary Panks and lead architect Gary Ste-

The course design provided a more mature-looking course and the native areas allow the golfer to remove themselves from the "Metroplex feel" of many courses in the Arlington market.

“The initial desire was to preserve the environment,” Claburn says. “We only utilize about 100 acres of the 260-acre plot, with wildlife corridors throughout the course.”

– Mark Claburn, Tierra Verde Golf Club



phenson – teamed with the group and drew up plans to make that happen.

Audubon International Signature and Classic Program Director Nancy Richardson worked closely with city officials and course architects to ensure Tierra Verde was designed to maximize and preserve native areas – such as a wooded creek corridor and existing plum thicket – and minimize managed areas.

“I spent a day with officials from the City of Arlington before construction began, as well as with the golf course architect, Gary Stephenson, working on making sure that any drainage from the golf course was being filtered through buffers to clean up the runoff,” Richardson says. “This was a time-consuming process trying to protect water quality without impacting the artistic design of the course. In the end, we were able to ensure that all runoff was filtered and water quality on the property was protected and even improved over time.”

LOCATION, LOCATION, LOCATION. Though blessed with excellent features and terrain, this land almost wasn’t chosen to host the course, Claburn says. Because of its distance from the heart of the city and major freeways, the former ranch, which was used by many as a hunting ground, almost became an industrial park.

“There was a lot of pressure to put the site elsewhere, but ultimately the current site was the best location for the course with the topography and a majority of the land being undisturbed,” he says.

Adjacent to Tierra Verde is the Martin Luther King Sports Center. With baseball and softball fields, and a nature trail, this gives the entire complex almost 360 acres of combined green space.

“The initial desire was to preserve the environment,” Claburn says. “We only utilize

about 100 acres of the 260-acre plot, with wildlife corridors throughout the course.”

FINANCIAL BENEFITS. The environmental focus has had financial benefits for the course, and the golfing public, as well.

“The design has allowed us to remain competitive during this economic downturn,” Claburn says. “We haven’t had a significant price increase because we were designed to be efficient and sustainable.

“We save money on labor, fuel, fertilizer and water due to the design, [too]” he adds.

Richardson can understand why some may balk at consulting Audubon International during the design process, but encourages them to investigate by talking with program members about the financial benefits.

“Through the Signature Program, we work with the developers of land,” she says.

“Developers go through a long process in getting approvals for their project, so I believe in many cases they see Audubon International as another hand on their project wanting them to do more than they are already required to do by government agencies or the local community. But this program helps design a facility that will save in maintenance and operational costs down the road.

“I’m not sure why a golf course owner/operator would not want to save money on operational costs,” she adds. “Audubon International programs can definitely help them to do that.”

COMMUNITY. Golfers and wildlife aren’t the only ones benefitting from Tierra Verde. The community also enjoys the fruits of this labor.

“We tour about 200 people from the community a year through the facility and inform them about our practices and how they can



Audubon International worked closely with city officials and course architects to ensure Tierra Verde was designed to maximize and preserve native areas.



The second hole at Tierra Verde Golf Club.

incorporate those into their location,” Claburn says. “Additionally, the golf division is an enterprise fund within the city. We don’t receive tax payer dollars. We are funded by the patrons – including paying for facility operations, land, design and construction. So we provide the city with a sustainable asset that provides entertainment, green space and improves land value surrounding it.”

Designing a course with increased attention on the environment can come at a price, however. While some funding was provided by the other courses – a portion of each greens fee goes toward paying for Tierra Verde – the majority was paid by borrowing through a bond program. Claburn says the course will retire its initial debt in 2017.

“Because of the extensive native areas on the course, construction costs were a little more... and construction took a few extra months due to the routing,” Claburn says. “There were some additional costs in building construction, as well.”

The return on investment is already being enjoyed, though.

“The geothermal heat and air, as well as other design features, saves about 80 percent on electricity over

a building with a similar footprint,” Claburn says of the clubhouse. “It utilizes the constant temperature deep in the soil to act as a free ‘heat pump/sump.’ There are 50 wells that go down 200 feet under the practice holes that take the 130-degree coolant water from the air conditioner system and runs it through HDPE pipes and circulates it through the underground wells like a radiator. This lowers our cost of air conditioning during those 100-degree summer days.

“The course design provided a more mature-looking course and the native areas really allow the golfer to remove themselves from the ‘Metroplex feel’ of many courses here,” he adds. “It feels like you are in the countryside.”

CHALLENGES. As expected, this process hasn’t been without stern tests to overcome.

“A large challenge we face is approximately 20 auto salvage yards that feed into our water shed,” Claburn says, which may explain why some preferred the industrial park to a golf course. “We added additional buffer areas and wetlands for the course to act as a biofilter for the increased pollution.”



It's here!



- NEW Products for 2013
- Underhill Bestselling Products
- Handy 20-page Reference

– GOLF MASTER STOCKING DISTRIBUTORS – NATIONAL CATALOGS



eagleonegolf.com



rrproducts.com



precisionusa.com

LOCAL DISTRIBUTORS



- Atlantic Irrigation (CT/DE/NJ/NY/PA/VA) atlanticirrigation.com
 Bisco (MA/CT/NH) gobisco.com
 Colorado Golf & Turf (CO) 303-917-4141
 Jerry Pate (GA/AL/TN/FL) jerry pate.com
 Matrix (NY) matrixturf.com
 Progressive Grower (MA) myturfsupply.com
 Sierra Pacific (No. CA) sierrapacificturf.com
 Smith Turf (VA/NC/SC/TN) smithturf.com
 Spartan (MI) 1-800-822-2216
 Sports Turf (So. CA) sportsturfirrigation.com
 Turf Equipment (DE/MD/PA/VA) turf-equipment.com

Products that work...smart.™ • www.underhill.us



Underhill[®]

PROFESSIONAL WATERING PRODUCTS 2013

When a product does its job day in and day out - **it works.**
When it saves you time, money, or water - **it's smart.**
When it does both - **it's from Underhill.**

Products that work...smart.[™]



Magnum™ UltraMAX



PREMIUM HOSE-END NOZZLES & ACCESSORIES

Step up to the most professional nozzle you can buy - MAGNUM™ UltraMax. Firefighter quality for professionals in any field, these variable flow, multi-function nozzles are virtually indestructible and leak proof. The innovative TURBO SHIFT models provide two distinct GPM ranges. And the outstanding distribution patterns of all MAGNUM UltraMAX nozzles make them excel in high demand areas like greens/tees, infield conditioning and equipment and stadium washdowns.



features / specifications

- Multi-Pattern Spray: Fog, Jet Stream, Fan
- Built for 1" and ¾" Hose Flow Rates (range: 7-43 GPM)
- Materials: Aircraft Aluminum, Stainless Steel, TPR Rubber

FULL THROTTLE

Single Variable Flow: Delivers steady, maximum volume fog, jet stream and fan patterns.

Low Flow (Residential Use) Model:
12-19 GPM (45-72 L/min)

High Flow Model:
15-40 GPM (57-151 L/min)

Super High Flow Model:
39-100 GPM (148-379 L/min)



NEW!

**Super High Flow
UP TO 100 GPM!**

TURBO SHIFT

Dual Variable Flow: Delivers light fog and low volume jet stream patterns before shifting to high volume jet stream and fan patterns.

Low Flow (Residential Use) Model:
Opens with 7-12 GPM (27-45 L/min)
Turbo Shifts to 14-17 GPM (53-64 L/min)

High Flow Model:
Opens with 12-17 GPM (45-64 L/min)
Turbo Shifts to 20-43 GPM (76-163 L/min)

Super High Flow Model:
34-104 GPM (129-394 L/min)



Pistol Grip

Firefighter Grip

UltraMAX Valves

Heavy duty ball valve, push-pull on/off control handle and exceptional build quality for long life under demanding use. Available in Firefighter Grip for two-handed operation or ergonomic Pistol Grip for comfortable, extended use. **Nozzles sold separately.**

NEW!

NEW!

ordering

Part # NG550-DFH-75	Turbo Shift 12-43 GPM (45-163 L/min) - ¾" FHT inlet
Part # NG550-DFH-10	Turbo Shift 12-43 GPM (45-163 L/min) - 1" FHT inlet
NEW! Part # NG550-DFSH-10	Turbo Shift 34-104 GPM (129-394 L/min) - 1" FHT inlet
Part # NG550-DFL-75	Turbo Shift 7-17 GPM (27-64 L/min) - ¾" FHT inlet
Part # NG550-DFL-10	Turbo Shift 7-17 GPM (27-64 L/min) - 1" FHT inlet
Part # NG500-SFH-75	Full Throttle 15-40 GPM (57-151 L/min) - ¾" FHT inlet
Part # NG500-SFH-10	Full Throttle 15-40 GPM (57-151 L/min) - 1" FHT inlet
Part # NG500-SFL-75	Full Throttle 12-19 GPM (45-72 L/min) - ¾" FHT inlet
Part # NG500-SFL-10	Full Throttle 12-19 GPM (45-72 L/min) - 1" FHT inlet
NEW! Part # NG500-SFSH-10	Full Throttle 39-100 GPM (148-379 L/min) - 1" FHT inlet
Part # SVPG-75	Pistol Grip Valve - ¾" FHT inlet
Part # SVPG-10	Pistol Grip Valve - 1" FHT inlet
Part # SV-75	Firefighter Grip Valve - ¾" FHT inlet
Part # SV-10	Firefighter Grip Valve - 1" FHT inlet

All flow rates based on 80 psi (5,5 bar)

Magnum™

SOLID METAL HOSE NOZZLE

Underhill® Magnum™ contains no plastic internal parts to break, stick or wear out. Our unique ratchet mechanism easily adjusts from gentle fan to powerful jet stream and prevents over-tightening damage. Precision-machined, incredibly smooth operation and outstanding distribution patterns make it ideal for high-demand areas like greens and tees. Magnum™ is also an excellent equipment wash-down nozzle.

features

- Multi-pattern sprays - effortless control with hydraulic assist on/off
- Solid metal internal - no plastic parts to break or wear out
- Ratchet mechanism prevents over-tightening damage
- Ultra-durable construction withstands any abuse
- Fire hose quality nozzle feels great in your hands
- Beautiful, consistent spray patterns for life
- Built for 1" and ¾" flow rates

specifications

Materials: stainless steel, aluminum, TPR rubber

Flow: 37 GPM at 80 psi

Inlet: ¾" hose thread (1" brass adapter available, see Page 4)



Magnum™ nozzle pictured with 1" brass adapter (sold separately on Page 4)



solid metal internal body

Won't stick...won't break



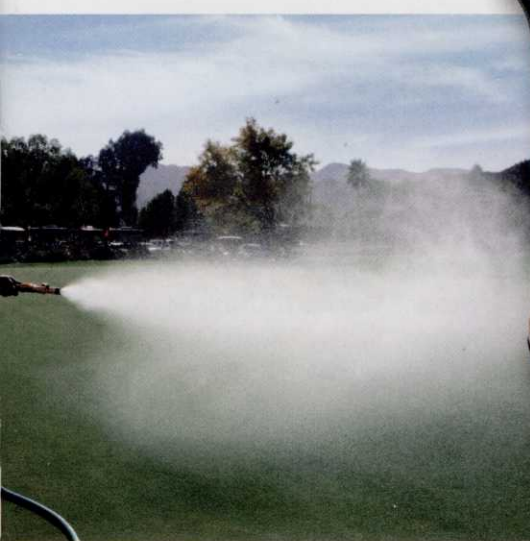
fan



jet



soak



CoolPro™

COOL WITHOUT OVER WATERING - NO ROOT DAMAGE

A hot summer day can be murder on your greens. Use too much water and you risk damage to the roots. CoolPro™ is the first nozzle specifically designed for the single purpose of lightly misting the turf canopy to cool without over watering. And its 25 foot fogging pattern gets the job done quickly.

features

- Precision™ nozzle fogs at 70 psi to deliver a 25 ft. pattern with only 4-6 GPM
- ¾" inlet (1" brass adapter available, see Page 4)
- Ergonomic handle/valve provides easy grip and variable on/off control.
- Durable solid metal design: zinc, aircraft aluminum and stainless steel.

ordering

Part # NG450	MAGNUM™ Hose Nozzle
Part # HNC075	CoolPro™ Valve and Nozzle
Part # HN0600	CoolPro™ Nozzle only
Part # CV075L	CoolPro™ Valve only

Perfect for tournament play, CoolPro™ puts down only enough water to cool the turf canopy. It prevents wilting while maintaining good ball speed. CoolPro is a great tool for protecting grass on hot days without damaging roots.

Precision™

SOLID METAL, SPECIFIC TASK HOSE NOZZLES

Underhill® Precision™ nozzles deliver millions of soft, uniform droplets to provide rapid yet surprisingly gentle water application over a huge range of flow rates. From soft watering to powerful drenching, patented Precision nozzles are designed with ideal flow rates and droplet sizes to fully irrigate without disturbing turf, dirt, seeds, etc., providing a precise solution for every hand watering application.



precision watering for specific tasks



Rainbow™ TASKS: Greens, tees, seed beds, transplants, delicate landscaping (15 GPM)



Rainmaker™ TASKS: Syringe and spot watering turf and hardy landscaping (23 GPM)



Cloudburst™ TASKS: Dry spots, drenching, and wetting agent application (35+ GPM)



Cyclone™ Pre-game skins watering, heavy watering of large areas, ideal for hydroseeding (50+ GPM)

Note: GPM will vary with pressure at nozzle.

high-flow valves



COMPOSITE / STAINLESS STEEL: ¾" hose thread inlet/outlet, oversized handle, up to 55 GPM



SOLID BRASS: ¾" hose thread inlet/outlet, up to 50 GPM

hose adapters / quick-connectors



ordering

- Part # HN1500CV Precision™ **Rainbow™** Nozzle Kit
- Part # HN2300CV Precision™ **Rainmaker™** Nozzle Kit
- Part # HN4800CV Precision™ **Cloudburst™** Nozzle Kit
- Part # HN5000CV Precision™ **Cyclone™** Nozzle Kit

Nozzle Kits include brass High Flow Control Valve and ¾" MHT x 1" FHT Adapter.

To order nozzle only: remove "CV" from part number.



- Part # CV075H High-Flow ¾" Valve - Brass
- Part # A-BV77FM High-Flow ¾" Valve - Composite/Steel
- Part # A-BA107FM 1" FHT x ¾" MHT Brass Hose Adapter
- Part # A-BA107MF 1" MHT x ¾" FHT Brass Hose Adapter
- Part # A-BQ7M ¾" Quick-Connect, male end
- Part # A-BQ7F ¾" Quick-Connect, female end
- Part # HN075W replacement washer, ¾" hose

NEW! DrainBlaster™

HIGH PRESSURE DRAIN CLEANING NOZZLE

This unique hose-end, high pressure nozzle guides itself in cleaning out drains, to remove debris with ease. Special feature includes a wire attachment connector for using wire locator to determine drain route.

features

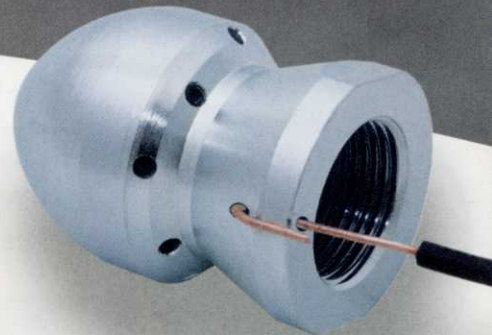
- Front jet cuts through blockage
- Rear jets propel nozzle upline
- Two stage flushing action
- Minimum water pressure: 70 PSI
- Heat treated grade 303 stainless steel for long life



Great for cleaning under sidewalks or cart paths



Ideal for 4"-6" drains and catch basins



Wire attachment connector for mapping drain location under greens, bunkers and other locations using a wire locator.

NEW! RainPro™

SOLID METAL SHOWER NOZZLE

A truly revolutionary shower nozzle for soaking turf or other landscapes... featuring an exclusive solid brass nozzle plate for outstanding pattern and special rubber bumper for nozzle protection.

features

- Ultra durable construction withstands any abuse
- Beautiful, consistent and uniform spray pattern
- Materials: zinc alloy, brass and TPR rubber
- Flow: 40 GPM @ 80psi (built for 1" and ¾" hose flow rates)
- Nozzle assembly unscrews for easy cleaning



RainPro™ nozzle pictured with 1" brass adapter and ¾" high-flow valve (sold separately on Page 4)



Tough TPR rubber bumper protects nozzle



Excellent for golf greens or other turf and landscape applications

ordering

- | | |
|---------------|---|
| Part # DN-75 | DrainBlaster™ Drain Cleaner Nozzle – ¾" FHT Inlet |
| Part # DN-10 | DrainBlaster™ Drain Cleaner Nozzle – 1" FHT Inlet |
| Part # SHN-75 | RainPro™ Shower Nozzle – ¾" FHT Inlet |
| Part # SHN-10 | RainPro™ Shower Nozzle – 1" FHT Inlet |



PelletPro™

APPLICATOR GUN FOR SOLID WETTING AGENT TABLETS

Our heavy-duty surfactant applicator, high-flow valve and Precision™ Cloudburst™ nozzle combo comprises the finest wetting agent gun available. PelletPro™ accepts all wetting agent tablets and provides a high volume, yet soft spray for watering or applying surfactants to tight, hydrophobic soils.

features

- 35+ GPM to get the job done faster!
- Ultra Heavy-Duty construction: brass fittings, aircraft aluminum, stainless steel, precision engineered glass
- Pellet rotation (1 RPS) evenly dissolves/applies tablets
- Patented Cloudburst™ nozzle delivers large droplets in an outstanding fan pattern



PelletPro™ rotates pellets at one revolution per second (RPS) to evenly dissolve/apply wetting agent



IN-LINE APPLICATOR OPTION

Connect directly to a water source (quick coupler, HoseTap, etc.) to get the benefits of PelletPro with less handheld weight.



PelletPro's bowl works great as an in-line filter replacement for most spray rigs. Heavy-duty, transparent bowl shows fluid levels, won't crack during winter storage.

Two products in 1!

PelletPro and LiquidPro's Precision™ Cloudburst™ nozzle and high-flow valve quickly assemble to create a powerful, 35+ GPM syringe nozzle.



LiquidPro™





APPLICATOR GUN FOR LIQUID WETTING AGENT

LiquidPro's chemical-resistant, UV-protected, lightweight siphon/mixing system can cover 1000 square feet in less than a minute! With unmatched speed and uniformity, you can virtually "paint" your turf with liquid wetting agent, fertilizers, and micronutrients. Adjustable metering dial offers 10 additive settings including "Water Only."



With the included 1" FHT x 3/4" MHT brass adapter, PelletPro™ and LiquidPro™ work with both 3/4" and 1" hoses.

ordering

- | | | |
|--------------------|--|---|
| Part # A-PPWA50K | PelletPro™ Applicator Gun (with 1" FHT x 3/4" MHT adapter) |  |
| Part # A-PPWA50K-E | PelletPro™ Applicator Gun (with 3/4" quick-connect adapter) |  |
| Part # A-PPQ-075 | PelletPro™ In-line Applicator: 3/4" FHT inlet, 3/4" MHT outlet | |
| Part # A-PPQ-100 | PelletPro™ In-line Applicator: 1" FHT inlet, 1" MHT outlet | |
| Part # A-PPB | In-line Filter Bowl | |
| Part # A-PPBG | Gasket | |
| Part # A-LPWA50K | LiquidPro™ Applicator Gun (with 1" FHT x 3/4" MHT adapter) |  |
| Part # A-LPWA50K-E | LiquidPro™ Applicator Gun (with 3/4" quick-connect adapter) |  |
| Part # A-LPWAB-6 | 6-Pack of 32 oz. Polybottles and Carrier | |





NEW! ProLocker™

THE MOST POPULAR ASSORTMENT ALL IN ONE COMPLETE KIT

Keep all of your Underhill® professional watering tools secure and safe in this handy kit. ProLocker attaches easily to any utility vehicle for easy access. Case is ultra-durable, made of high-strength composite material and is lockable.

kit includes

- Entire Precision™ nozzle series and brass high-flow valve
- CoolPro™ fogging nozzle
- Magnum™ UltraMax nozzle
- PelletPro™ wetting agent applicator
- SuperKey XL™ golf sprinkler multi-tool
- Gulp™ UltraMax syringe pump
- Gulp™ UltraMax pump
- TurfSpy™ stress detection glasses
- HeadChecker™ nozzle discharge pressure gauge, flex hose and pitot tube



NozzleLocker™

THE VERY BEST NOZZLES - KEEP THEM SECURE (and handy)

kit includes

- Entire Precision™ nozzle series (Rainbow™, Rainmaker™, Cloudburst™ and Cyclone™)
- Solid Brass High-Flow Valve
- CoolPro™ with Precision™ fogging nozzle
- Your choice of MAGNUM™ multi-pattern nozzle (original, UltraMAX Turbo Shift, or UltraMAX Full Throttle)
- Unbreakable, lockable, corrosion-proof case to keep these tools safe and secure

**STOP LOSING
YOUR NOZZLES!**

ordering

- Part # PL-K2 ProLocker™ with ¾" Magnum UltraMAX Full Throttle nozzle
- Part # PL-K3 ProLocker™ with ¾" Magnum UltraMAX Turbo Shift nozzle
- Part # PL-K4 ProLocker™ with 1" Magnum UltraMAX Full Throttle nozzle
- Part # PL-K5 ProLocker™ with 1" Magnum UltraMAX Turbo Shift nozzle
- Part # HP-K1 NozzleLocker™ with ¾" Magnum (yellow) nozzle
- Part # HP-K2 NozzleLocker™ with ¾" Magnum UltraMAX Full Throttle nozzle
- Part # HP-K3 NozzleLocker™ with ¾" Magnum UltraMAX Turbo Shift nozzle
- Part # HP-K4 NozzleLocker™ with 1" Magnum UltraMAX Full Throttle nozzle
- Part # HP-K5 NozzleLocker™ with 1" Magnum UltraMAX Turbo Shift nozzle



Quick Coupler Valves & Keys

SOLID BRASS, SINGLE SLOT/LUG ESSENTIALS

Built to last, Underhill® valves and keys are constructed of solid red brass and stainless steel. Valves incorporate rugged one-piece design.



Valve: Part # QV-075R
($\frac{3}{4}$ " FPT inlet)

Key: Part # QK-075
($\frac{3}{4}$ " MPT x $\frac{1}{2}$ " FPT outlet)

Valve: Part # QV-100R
(1" FPT inlet)

Key: Part # QK-100
(1" MPT x $\frac{3}{4}$ " FPT outlet)

Valve: Part # QV-150R
($1\frac{1}{2}$ " FPT inlet)

Key: Part # QK-150
($1\frac{1}{2}$ " MPT x $1\frac{1}{4}$ " FPT outlet)

hose swivels

Part # HS-075 $\frac{3}{4}$ " FPT x $\frac{3}{4}$ " MHT outlet
 Part # HS-100 1" FPT x $\frac{3}{4}$ " MHT outlet
 Part # HS-101 1" FPT x 1" MHT outlet
 Part # HS-151 $1\frac{1}{2}$ " FPT x 1" MHT outlet

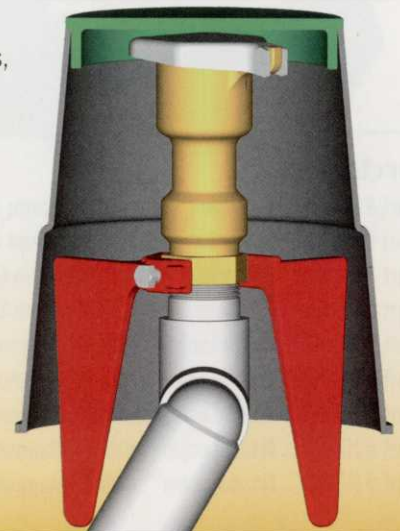


The Claw™

QUICK COUPLER MOTION RESTRAINT

When quick coupler valves become unscrewed from swing joints, it's more than just a hassle - it can be dangerous. The Claw™, new from Underhill®, offers a simple solution. Embedded in the soil below the quick coupler, and then securely attached to its base, The Claw provides significant resistance to rotational, vertical and horizontal motion, preventing the valve from moving. Made from high strength ductile iron, this compact anchor attaches easily with a single steel bolt.

EASY RETROFIT! Installs without removing valve or valve box!



ordering

Part # QCA-075100 The Claw™ for $\frac{3}{4}$ " and 1" valves
 Part # QCA-150 The Claw™ for $1\frac{1}{2}$ " valves

The Claw™ pictured with 1" quick coupler, key and hose swivel.

Impact Sprinklers

SOLID BRASS, ULTRA-RELIABLE WORKHORSES

For reliable, trouble-free, high-performance year after year, you just can't beat our brass impact sprinklers. Available in full circle and full/part circle, in inlet sizes of 3/4", 1" and 1 1/4".

features

- Solid brass construction
- Stainless steel drive spring
- Bearing assembly hood for longer wear life
- Chemical resistant bearing seals
- Solid brass nozzle

ordering

		GPM	Radius (ft.)
Part # SI075F	3/4" MPT Full Circle	13	57
Part # SI075P	3/4" MPT Part/Full Circle	11	48
Part # SI100F	1" MPT Full Circle	23	71
Part # SI100P	1" MPT Part/Full Circle	23	71
Part # SI125F	1 1/4" MPT Full Circle	51	96
Part # SI125P	1 1/4" MPT Part/Full Circle	54	78

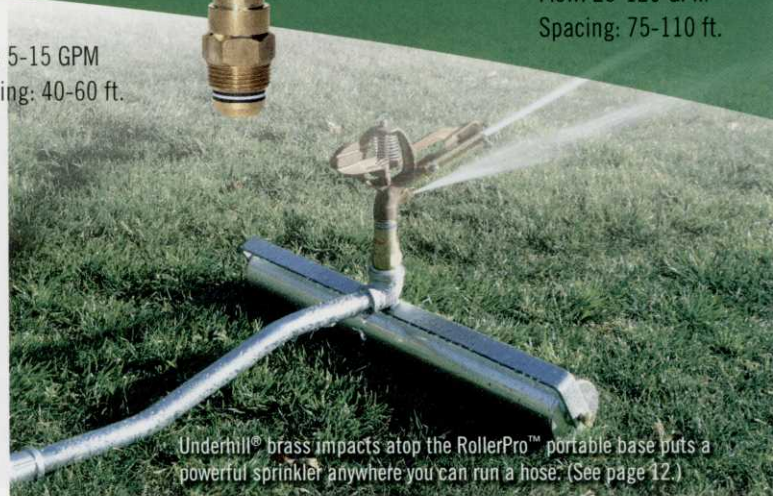
Performance data shown at 80 psi. GPM and radius will vary with pressure at sprinkler



Flow: 5-15 GPM
Spacing: 40-60 ft.

Flow: 15-45 GPM
Spacing: 50-80 ft.

Flow: 25-120 GPM
Spacing: 75-110 ft.



Underhill® brass impacts atop the RollerPro™ portable base puts a powerful sprinkler anywhere you can run a hose. (See page 12.)

HoseTap™

SOLID METAL HOSE ADAPTER

HoseTap™ gives you a hose connection anywhere you have a Toro® or Rain Bird® electric, valve-in-head sprinkler... a fast connection when quick-couplers or hose bibs are not available. Includes aircraft aluminum body (won't break or wear out like plastic) anodized with sprinkler manufacturer color, o-ring, riser, 1" brass swivel and 3/4" adapter. Also available without brass swivel/adapter.

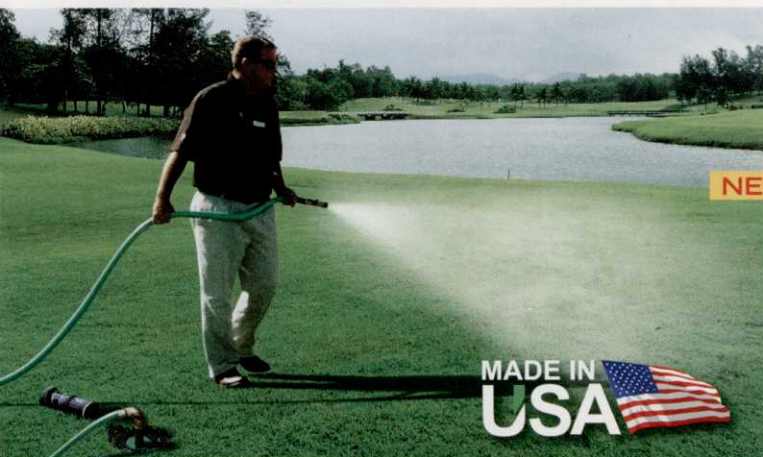


ordering

- Part # HN-T100S HoseTap™ for Toro® 1" inlet golf sprinklers
 - Part # HN-T150S HoseTap™ for Toro® 1 1/2" inlet golf sprinklers
 - Part # HN-R125S HoseTap™ for Rain Bird® Eagle 700 Series sprinklers
 - NEW!** Part # HN-R150S HoseTap™ for Rain Bird® Eagle 900 Series sprinklers
- Includes 1" brass swivel and 3/4" adapter. Add "B" for BSP thread.
To order without brass swivel: Remove "S" from part number.

REPLACEMENT O-RINGS

- Part # OR-100 Fits Toro® 1" inlet and Rain Bird® Eagle 700 Series golf sprinklers / HoseTap
- Part # OR-150 Fits Toro® 1 1/2" inlet golf sprinklers / HoseTap
- Part # OR-150R Fits Rain Bird® 1 1/2" inlet golf sprinklers / HoseTap



MADE IN
USA

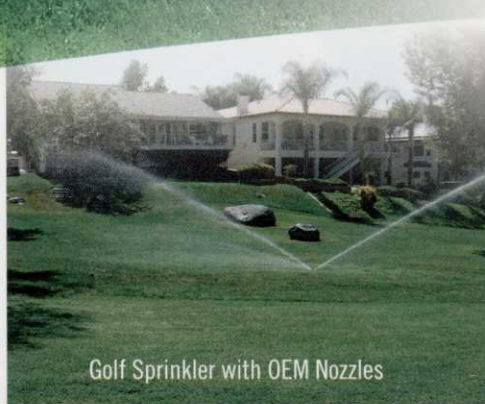
Serious about saving water?

Profile™

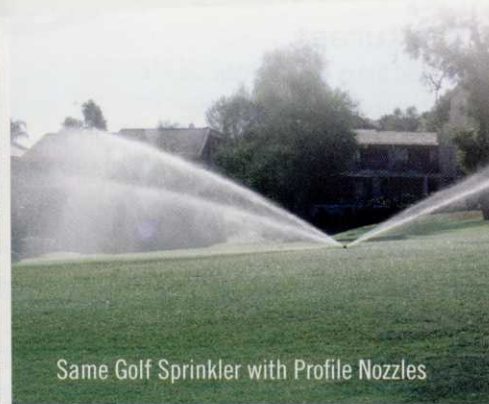


SOLID METAL GOLF SPRINKLER NOZZLES

Upgrade your sprinklers with Profile™, the ultra-high uniformity, water conserving, solid metal nozzles from Underhill®. You will see improved results immediately, save millions of gallons of water every year and improve the playability of your course at the same time...guaranteed.



Golf Sprinkler with OEM Nozzles



Same Golf Sprinkler with Profile Nozzles

Use less water, less energy and less manpower and get better course playability.



August 14:
Profile nozzles installed in problem area.



September 6:
Uniform distribution restored, turf is green and healthy.

"Profile nozzles lived up to our expectations and eliminated patchy dry spots and donuts. We retrofitted all our fairways and now run a more efficient irrigation program."

Logan Spurlock

Superintendent, Sherwood Country Club

"It was like putting in a new irrigation system. I became a believer overnight."

Mike Huck

Irrigation & Turfgrass Services
Former USGA Staff Agronomist
Former Superintendent,
Murrieta Hot Springs Resort

See how Superintendents are upgrading their entire golf courses! Video online now at www.underhill.us

"The real power is knowing that retrofitting sprinklers with Profile nozzles can be phased in to work within a course's operating budget."

Kurt Thompson

K. Thompson and Associates,
Irrigation Consultant and Trainer
Huntersville, North Carolina and Pace, Florida

"The Profile retrofit program has also extended the life of our Toro system while improving course appearance and playability."

Dennis Eichner

Assistant Superintendent,
Silverado Resort - Napa, California





Profile nozzles for **Toro®**

730 SERIES Full Circle: Front/Rear Nozzle Set		
Part #	Nozzle Color # range/spreader	Toro Noz #
T730-3313	Brown 33 / Gray 13	33
T730-3413	Blue 34 / Gray 13	34
T730-3515	Violet 35 / Red 15	---
T730-3515L (50 psi)	Green 35 / Red 15*	35
T730-3615	Red 36 / Red 15*	36
T730-3617	Red 36 / Lavender 17	

* For square spacing, specify #17 (lavender) nozzle with the #35 and #36 range nozzles



Profile nozzles are so consistent, with distribution patterns so uniform... it's like rain on demand.™



760 and 860 SERIES Part Circle: Midrange/Close-in Nozzle Set	
Part #	Nozzle Color: midrange/close-in
T760-GY	Gray / Yellow
T860-GY	Gray / Yellow



830, 834S, DT SERIES Full Circle: Midrange/Close-in Nozzle Set		
Part #	Nozzle Color: midrange / close-in	Toro Series
T830-GY	Gray / Yellow	830
T834-GY	Gray / Yellow	834S
TDT100-GY	Gray / Yellow	DT 34/35



835S SERIES Full Circle: Midrange/Close-in Nozzle Set	
Part #	Nozzle Color: midrange / close-in
T835S-WP	White / Plug

630 SERIES CALL FOR AVAILABILITY



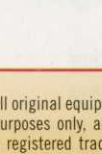
670 SERIES Full Circle: Rear Nozzles	
Part #	Nozzle Color: midrange / close-in
T670-BY	Black / Yellow



690 SERIES Full Circle: Rear Nozzle	
Part #	Nozzle Color: spreader
T690-G	Gray



750 SERIES Full Circle: Front/Rear Nozzle Set		
Part #	Nozzle Color #range / spreader	Toro Nozzle #s
T750-5617	Red 56 / Lavender 17	56
T750-5717	Gray 57 / Lavender 17	57



780, 854S, DT SERIES Midrange/Close-in Nozzle Set		
Part Circle (780), Full Circle (854S), Part/Full Circle (DT 54/55)		
Part #	Nozzle Color: midrange / close-in	Toro Series
T780-BY	Black / Yellow	780
T854-BY	Black / Yellow	854S
TDT150-BY	Black / Yellow	DT 54/55

855S SERIES Full Circle: Midrange/Close-in Nozzle Set	
Part #	Nozzle Color: midrange / close-in
T855S-PP	Pink / Plug

650 SERIES CALL FOR AVAILABILITY



Profile nozzles for **Rain Bird®**

EAGLE 700 SERIES

Full Circle: Midrange/Close-in Nozzles

Part #	Nozzle Color midrange / close-in	Rain Bird Nozzle #s
R70028-RG	Blue / Gray	28
R70032-RG	Red / Gray	32
R7003640-GG	Blue / Gray	36/40 and larger



Look familiar? Poor performing Eagle 700 sprinklers are often the result of clogged and worn nozzles. Profile nozzles' solid metal construction and nozzle shape were scientifically designed to solve this exact problem. They simply don't wear out. And they don't clog. Upgrade your old golf sprinklers to better than OEM with Profile!



900 EAGLE SERIES

Full Circle: Close-in Nozzle

Part #	Nozzle Color
R900-M	Maroon



91 SERIES BRASS IMPACTS

Full Circle: Close-in Nozzle

Part #	Nozzle Color
R91-G	Gray



51 SERIES BRASS IMPACTS

Full Circle: Front/Rear Nozzles

Part #	Nozzle Color # range / spreader	Rain Bird Nozzle #s
R51-1411.5	White 14 / Gray 11.5	14 / 11.5
R51-1611.5	Blue 16 / Gray 11.5	16 / 11.5
R51-1811.5	Yellow 18 / Gray 11.5	18 / 11.5
R51-2011.5	Red 20 / Gray 11.5	20 / 11.5
R51-2213	Green 22 / Black 13	22 / 13
R51-2413	Black 24 / Black 13	24 / 13



All original equipment manufacturers, names and products presented in this publication are used for identification purposes only, and we are in no way implying that any of our products are original equipment parts. Toro® is a registered trademark of the Toro Company, Rain Bird® is a registered trademark of the Rain Bird Sprinkler Manufacturing Corporation.

LOW VOLUME PORTABLE SPRINKLER KIT

SpotShot™ is an expandable sprinkler system kit ideal for turf areas requiring low volume watering for extended periods. Connect the Starter Kit to a quick coupler (or golf sprinkler with the HoseTap™ on page 9) and connect Add-On Kits for larger area needs.



ideal for

- Leaching salts on greens
- Targeting hot spots on fairways, roughs, etc.
- Mound watering
- New seed grown in
- Other low volume watering



Starter Kit includes 20' of ½" flexible PVC tubing with connection fittings, pressure regulator, sprinkler base and low volume rotating sprinkler (20 ft. radius / 0.65 GPM - 0.16 in./hr.)



Add-On Kit includes 20' of ½" flexible PVC tubing with connection fittings, sprinkler base and low volume rotating sprinkler (20 ft. radius / 0.65 GPM - 0.16 in./hr.)



Micro-Sprinkler Options

- 20 ft. radius / 0.65 GPM (0.16 in./hr.)
- 20 ft. radius / 1.2 GPM - (0.26 in./hr.)



RollerPro™

PORTABLE SPRINKLER BASE

The 22" wide stainless steel roller of RollerPro™ provides a stable field position for supplemental watering. Designed for years of hard use, it is ideal for watering dry spots and newly seeded areas.

features

- 22" wide stainless steel roller is weighted to prevent movement during use.
- ¾" inlet and outlet adapters included
- Standard 1" FHT inlet x 1" female NPT outlet



RollerPro™ works with both 1" and ¾" hoses and sprinklers using the included adapters. Sprinklers sold separately on page 9.

ordering

Part # A-RP221	RollerPro™
Part # SS-SK	SpotShot™ Starter Kit (20 ft. rad, 0.65 GPM)
Part # SS-AOK	SpotShot™ Add-on Kit (20 ft. rad, 0.65 GPM)
Part # SS-SK26	SpotShot™ Starter Kit (20 ft. rad, 1.2 GPM)
Part # SS-AOK26	SpotShot™ Add-on Kit (20 ft. rad, 1.2 GPM)
Part # SS-SB	SpotShot™ Sprinkler Base

Part # R75-HFM-40	Pressure Regulator (40 psi)
Part # TP-050-20	20' Coil of ½" PVC, SuperFlex Pipe
Part # S40-050-HFS	¾" Hose Thread Female x Male, Slip Fitting
Part # S40-050-HMS	¾" Hose Thread Male x Female, Slip Fitting
Part # SS-S16	Micro-sprinkler (20 ft. rad, 0.65 GPM - 0.16 in/hr)
Part # SS-S26	Micro-sprinkler (20 ft. rad, 1.2 GPM - 0.26 in/hr)

Tracker™

PORTABLE IRRIGATION MACHINE

The Tracker™ offers an economical solution for supplementing seasonal watering needs of ¼ acre to 2 acre areas. It's also ideal for irrigating athletic fields, cemeteries, golf course roughs, or other large areas where an underground system is impractical. Built to last with precision German engineering and high quality materials, this portable powerhouse can irrigate an entire football field in just two passes.

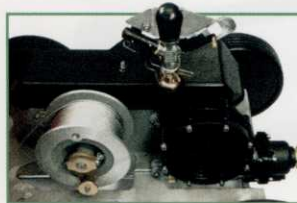
Tracker™ requires minimal labor to operate. Powered by water, it pulls itself along a nylon cable, dragging up to 360 ft. of 1" reinforced heavy-duty hose (sold separately). Each pass irrigates about 2/3 acre per 8 hours of operations.

specifications

- Weight: 58 lbs.
- Size: Length 33", Width 22", Height 22"
- Materials: Aluminum, Brass, ABS
- Minimum Water Pressure: 50 psi
- Hose Required: 1"

features

- Adjustable Speed Control: 20-70 ft./hr.
- Standard full or part circle sprinkler (8-15 GPM)
- 360 ft. nylon cable provides irrigated length of 400 ft.
- 70-85 ft. pass width
- Automatic shut-off at end of pass
- Water turbine drive and gear box
- Galvanized anchor stake
- Includes 1" brass quick-connect adapter



Precision German engineering, high quality components built to last!



DeepDrip™

TREE WATERING STAKES

Water and fertilize your trees at the roots, encouraging deeper roots and healthier trees with DeepDrip™ stakes. Water gets underground fast, so you can irrigate for shorter periods and save water.

They also help aerate the soil, and you can add fertilizer into the shaft to direct nutrients to the root zone.

Three Lengths For All Tree Sizes: Use the 14.5" stake for shallow root trees and shrubs, like rose bushes and ornamental trees (or boxed trees). The 24.5" stake is best for most other tree varieties except for palms and similarly deeper rooted trees, which will benefit from the longer 36" stakes.

Built Smart - And Easy To Use: The DeepDrip's reinforced tip and cap are made from ABS and the upper shaft is made from Schedule 40 PVC. Multiple holes in the bottom half of the spike, internally covered by a mesh filter, allow water to flow out but keep dirt from getting in and clogging the tube. The UV-protected cap acts as a reinforced cover when pounding the stake into the ground, keeps debris from entering the shaft and holds a 1/4" drip line/emitter securely in place. By inserting a screwdriver through the two holes at the top of the upper shaft, stakes can be easily pulled up to remove/reposition, or rotated to deter root invasion.

ADD TO EXISTING TREES! Install DeepDrip™ stakes during or after tree planting for instant access to the root system for fertilizer delivery or to set up deep automatic drip watering.



ordering

Part # T-400	Tracker™ Portable Irrigation Machine
Part # A-DD14	DeepDrip™ 14.5" watering stake
Part # A-DD24	DeepDrip™ 24.5" watering stake
Part # A-DD36	DeepDrip™ 36" watering stake

NEW! SuperKey XL™

MULTI-PURPOSE TOOL FOR TORO, RAINBIRD GOLF SPRINKLERS

The ultimate **all-in-one** tool for your golf sprinklers...think of it as a Swiss army knife, a must have companion. Made of stainless steel and composite material, it effortlessly turns electric valve-in-heads on and off, removes internal snap rings and performs many other sprinkler maintenance chores. Great for John Deere®/Signature® sprinklers, too!



Snap Ring Removal
(Bottom Valve or Internal
Rotor Assembly)

Screwdriver Tip for
Cap Disassembly or Pressure
Regulator Adjustment

Filter
Screen
Removal

Hardened
Bend Resistant
Metal

High Strength
Engineered
Material

On/Off
Control
Pointer

On/Off Control
Debris
Removal

On/Off Control
Assembly
Removal

Solenoid
Plunger
Removal

On/Off
Control

NEW!

EasyReach™ Key

EXTRA-LONG SHAFT ON/OFF KEY

Extra long and extra heavy duty metal key designed for easy on/off operation for **TORO**, **Rain Bird** and John Deere/Signature electric valve-in-head golf sprinklers. Made of high grade metal, EasyReach offers years of effortless on/off operation.

VersaLid™

VALVE BOX UNIVERSAL REPLACEMENT LID

VersaLid™ is the easy solution for broken or missing valve box lids. No need to guess what brand a buried box is or even worse - dig it up to find out - VersaLid's locking system fits all 6"-7" round valve boxes.

features

- Fits all 6"-7" round boxes • Universal fit
- Greater top-load strength and more UV-resistant than structural foam lids
- Purple Lid available for non-potable/reclaimed water

STRONGER! BETTER FIT!
than original equipment lids



Splice Kit

3M DIRECT BURY SPLICE KIT

Each kit includes one wire connector which accommodates wire sizes from 18-10 gauge and a waterproof gel case. Excellent for golf, commercial and residential applications.

ordering

- | | |
|----------------|--|
| Part # A-SKTRB | SuperKey™ XL for Toro ®, Rain Bird ® and John Deere® golf sprinklers |
| Part # A-ERT | EasyReach™ for Toro ® and John Deere®/Signature golf sprinklers |
| Part # A-ERR | EasyReach™ for Rain Bird ® golf sprinklers |
| Part # VL-6 | Green VersaLid™ 6"-7" valve box lid |
| Part # VL-6P | Purple VersaLid™ 6"-7" valve box lid |
| Part # DBRY-4 | Direct Bury Splice Kit - 4 Pack |
| Part # DBRY | Direct Bury Splice Kit - single unit |

Gulp™ UltraMAX

SUPER HIGH-CAPACITY WATER REMOVAL SUCTION PUMPS

Whether you need to remove water from sprinklers and valve boxes or other areas or devices, UltraMax Series Pumps are the ideal tools for the job... huge capacities and the smoothest pumps you will ever use as well.

special features

- Super Smooth Pumping Action
- High Volume Capacity
- Strong Aluminum Pump Shaft
- Contour Grip Handle
- No Leak Seals
- Self Priming

GULP SYRINGE ULTRA

- 12 oz./stroke
- 12" pump chamber

BIG GULP ULTRAMAX

- 35 oz./stroke!
- 36" pump chamber
- 72" or 36" outlet hose

GULP ULTRAMAX

- 18 oz./stroke!
- 14" clear pump chamber
- 18" outlet hose

also great for



fountains

pipe repair

boats

toilets

spas

and more!



Easy, push-button cleaning system



Gulp UltraMAX and BigGulp UltraMAX include debris filter attachment for very dirty water.

ordering

Part # A-G12-C	Gulp™ UltraMax
Part # A-G3636CK	BigGulp™ UltraMax w/ 36" outlet hose
Part # A-G3672CK	BigGulp™ UltraMax w/ 72" outlet hose
Part # A-G12S-C	Gulp™ Syringe Ultra
Part # A-GTUB-C	100 ft. outlet hose

AuditMaster™

EXPERT SPRINKLER PERFORMANCE TESTING KITS

Increasing watering times to compensate for poorly performing sprinklers wastes a lot of water. Accurately measuring sprinkler application rates with Underhill® AuditMaster™ helps maximize water savings.



4" x 5" Marking flags on 21" wire (50-pack) are available in 6 colors.

AuditMaster Combo ST/LT Kit (pictured), includes large CatchCanPro cups (blue) and CatchCanPro Mini cups (30 each).

AuditMaster ST Kit excludes the large CatchCanPro cups. This kit is ideal for **SMALL TURF** audits.

AuditMaster LT Kit excludes the CatchCanPro Mini cups. This kit is optimized for golf courses, sports fields and other **LARGE TURF** audits.



CatchCan Pro™

features

- Self standing - easily anchors into turf, even on slopes
- Measures sprinkler application in inches or centimeters
- Unique design allows for shorter duration test
- Made of durable polypropylene engineered plastic
- Can be stacked for easy storage
- Each 10 pack kit comes with instructions



CatchCan Pro (CCPK-10) for **LARGE TURF** audits. Measures ml, cm, inches.

CatchCan Pro Mini (CCPMK-10) for **SMALL TURF** audits. Measures inches.

ordering

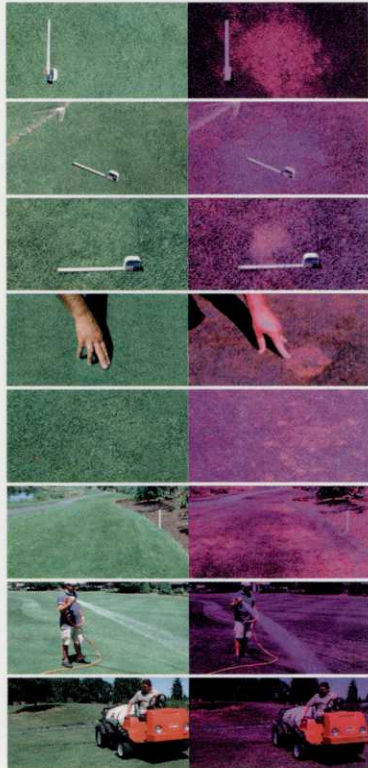
Part # AUD-ST	AuditMaster ST Kit	Part # MT-100	Fiberglass Measuring Tape: 100'
Part # AUD-LT	AuditMaster LT Kit	Part # A-FLAG	Marking Flags: Yellow - 50 Pack
Part # AUD-STLT	AuditMaster Combo ST/LT Kit	Part # A-FLAG-B	Marking Flags: Blue - 50 Pack
Part # SALESPRO4	AuditMaster Wheeled Carry Case	Part # A-FLAG-O	Marking Flags: Orange - 50 Pack
Part # A-STW	Stop Watch	Part # A-FLAG-P	Marking Flags: Pink - 50 Pack
Part # A-WIND	Anemometer (Wind Gauge)	Part # A-FLAG-R	Marking Flags: Red - 50 Pack
Part # CCPK-10	CatchCan Pro (Blue) - 10 Pack	Part # A-FLAG-W	Marking Flags: White - 50 Pack
Part # CCPMK-10	CatchCan Pro Mini - 10 Pack		



TurfSpy™

EARLY STRESS DETECTION GLASSES

Disease, drought and weed invasion are plant and turf killers. But by the time you see them it can be too late. TurfSpy™ glasses, with stress detection technology developed by NASA, lets you “see into the future” to identify problems 2-10 days before they are visible to your naked eye. Keep your turf and vegetation healthy BEFORE serious problems arise.



fusarium patch

pythium blight

yellow patch
(rhizoctonia)

brown patch

anthracnose

get a jump on **broken**
or **poor-performing**
sprinklers

highly efficient **spot**
watering saves time
and labor costs

superior **weed location**
and spraying saves
time and money

features

- Shatterproof/polycarbonate stress detection lens (ANSI approved safety lens)
- Wrap-around lens limits ambient light for optimal detection
- Sports frame with adjustable ear piece
- Lightweight case included

HOW IT WORKS

Dying vegetation absorbs and reflects sunlight differently than when its healthy. The earliest signals occur at the outer limits of the human visual spectrum, and are rendered invisible compared to the predominant middle wavelengths. TurfSpy™ filters the light in the center so that fringe spectra, which show early plant stress, become visible.



ordering

Part # NG655-01 TurfSpy™ Glasses and Deluxe Case

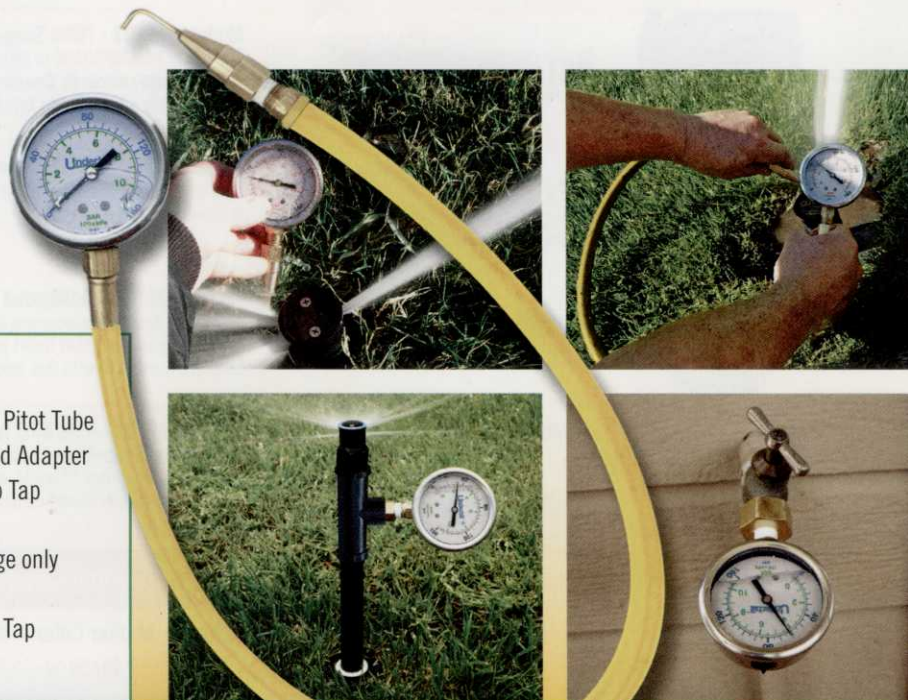
HeadChecker™

NOZZLE DISCHARGE PRESSURE GAUGE

Use this liquid-filled 160 psi gauge with 30" flex hose and solid brass Pitot tube, hose bib, or spray head adapter to measure water pressure at discharge points.

ordering

- Part # A-PHG-160K HeadChecker™ gauge, 30" Flex Hose, Pitot Tube
- Part # A-SHG-160K HeadChecker™ gauge with Spray Head Adapter
- Part # A-HBG-160K HeadChecker™ with ¾" POC Hose Bib Tap
- Part # A-HCGPK HeadChecker™ gauge and Pitot tube
- Part # A-PG160L HeadChecker™ 160 psi pressure gauge only
- Part # A-HCP Pitot tube only
- Part # A-HBT ¾" Hose Thread x ¼" Brass Hose Bib Tap
- Part # A-SHA Spray Head Adapter



GRUND GUIDE by Underhill® Marking Systems



SPEED AND QUALITY OF PLAY...GOLF AS IT SHOULD BE.

You know Grund Guide for making premier yardage marking solutions. Now backed with the strength of Underhill® distribution and product development, you can have the highest quality and most complete yardage marking systems available today and into the future. We offer durable and high-visibility customized markers for all popular golf sprinklers along with unique fairway, tee box, and driving range markers. Speed up and improve the quality of play with Grund Guide Marking Systems.

Sprinkler Head Yardage Markers

	<p>Model SPM 106 - TORO Engraved Caps: Perfect-fit caps engraved and color filled for high visibility. Multiple number locations vary for lids with holes.</p>	<p>FITS: Toro 730, 750, 760, 780, 830/850S, 834S, 835S, DT34/35S, 854S, DT54/55, 860S, 880S COLORS: Caps - ●/○/●/●/●/●/● Numbers - ○/●/●/●/●/●/●</p>
	<p>Model SPM 107 - Rain Bird Engraved Caps: Perfect fit caps engraved and color filled for high visibility number identification.</p>	<p>FITS: Rain Bird E900, E950, E700, E750, E500, E550, 700, 751, 51DR COLORS: Caps - ●/○/●/●/●/●/● Numbers - ○/●/●/●/●/●/●</p>
	<p>Model SPM 110 - Hunter Engraved Caps/Covers: Perfect-fit flange covers (G800, G900) and caps (G90), engraved and color filled for high visibility.</p>	<p>FITS: Hunter G800, G900, G90 COLORS: Flange cover / caps - ● Numbers - ○/●/●/●/●/●/●</p>
	<p>Model SPM 101 - Fit Over Discs: Anodized aluminum (no paint!), these markers are engraved and custom fit to each sprinkler. Multiple number locations vary for lids with holes.</p>	<p>FITS: Toro 630, 650, 660, 670, 680, 690, 830/850S, 834S, 835S, DT34/35, 854S, 855S, DT54/55, 860S, 880S, Rain Bird 47/51 DR, 71/91/95, E900, E950, E700, E750, E500, E550, 1100, Hunter G-70/75, G-90/95, G-990, G-995, John Deere/Signature – Call COLORS: Discs - ●/●/●, Numbers - ●</p>
	<p>Model SPM 105 - Universal Tags: Anodized aluminum (no paint!), these markers are engraved and designed for most universal fit applications. Tags are installed using 1/8" rivets.</p>	<p>FITS: Universal - Options: Crescent 2-7/8"W x 1"H, Round Edge 3"W x 1"H, Square Edge 2"W x 3/4"H COLORS: Tags - ●/●/● Numbers - ●</p>
	<p>Model SPM 103 - TORO Snap-In Markers: OEM UPGRADE to high quality polycarbonate custom fit. One complete, high-visibility marker snaps into OEM plug.</p>	<p>FITS: Toro 730, 750, 760, 780, 830/850S, 834S, DT34/35, 854S, DT54/55, 860S, 880S COLORS: Snap in - ○/●/●, Numbers - ○/● (Reclaimed water option - ● no number - available)</p>
	<p>Model SPM 108 - TORO & Hunter: Special engraved plastic material designed to fit into OEM lid recess</p>	<p>FITS: Toro 730, 750, 760, 780, 834S, DT34/35, 854S, DT54/55, 860S, 880S and Hunter G800, G70/75B, G870, G875, G880, G885, G990, G995 COLORS: Markers - ○/●, Numbers - ●</p>
	<p>Model SPM 104 - Lid/Molded Recess Markers: Durable replacement lid, with reverse engraved number insert process. Excellent number ID with this model</p>	<p>FITS: Rain Bird 47, 51 COLORS: Lid - ●/○/● Insert - ○/●/● Numbers - ○/●</p>
	<p>Model SPM 102 - Rain Bird Yardage Highlighter Snap-Ring: Replaces OEM snap ring with perfect fit bright yardage and reclaimed color identification.</p>	<p>FITS: Rain Bird E900, E950, E700, E750, E500, E550, 700, 751 COLORS: ○/●/● (Reclaimed Water)</p>

ordering example

View/download complete ordering guide at www.underhill.us

Marker Model	Sprinkler Mfg	Series	Marker Color	# Color	Qty. of #s on Marker	Total QM on Order
SPM-106	Toro	730	Black	Yellow	1	76

Fairway / Tee / Range Disc Markers

Large 7 1/2" cap with big bold 3 1/2" standard yardage numbers. Ideal for fairway, tee and driving range marking. Optional 8" mounting pipe attachment available for secure installation.

FAIRWAY STANDARD DISC SYSTEM

Color-coded markers with bold 3 1/2" yardage number. Several system options available.



FAIRWAY CUSTOM OPTIONS

Markers can be customized to display specific yardage numbers, include logos, or custom design.



TEE BOX / DRIVING RANGE CUSTOM OPTIONS

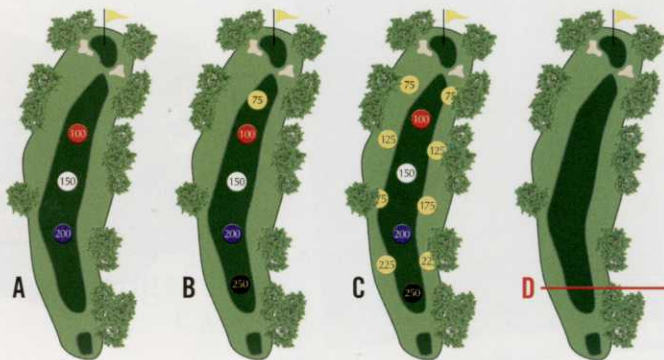
Markers can be customized to display specific multiple numbers, include logos, or custom design.



Disc Marker pictured with optional 8" mounting pipe (installs easily with standard cup cutter)

SYSTEM EXAMPLES

- A: 3 markers placed down the center of the fairway at 50 yard intervals
- B: 5 markers placed down the center of the fairway for greater coverage
- C: Markers placed on sides and center ("diamond" layout) for highest visibility
- D: Create a custom system with your choice of color and numbers/markings



Valve Box / Universal Markers

These engraved, anodized aluminum (no paint!) markers are ideal for isolation or control valves, satellites or other applications.



ordering

Standard Disks with Markings

- FTM-Y-75 Yellow Disk with 75
- FTM-R-100 Red Disk with 100
- FTM-W-150 White Disk with 150
- FTM-BL-200 Blue Disk with 200
- FTM-BK-250 Black Disk with 250
- FTM-RWB-KIT 3 Disks with Yardages (●/○/●)
- FTM-YRWBB-KIT 5 Disks with Yardages (●/●/○/●/●)

Custom Disks for Fairway, Tee Box and Driving Range

- FTM-Y Yellow Disk no markings
- FTM-O Orange Disk no markings
- FTM-R Red Disk no markings
- FTM-W White Disk no markings
- FTM-BL Blue Disk no markings
- FTM-BK Black Disk no markings
- FTM-G Green Disk no markings
- FTM-L Lavender Disk no markings

Tee Box / Fairway / Driving Range Custom Markings

- To order, add to end of custom disk part numbers above.
Example: FTM-Y-#1 (Yellow Disk with One custom number)
- XXXX-#1 One custom number to disk
 - XXXX-#2 Two custom numbers to disk
 - XXXX-#3 Three custom numbers to disk
 - XXXX-CUST Custom Design; Script
 - XXXX-LOGO Logo added to disk
 - XXXX-#4 up to 4 flags / targets / yardages
 - XXXX-#8 5 to 8 flags / targets / yardages
 - XXXX-#12 9 to 12 flags / targets / yardages

Accessories

- FTM-PL 8" Mounting Pipe for all disks

Valve Box / Universal Markers

- SPM-105-B Black anodized marker
- SPM-105-M Maroon anodized marker

For detailed ordering information of custom markers, visit www.underhill.us



20505 Crescent Bay Drive Lake Forest, CA 92630 USA

tel: (949) 305-7050 • fax: (949) 305-7051
1-866-863-3744 • www.underhill.us

An industry leader in innovative watering products all over the world, Underhill® brings 34 years of know-how in developing our inventory of "Products that work...smart.™"



For even more products that work smart, like our super long throw **Mirage™** sprinklers (up to 174 ft. radius!), the **Sapien™** 2-wire controller, **Novo™** 2-wire converters and 2WIRE decoders, visit www.underhill.us

UNDERHILL INTERNATIONAL PROFESSIONAL WATERING PRODUCTS 2013

©2013 Underhill International Corporation. All original equipment manufacturers, names and products presented in this publication are used for identification purposes only, and we are in no way implying that any of our products are original equipment parts. Toro® is a registered trademark of the Toro Company, Rain Bird® is a registered trademark of the Rain Bird Sprinkler Manufacturing Corporation, Hunter® is a registered trademark of Hunter Industries. John Deere® is a registered trademark of Deere & Company. Signature® is a registered trademark of Signature Control Systems, Inc.



Form No. UIWP-B13

Products that work...smart.™

Being limited on what chemicals are permitted can be difficult, as well. According to Claburn, they typically do not use any fungicides and only organic-based pesticides (Conserve, Spinosad). He does utilize herbicide, but limits the use through only chemicals specified in the natural resource management plan – changing the list as technology changes and products are improved.

In place of common chemicals, hydrogen peroxide proved to be enlightening. “We had a major dollar spot outbreak years ago and used fertilizer management, hydrogen peroxide and corn gluten meal to cure the disease,” Claburn says. “This is when I really became a believer in what we were doing.”

Citing generational differences, Claburn says the environmental efforts have been received with mixed reviews. Most of the older golfers could not care less that Tierra Verde is maintained primarily via eco-friendly organic

future environmental concerns and problems are built into the design,” Richardson says. “It is the time to work with the development team and come up with a product that protects water quality, conserves water, limits maintenance, restores, enhances and creates wildlife habitat on a large scale. It is also the time to lay out a management regime that will cut costs when compared to traditional facilities.”

Existing courses can still benefit from The Audubon International Cooperative Sanctuary Program (ACSP), however. There also is a new program that falls between the ACSP and The Signature Program, called The Classic, which is aimed at existing golf courses that are undergoing a renovation.

While there are things Claburn would change about the process – such as focusing more during construction on the removal of invasive, non-native plants like honeysuckle, privet and mimosa

“We believe you can’t throw anything away because there is no ‘away.’ We preserve wildlife areas while being an asset to the community. It’s a new way of thinking and rethinking the way you do things.”

– Mark Claburn, Tierra Verde Golf Club

means versus harsh chemicals.

“We still do not have a lot of buy in by the majority of players, but we do draw some guests that appreciate what we do on the agronomic side,” he says. “But nearly all appreciate the sustainable design of the course because it is fun to play.”

THE RIGHT PROGRAM. Only new developments can register for the Signature Program. “It has a completely different approach, beginning with the design and making sure that solutions to

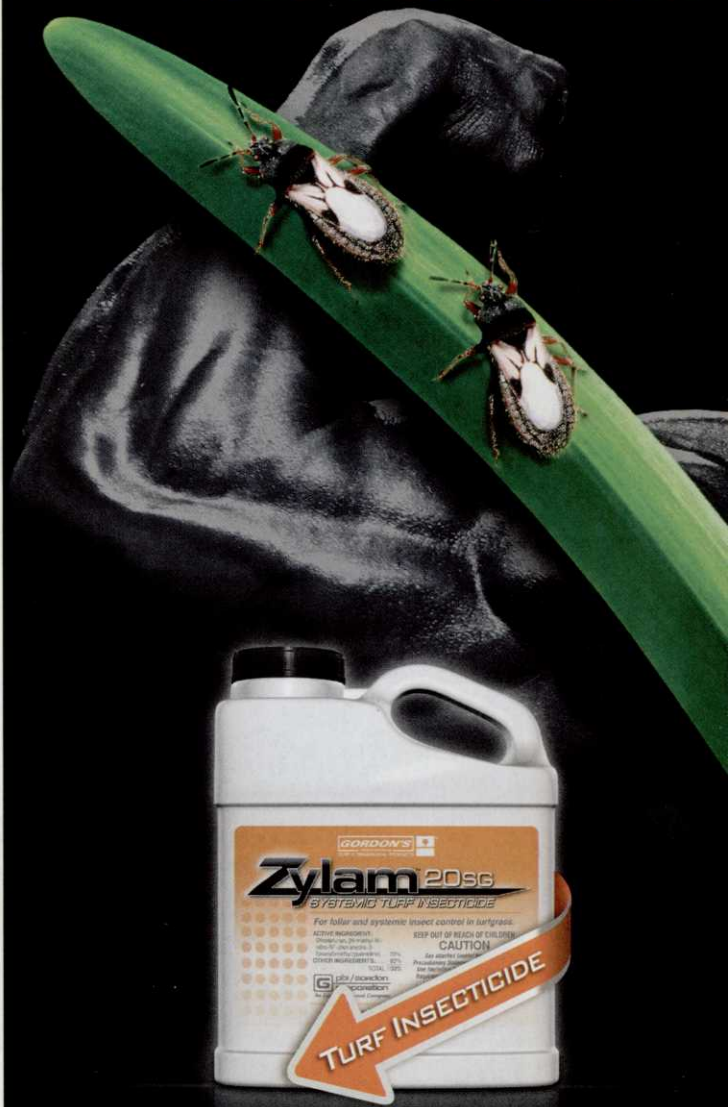
trees – having Audubon International working with his team isn’t one of them.

“It’s definitely worth it to provide a new way of thinking about doing things,” he says. “We believe you can’t throw anything away because there is no ‘away.’ We preserve wildlife areas while being an asset to the community. It’s a new way of thinking and rethinking the way you do things.” GCI

Rob Thomas is Cleveland-based writer and frequent GCI contributor.

MIGHTY

TURF PROTECTION



- Kills Damaging Turf Insects with Long-Lasting Results
- Protects Through Rapid Uptake and Translocation
- Allows for Plant Rescue and Future Protection

Effective On:
Chinch Bug • Mole Cricket
Annual Bluegrass Weevil • Crane Fly

G pbi / GORDON
CORPORATION
An Employee-Owned Company

800.821.7925 • pbigordon.com/zylam20sg

Gordon's® and Zylam® are registered trademarks of PBI-Gordon Corporation. Always read and follow label directions. 2/13 02285



Communication is key



When it comes to wildlife, the staff at The Sanctuary knows it can't isolate the club.

By Katie Tuttle

Located on Sanibel Island in Florida, The Sanctuary Golf Club is surrounded by acres of wildlife preserve. Because of this, environmental impact is always a concern to the course, as well as the community. In an effort to educate the community on the positive impact golf courses can have on the environment, The Sanctuary has focused their efforts on three separate areas.

GATOR BEACHES. When the course planted all of the lake banks with vegetation to create a buffer between the course turf and the water, they realized the construction eliminated the area where alligators often lay to sun. As a result, the alligators came farther out of the water to lay on the course, often interfering with the golfers. Around the same time, the island community was taking the stance that alligators could be removed from the island. This stemmed from the fact that in the past 12 years, there had been two deaths caused by alligators.

The Sanctuary's superintendent, Kyle Sweet, and his staff questioned this mentality. In the hopes of educating the community, they brought in Dr. Kent Vliet of the University Of Florida's biology department and hosted an event about alligators on the course. When they took Dr. Vliet onto the course for a tour, one of the first comments he made was, "What about creating some areas where you'd like the alligators to go, so they'll be away from the golfers? It would be better for the golfers and better for the gators."

And thus the idea of the Gator Beaches was born.

Sweet and his team created two areas on the course that took up 20 feet of land from the water's edge. Without changing the lake edge at all, they created easy-access beaches, bordered by dead palm logs to deter the alligators from climbing over and lying on the turf. Now, the alligators are

Construction on one of the gator beaches, that provided a place on the course just for the alligators, keeping them separate from the golfers and visitors to the course.



Q4[®] PLUS OPENS NEW DOORS

The MSMA Alternative

Controls Grassy Weeds
& Yellow Nutsedge

PLUS Broadleaf Weeds
with Fast Visual Response



pbi/gordon
CORPORATION
An Employee-Owned Company

800-821-7925 • pbigordon.com/q4plus

Checked Flag/Label Design[®], Gordon's[®], ProForm[®] and Q4[®] are registered trademarks of PBI-Gordon Corporation
Always read and follow label directions. 05/2012 01750



**Bird Phazer Laser
for Canada geese**



5 3/4" X 1 1/8"

During a recent USGA Turf Advisory Service visit, a laser was used to show how Canada geese can be removed from the course.

The pocket-sized Bird Phazer Laser emits a powerful bright green light. When the beam hits the feathers of geese, it makes a bright splash of light. Their eyes are very sensitive to uv light, and the bright green laser light is very traumatic for them. A flock of more than 50 Canada geese immediately took flight from more than 200 yards away.

\$199 Compare to the Avian Dissuader

geesedamage.com
(800) 555-9634

JWB Marketing Columbia, SC



able to be out of the water and the golfers are able to play their rounds of golf; neither disrupts the other.

And it's not just alligators that take advantage of the areas.

"We have actually had nesting killdeer," Sweet says. "They've actually nested in there ever since we put it in. So you've got a killdeer nesting there, and then a big alligator just a few feet away."

One of the Gator Beaches is visible from the 17th green. Sweet says that when it was first constructed, he made sure people knew it wasn't going to be pretty. It was going to serve its purpose, even if it wasn't appealing to the eyes. Still, he was worried people might see it as more of an eyesore.

"I have heard no single complaint about that area," he says. "Because they understand what it's all about. It's been embraced and encouraged. People here get it, and that's not always the case."

With the positive response to the beaches, groups on Sanibel are now looking at the idea of adding similar beaches to the community. Curious people have contacted Sanibel-Captiva Land and Wildlife Conservation, which has directed them to

Sweet and The Sanctuary.

"Wait a minute, I'm going to go to a golf course and see what they're doing to help manage their wildlife?" Sweet says was the typical response. After a tour of the course, the community members are impressed. "It's really good to get feedback from the community like that," Sweet adds. "Plus it's always nice to take them on the course and show them."

WILDLIFE EXPLORERS. The adults on Sanibel aren't the only community members The Sanctuary is trying to educate. Over spring and Christmas break, the course offers a program called Wildlife Explorers for children and grandchildren of club members. The children are taken to the driving range, the tennis center, and the swimming pool.

Sweet decided he wanted to take that to the next level. "We've been Audubon certified for 10 years and I was trying to figure out a way to get kids on the golf course," he says. "To somehow involve kids with what we do here, and this thing fell in my lap. It was just like 'maybe we can take the kids out on a golf course tour' and it evolved."

Were You Featured In This Issue?

Reprints enable you to reuse your article and simply place it into the hands of your target audience. Having been featured in a well-respected publication adds the credibility of a third-party endorsement to your message.

Give yourself a competitive advantage with reprints. Contact us for more information regarding reprints and additional applications designed to meet your challenging market needs.



Use Reprints As:

- Sales Aids
- Educational Programs
- Recruitment Tools
- Employee Training
- Managed ePrints
- Sales Presentations
- Trade Show Handouts
- Conference Materials
- Media Kit Supplements
- Direct Mail Campaigns

**Call Dolores Franta @
800-456-0707**

"I have heard no single complaint about that area, because they understand what it's all about. It's been embraced and encouraged. People here get it, and that's not always the case."

— Kyle Sweet,
The Sanctuary Golf Club

The course has been putting on these tours for kids for two or three years now and it has become a common part of The Sanctuary.

"We take the kids and we have these six-seater golf carts and we travel onto the golf course," he says. "We take a board and [glue] on 24 or 25 [pictures of] animals that we normally would see on the golf course at any given time. Then we go onto the course and look for them."

They almost always find at least 50 percent of the animals on the board during the time they're out there, Sweet says.

"While we're out there we may talk a little bit about environmental things, like water quality," he says. "We may talk about mowing the grass; we may talk about pollinators, bees, butterflies and birds. It's really kind of focusing in on the opportunity to take these kids and show them one more thing, one thing with them outside the norm. It's just education; it's exposure."

Every course should try to offer a similar opportunity. "I've talked to people and they're like 'Oh, my members would just have a fit if I took a bunch of kids out there



Without changing the lake edge at all, they created easy-access beaches, bordered by dead palm logs to deter the alligators from climbing over and lying on the turf.

WIELD KATANA FOR BEAUTIFUL TURF

Provides Outstanding Control
on Kyllingras and Sedges,
PLUS knocks-out
broadleaf weeds!



For Use On:

**Bermudagrass*, Buffalograss*, Centipedegrass*,
Seashore Paspalum*, Zoysiagrass***

*See label for tolerance

G pbi/gordon
CORPORATION
An Employee-Owned Company

800.821.7925 | pbigordon.com/katana

Always read and follow label directions. Checkered Flag/Label Design®, Gordon's® and ProForm® are registered trademarks of PBI-Gordon Corporation. Katana™ is a registered trademark of Ishihara Sangyo Kaisha, Ltd. 03/13 02542

THE CLEAR CHOICE



KPHITE® 7LP SYSTEMIC FUNGICIDE BACTERICIDE

KPHITE 7LP Systemic Fungicide Bactericide is proven effective against pythium, dollar spot, brown patch and fungal diseases. KPHITE is EPA labeled, pH neutral and is uniquely formulated to increase plant health and vigor.



TO FIND A DISTRIBUTOR
OR LEARN MORE
WWW.PLANTFOODSYSTEMS.COM
800.343.7775



THE SUSTAINABILITY ISSUE: COMMUNITY



Sweet: "We take a board and [glue] on 24 or 25 [pictures of] animals that we normally would see on the golf course at any given time."

riding on the golf course' and I say 'Well you're just not communicating it right. You need to let them know that it's important that you bring those kids out there on the golf course.'"

"I just don't think people communicate enough," he says. "I make it a point to make sure they know that this is something that's important for us to do as a club."

WILDLIFE BROCHURES. If these two projects make you wonder what The Sanctuary scenery looks like, Sweet has an answer for that too.

The Sanctuary likes to have booklets on hand to give to visitors to the course, highlighting the local wildlife. Last year the course decided to upgrade their wildlife booklets to create more of a formal, coffee table brochure approach. An employee went online and found stock photos of wildlife that could be found on the golf course. However, when Sweet looked at it, he wasn't pleased.

"Everything seemed to look different," he says. "This doesn't look like what we have. A warbler up in Cleveland, the photo is going to be different. They don't look the same; not like a warbler down here."

So Sweet and his 18-year-old son started taking his camera around whenever they were on the course. They collected dozens of animal and scenery images, continuously building their collection. Then they worked with an Atlanta company to create a layout for the brochure, which has now been distributed to people all over Sanibel, as well as mailed all over the country.

"It shows people that these are the things that you might see and it gets people interested in actually going and looking for them," Sweet says. "It's our wildlife. It's great because people can understand that that wildlife exists right here. We are a high-end maintenance course but we have this wildlife opportunity here because we're right beside a national wildlife refuge and we recognize it and we do our best to protect it; to manage for it if we can."

Every visitor to the course gets a booklet, and often he will have people tell him that, while they don't have their own copy, they've seen it at someone else's house, Sweet says.

"It's been a great outreach tool." GCI

Katie Tuttle is GCI's assistant editor.



Overseeders

Precision Seeding Technology



Ground Quake Sand Injector

RotaDairon™ Soil Renovator



**Turf Surgeon
Verticuts and Collects**

Trenchers



Vacuums



Topdressers and Spreaders



Verticutters

Welcome to our Newest Dealers!

- » A-OK Turf Equipment, Coventry RI
- » Bonneville County Implement, Idaho Falls ID
- » Commercial Turf and Tractor, Chillicothe MO
- » Show Turf, Boynton Beach FL
- » Turf and Industrial, Santa Clara CA
- » G.C. Duke, Ontario Canada
- » Storr Tractor, New Jersey & Long Island



864.225.3666
www.stecequipment.com



Monroe Miller retired after 36 years as superintendent at Blackhawk CC in Madison, Wis. He is a recipient of the 2004 USGA Green Section Award, the 2009 GCSAA Col. John Morley DSA Award, and is the only superintendent in the Wisconsin Golf Hall of Fame. Reach him at groots@charter.net.

SUSTAINABLE BEFORE SUSTAINABILITY WAS COOL

I cannot recall when I first heard the word “sustainability,” but it wasn’t very long ago. Maybe that’s why I’m not sure what it means in golf course management.

Despite my efforts to find out what the definition of sustainability is, it remains elusive. Nearly every superintendent I put the question to gave a different answer... or shrugged their shoulders. There were, though, a number of recurring themes. Almost all suggested sustainability relates to environmental protection in some fashion. I believe this is accurate.

Likewise, sustainability implies working toward minimizing inputs. This makes sense, too. Concepts such as water and energy conservation, recycling, adopting new technology, and using inputs that reduce or eliminate adverse effects fit into the definition. Some superintendents said sustainability simply means thinking long term in their management plans. Others felt sustainability requires a strong economical component, too.

My conclusion: “They’re all correct.” In fact, my generation practiced sustainability before it was cool. Nearly every time I’ve spoken to turf students, I mention that one of my goals and challenges was to become self-sufficient. This doesn’t define sustainability, but it’s part of the definition. We were working on combining environmental responsibility with good business sense to provide the best product to our players. To me, sustainability is a contemporary word that applies to many long-standing management practices.

When I look back, many examples of sustainable maintenance come to mind. Our course has many mature trees. They are beautiful and well placed and add immensely to the game. But the leaf problem in the fall is significant. Despite that, we have

never owned or used a leaf sweeper or any other leaf-removal equipment. We were successful in mulching these leaves in place. The leaf mold returned plant nutrients to the soil and helped maintain a healthy microbiology of the soil where these stately old oaks have been growing for, literally, hundreds of years. Fuel was saved by not hauling them to a landfill or back to a compost area. The equipment

be argued spraying nutrients greatly reduces fertilizer use. Well-managed courses always base fertility programs on soil tests, and many have made good use of tissue testing, as well. GDD research, infrared technology and more add to sustainability.

There are hundreds of such practices superintendents already use that fit the term sustainability. Hauling clippings from fairways to a

Sustainability isn’t a philosophy meant to return us to mowing roughs with a Ford 8N tractor and Worthington Airfield Blitzers... It does imply that we need to **continue our focus** on efficiency and responsible systems of maintenance and management.

was simple – blowers and mulching screens on rotary mowers did the work. Certainly, sustainability applies to the way we addressed the leaf drop.

Much of the tree work required was done in-house. The wood chips created from tree trimming were mulched or composted. Trees that were cut down provided firewood for the clubhouse. It all seems a really good example of a sustainable program for woody plants on the course.

Early on, some annual beds were sodded shut and others were planted with perennials. Annual beds provided fresh-cut flowers for dining tables. Also, for years the kitchen used a perennial herb garden in its menu.

I have heard stories from the early years of our course – 1920s – about hauling manure from the county fairgrounds to spread on fairways. We never went that far, but we did haul cow manure from a dairy for inclusion in our compost pile. It represents terrific recycling and is obviously a sustainable product.

As time passed, spoon-feeding turf came into practical use, and it can

manure spreader and spreading them in rough areas instead of land filling is sustainable. A club invests in irrigation technology to reduce water use is acting in sustainable way. So is the course that hand waters during stress periods. Recycling scrap metal, incorporating IPM into course management, and spot spraying dicot weeds in the spring all qualify, in my mind, as sustainable practices.

Sustainability isn’t a philosophy meant to return us to mowing roughs with a Ford 8N tractor and Worthington Airfield Blitzers, or watering fairways with Rainbird 808 sprinklers and quick coupler keys, or spreading horse manure on our tees. And I do not believe that a sustainable golf course is one of lesser or inferior quality, either. It does imply that we need to continue our focus on efficiency and responsible systems of maintenance and management. All we have to do is to continue our dedication to research and education, and to optimize the technology available to us.

Just like we have done so well for so long. **GCI**

**You can't change the climate.
That's why we created new chemistry.**

There's no controlling the temperature. But with Briskway™ fungicide, you can help control all major summer turf diseases with no heat restrictions. Thanks to a new active ingredient—difenoconazole—Briskway is a cooling DMI containing fungicide that can be used on all turf types, even in the hottest months, with no PGR effects. Combine that with the disease control and plant health benefits of azoxystrobin, and you can keep your turf looking great no matter the climate.

Visit www.NoHeatRestrictions.com



 **Briskway™**
Fungicide

syngenta®

©2012 Syngenta. Important: Always read and follow label instructions before buying or using Syngenta products. The label contains important conditions of sale, including limitations of warranty and remedy. All products may not be registered for sale or use in all states. Please check with your state or local extension service before buying or using Syngenta products. Briskway™, the Alliance Frame, the Purpose Icon and the Syngenta logo are trademarks of a Syngenta Group Company. Syngenta Customer Center, 1-866-SYNGENT(A) (796-4368). MW 1LGG2034-P1 8/12

TM



By Katie Tuttle

Stick your neck out

When endangered animals depend on your environment for survival, it's time to coexist.

Located in Rio Grande, Puerto Rico, Bahia Beach Resort & Golf Club is home to more than just humans, and the Bahia Beach staff wants to do their part in keeping it that way.

Of the many animal inhabitants on the island, perhaps none is more special than the leatherback turtles. Leatherbacks are the largest species of turtle, some as large as seven feet in length and reaching up to 2,000 pounds in weight. They are also an endangered species. Although numbers aren't specifically known, National Geographic statistics say that the number of leatherbacks in the Atlantic Ocean is stable or increasing, which is a good sign.

Bahia Beach is doing their part in helping this increase through their endangered species conservation program.

The resort and golf club is located in a very important ecological area on the island. It is surrounded by rainforest and a river runs along beside it. Since the rainforest is the only one nearby, it makes it a very important, natural area. Because of this, Bahia Beach staff decided they needed to work with the environment instead of against it.

Started in 2006, Bahia Beach contacted Audubon International about wanting to do a sustainable project.

"That's how we started our journey with Audubon," says Marcela Cañón, natural resources manager at Bahia Beach Golf Club. "We wanted to work with nature."

Their first step was working on residence

projects with the villas and verandas at the resort. Everything was developed under Audubon and everything on their management plan was approved by Audubon.

Bahia Beach's management plans include wildlife conservation, water quality and conservation, energy saving and waste management. A subcategory of water conservation is their endangered species conservation program, which includes leatherback turtle and manatee protection.

Formal leatherback nesting season is from March to August, and this is when the turtles travel an average of 3,700 miles between where they feed and where they breed, which is the same beach as where they were hatched.

"These animals are amazing," says Cañón. "They come back to the same beach, but

they also migrate to different areas. They don't come back every year to nest, so the numbers vary."

Bahia Beach has a turtle watching volunteer program that involves both staff and community members.

"People are really proud of it," Cañón says. "They take care of their turtles, and that's really important."

When a turtle comes ashore, volunteers clean it. They then call the National Resources Puerto Rico Department, which will send an officer to the location to follow the turtle until it begins nesting.

When the turtle is finished nesting, the area is marked off with rope and a sign is put in place, stating that federal law protects the area and no one is allowed inside the rope. The eggs do not hatch until two months later.



Marcela Cañón, natural resources manager at Bahia Beach Golf Club, with a few newly-hatched sea turtles.

Below: a female sea turtle laying her eggs.
Right: leatherback hatchlings dig out of the nest.



“[The number of hatchlings] changes so much,” says Cañón. “A turtle lays from 80 to 150 eggs. Out of those, around 60 to 70 will hatch.”

The number of nests also varies year to year. In 2012, Bahia Beach had six nests and only about 250 turtles hatched. The year before, they had 24 nests and counted over 1,500 turtles.

Even though the turtles hatch, that doesn't mean they're necessarily going to make it to the water.

“Just one out of 1,000 survives from hatching to adulthood,” says Cañón. “One of their

“People are **really proud** of it. They take care of their turtles, and that's really important.”

– *Marcela Cañón, Bahia Beach Resort & Golf Club*

most dangerous phases is from hatching to the water because they have lots of predators.”

More volunteers are on site for the hatching. The staff is able to track the eggs from laying to hatching, so they know exactly when the small turtles should be making the trek from the nest to the water. The volunteers are there to try and keep them safe as they make the big journey to the water, keeping predators and unsuspecting humans away.

“We have increased the number of turtles that survive from 1-out-of-1,000 to 10-out-of-1,000,” says Cañón.

Along with protecting the turtles, the resort also turns it into an educational opportunity for the guests, as well as the people in the community.

“We have an educational program that comes with it,” says Cañón. “We have a different campaign each year. We talk to the kids in public schools about these issues and we always include the turtle conservations. We help to change minds.”

“It's something amazing,” she adds, “to see what people do. To see kids transmit the message to their homes.”

Another way they educate the community

is by holding a yearly beach cleanup at the end of April. Usually 250 to 350 people show up to help pick up the trash that's washed ashore. Cañón says this event helps people realize that anything they throw into the water has the potential to cause harm to sea life.

In fact, trash is a large cause of death in Leatherback turtles. The turtles' main source of food is floating jellyfish, which can look very similar to floating pieces of plastic and trash. When the turtles ingest it, they can choke and die. On a few occasions, the turtles have been found to have as much as 11 pounds of plastic in their stomachs.

With the beach cleanup program, people

Dogs' best friend

Along with the turtle conservation, Bahia Beach also has a stray dog recovery program. While the dogs aren't native, wild animals to the island, they have become a huge problem.

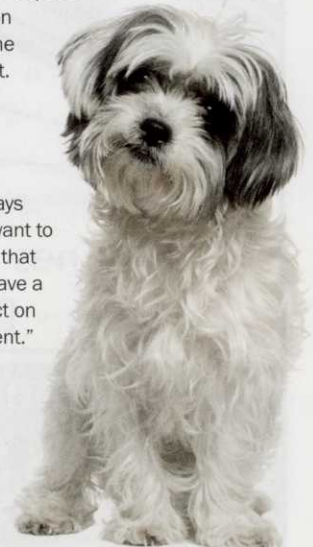
“People are not aware of all the needs of a pet,” says Bahia Beach Resort & Golf Club's Marcela Cañón. “They just throw them to the streets.”

The stray dog problem in Puerto Rico is now in the thousands, with most of the dogs starving to death, getting hit by cars, or being sent to animal shelters, where they are euthanized.

Bahia Beach rescues some of the dogs, taking care of them and trying to help get them adopted.

The resort even pays to take the dogs to the vet.

“We're trying to be a responsible part [of the community] says Cañón. “You want to do something that will last and have a positive impact on the environment.”





THE SUSTAINABILITY ISSUE: SPECIES

Just one sea turtle out of 1,000 survives from hatching to adulthood, and one of their most dangerous phases is from hatching to the water. Volunteers are on site for the hatching to keep the turtles safe as they make the big journey to the water.



JRM Inc.

Innovative Turf Technology

Made in America for America
"Quality Matters"

NEW PRODUCT
"The Vulcan"
Fits Anglemaster, Foley,
Peerless and Neary



Tines • Bedknives • Blades
Blocks • Bedknife Grinding Wheels

JRM Inc. • Clemmons, NC
(888) 576-7007
www.jrmonline.com

are both helping the environment, and understanding that they need to do their part to take better care of it.

"Think of everything you throw that ends up on the beach," Cañón says. "[They] see it because they have to pick it up, little by little."

Overall, Cañón says the response of resort guests to the turtle conservation projects has been overwhelming. They are able to be a part of this moving, very touching event and it is something that will always be with them.

"They'll always have wildlife conservation on their mind," she says.

An example of this is a story Cañón will always remember. One of the guests at the resort was a young boy who was in a wheelchair.

"He loved turtles," she says. "He had never actually seen a wild turtle."

While the family was staying at the resort, the staff called them down and took them to the beach to see a hatching.

"It was something really amazing to see the light in his eyes when he saw the little tiny turtles," Cañón says. "He was just overwhelmed with happiness. It was something major; it was something amazing." GCI

Katie Tuttle is assistant editor at GCI.



“My root system is better than yours.”



“The secret to my good green looks? Longer roots under drought stress. Research shows that **Honor®** **Intrinsic™ brand fungicide** has disease control and **plant health benefits** that make me more efficient and better able to withstand stresses like extreme temperatures and aeration. So I’ll keep looking good—and so will you.”

Intrinsic brand fungicides don’t just fight disease; they give turf the resilience to endure stress. Find out more at IntrinsicPlantHealth.com.



Always read and follow label directions.

Honor is a registered trademark and Intrinsic is a trademark of BASF. © 2013 BASF Corporation. All rights reserved.



BAD WATER?

Good Solutions.



Inject Away Carbonate Problems

- Specifically designed for injection through an irrigation system
- Patented Synergy Technology ensures improved penetration, distribution and availability
- Frees up calcium, magnesium, and other essential nutrients in the soil
- Opens soil pores for better water movement

For more information, contact your Aquatrols distributor today.



Strict BALANCE

Raptor Bay GC features unique and innovative wildlife conservation initiatives. By John Torsiello

WCI Communities and the Hyatt Resorts, developers of Raptor Bay Golf Course in Bonita Springs, Fla., worked hand-in-hand with environmental groups and agencies to create sustainable natural areas for flora and fauna to share the land with golfers.

Raptor Bay GC stands as a shining example of such a partnership. The course, the first resort golf course in the world to receive the designation as a Certified Audubon International Gold Signature Sanctuary, has created a natural environment that thrives unabated despite the construction of a championship golf course. Great care was taken to preserve the habitat of the property's flora and fauna through such measures as an innovative water management plan, the building of bridges from hole to hole that were elevated on pilings at a control elevation over normal rainy season high water marks, and environmentally sensitive best practice turf management, such as the use of slow release fertilizers, no application of solid fertilizers within 25 feet of any water control feature, use of native grasses and aquatic plants to screen storm water control features, and the adoption of an integrated pest management program.



More than 150 acres of land is preserved within the boundaries of Raptor Bay Golf Club. The skies are alive with life, as a series of nest cylinders and purple martin houses were established on the property, while other nest cylinders attract a wide variety of other birds to the site. An indication of the success of the club's ongoing efforts at wildlife preservation, protection and promotion is the fact that after the nesting work was done, 22 species of birds that were not present in a December, 2001 study were on the property a year later.

One unique wildlife conservation feature at Raptor Bay is the presence of an active eagle's nest. The club enforces a protection plan that defines primary and secondary protection zones based on radial distance from the nest site. Outreach efforts to the surrounding community include the establishment of a mile-long walking trail through a portion of the property, re-



Raptor Bay has created an environment that thrives unabated despite the construction of a championship golf course. Over 150 acres of land is preserved within the club's boundaries.

ULTRAPLEX[®] *and* 6 PRODUCTS IN ONE P-K Plus[®] 3-7-18+B, Co, Mo

THE SOLUTIONS FOR SUMMER STRESS



Research driven. Proven results.[™]



For more
information
scan or link.

<http://gri.gg/info1301>

- Grigg Brothers[®] exclusive Elicitor[®] Technology
- A proven component of Nutritional IPM[™]
- Proven to enhance plant defense mechanisms
- Proven to enhance the summer stress tolerance of turfgrasses
- Safe for the environment
- Effective natural biostimulants, amino and organic acids.
- Sea plant extract (*Ascophyllum nodosum*)
- A water buffering agent
- Macro Nutrients (N & K).
- A full organically chelated micronutrient package including Fe, Mg, Mn, Zn, Cu, and Boron.
- A natural, non-ionic and organic surfactant for improved leaf coverage and absorption.



VISIT

<http://griggbros.com>



JOIN

<http://gri.gg/join>



LIKE

<http://gri.gg/fb>



SUBSCRIBE

<http://gri.gg/tv>



plete with signage and verbiage that points out features of interest.

The club has also partnered with the Conservancy of Southwest Florida in assessing aquatic fauna community composition along the water features of the golf course, with funding for the study provided to the Conservancy via a matching grant from the National Fish and Wildlife Foundation's Wildlife Links Program.

“Raptor Bay’s success can be contributed to the design and focus on **sustainable resource management**. If we were to build this course again we would not change a thing.”

— Jason Brod,
Raptor Bay Golf Course

The purpose of the study is to investigate the community characteristics of water dependent animals, such as aquatic insects, fish and frogs in the ponds and wetlands of the golf course, with an eye on determining how differences in physical characteristics may or may not influence the habitat value of various ponds.

The public and hotel guests are thrilled by the efforts Raptor Bay has taken in regards to habitat preservation, says Superintendent Jason Brod.

“The natural layout and abundance of wildlife are two of the most surveyed answers we get from our resort guests,” Brod says. “Raptor Bay’s success can be contributed to the design and focus on sustainable resource management. If we were to build this course again we would not change a thing.”

Raptor Bay’s success, he says, has led to an increase in similar efforts at courses in the area.

“The fact that there are now many Certified Gold Signature golf courses in Southwest Florida is a testament to the benefits of this program.”

Speaking to water conservation, always a crucial issue for southeastern U.S. courses, Raptor Bay has a remarkably low total, only 60 acres of irrigated turfgrass, compared to a typical golf course that has over 100, Brod says. “This reduction in acreage has had a huge impact on the amount of water required to maintain the golf course,” he says. **GCI**

John Torsiello is a freelance writer based in Torrington, Conn., and a frequent GCI contributor.



Top left: Signage on the course. Top right from top to bottom: A bald eagle at the nest, baby eagles in the nest, and an egret. Bottom: a view of the course, showing the natural layout and abundance of wildlife found at Raptor Bay.

Upgrade Your Turf PGR Program to Legacy.*



- Premiere product for turfgrass enhancement and growth suppression
- Improved turfgrass color and quality
- Extended spray intervals
- Reduced "bronzing"
- Elimination of the "rebound" effect found with trinexapac-ethyl
- Uniform growth regulation on mixed turfgrass species
- Stops and reduces *Poa annua* populations
- Saves labor and fuel associated with mowing

Whether it's for turf enhancement or *Poa* conversion, SePRO has the right turf PGR for your desired objective.



- Selectivity suppresses the growth of *Poa annua* to a greater degree than desirable perennial turfgrasses
- Greater "regrowth" potential on bentgrass vs other growth regulators leading to faster conversion
- *Poa annua* conversion with no disruption to the playability of the turfgrass
- Improved turfgrass quality
- Less impact on bentgrass and Kentucky bluegrass compared to paclobutrazol formulations

Cutless.* The Standard for *Poa annua* Conversion.

For more information about SePRO turf growth regulators, contact your SePRO Technical Specialist or call **1-800-419-7779**. Visit our web site at www.sepro.com.



SePRO Corporation Carmel, IN 46032

*Trademarks of SePRO Corporation. The synergy derived from the combination of Type IIA and Type IIB PGRs is covered under U.S. Patent No. 7,135,435. Always read and follow label directions. ©Copyright 2010 SePRO Corporation.



Now available in a liquid formulation!

**Cutless[®]
MEC**



Birds of a feather

Among its sustainability initiatives, Currituck Golf Club is a temporary home for more than 400 bird species.

By Helen M. Stone

You might say that Currituck Golf Club is for the birds, and you might be right.

The facility's location on the Outer Banks of North Carolina makes it home to a wide array of wildlife, including wild horses, deer, raccoons, river otters, turtles and a huge variety of birds. Currituck even means "the land of the wild goose."

As a member of the ClubCorp network of more than 150 golf and country clubs, the Currituck Golf Club is located in Corolla, N.C., on what was known as one of the premier destinations for waterfowl hunting. Today, that same waterfowl is nurtured and preserved.

"We were one of the first clubs in the region to become an Audubon certified golf course," says Mike Terry, golf course superintendent. "We kind of led the charge for the rest of them, so to speak."

The Currituck Golf Club is also known as a leader in using recycled water for irrigation. "We irrigate 66 acres with effluent water from the subdivision nearby; we have a dedicated treatment plant. We also have a large freshwater lake supplemented by well water that we use for greens, tees and any areas that might run or spray off the course," Terry says. "It's a pretty intensive irrigation system – actually two systems side by side."

During migration season, bird lovers swarm the area. Both fall and spring bring an amazing array of more than 400 reported bird species. But it was a baby owl that captivated the hearts of the golf course crew and the staff at the Audubon Society.

"Our cart master, a 20-year employee, was cruising through the back nine and saw a little puff ball on the ground near the 17th hole," recalls Mike Terry, golf course superintendent at the Currituck Club. "He got a range picker basket and lined it with pine straw and hung it in the tree that was there." The owlet was carefully placed in the "nest."

Then they stood back and held their collective breaths. "It stayed there and we saw

that it stayed alive," Terry said. They began finding bones and other feeding debris at the foot of the tree. Then one day, they actually saw the mother owl. "She was huge and kind of scary!" Terry laughs.



They watched for a couple months as the owlet matured. "We pretty much left it alone," Terry said. "We just kind of kept an eye on the little fella." The young owl ventured from the nest and was "hopping around in the branches" for a bit.

"Then it took off with the mother owl," Terry finishes. He and the crew have seen an owl back in the area and think that it might be the youngster returning home to breed. "It didn't cost us anything but time. It's just one of those great success stories."

"We do a lot to encourage the wildlife on the course," says Terry. "We create brush pile habitat in the natural areas of the course. We try to be as kind as possible."

Some of the wildlife is more of a challenge than an asset. "We have wild pigs that root around on the course," Terry says.

"The deer can be a problem, too. They ate about \$3,000 worth of pansies the first year I was here. I learned not to plant pansies!" he laughs. "The otters get in my ponds and eat up all the fish. But that's okay – you learn to co-exist." **GCI**

Helen M. Stone is a freelance writer on the West Coast and a frequent GCI contributor.



Superintendent Mike Terry: "We do a lot to encourage the wildlife on the course."

SALT SUCKS

PROTECT YOUR
TURF



Na⁺

Na⁺

Na⁺

Na⁺

Na⁺

Na⁺

High concentrations of salt in your soil disrupts osmosis, effectively sucking needed water away from turf roots. This leads to rapid wilting, reduced shoot growth and leaf tip burn.

Aquaplex Amino[®] sprayable osmotic regulator works within the plant to balance osmotic potential, improving water and nutrient uptake and minimizing the impact of stress caused by high EC.

AQUAPLEX amino[®]



Fight back against those evil little suckers.

Aquatrols[®]

www.aquatrols.com



By Jason Stahl

Talkin' Turkey

Paul Carter's efforts to increase the turkey population at The Bear Trace in Harrison got golfers to gobble in delight.

One day, Paul Carter came around the corner on the No. 5 hole at The Bear Trace at Harrison in Harrison, Tenn., and had to rub his eyes to make sure what he was seeing was real: 17 turkeys congregating in the fairway. As superintendent of the course since 2001, he had only seen one or two here or there. But 17? A superintendent with a different mind-set might have looked at them as a nuisance and immediately implemented a strategy to keep them off the course... but not Carter.

"Our attitude was that they were here first," he says. "Our course is on state park property, and we're operated by the Department of Environment and Conservation, so anything we can do for the environment, we do."

After consulting with a local course that also had a large turkey population, Carter decided to purchase some cracked corn and put it down on the property. He didn't want to spread it all over the course, though, so with some good old-fashioned ingenuity, he and his crew built a 6-foot feeder tube out of some leftover 4-inch, double-weld ADS drain tile and ran it up a tree. They drilled a couple holes at the top, with the theory being that as the turkeys ate the cracked corn, gravity would fill up the feeding trough at the bottom.

Unfortunately, all the animals came to the party: birds, squir-



The Bear Trace has become home to a flock of turkeys, and instead of trying to get rid of them, superintendent Paul Carter decided to work with them.

rels, deer, you name it. And the crafty deer figured out if they knocked off the trough with their hoofs, all the corn would come pouring out. So Carter and his crew went back to the drawing board and came up with a different design using four-inch PVC tubes, which has so far thwarted the deer and other creatures and kept the corn for the turkeys.

The cost, says Carter, has basically been zero while the return on the investment has been through the roof.

"It's great for the golfers, who don't normally get to see turkeys," he says. "People stop and

take pictures of the wildlife, and they'll come in the clubhouse and talk more about that than the golf course itself."

Thanks to Carter and his crew's efforts, about three dozen baby turkeys or "poults" have hatched at the course in the last three years. Their work with the turkeys as well as building mallard duck nesting tubes, bluebird and southern wood duck houses, and eliminating 50 acres of highly maintained turf has led to numerous awards: four consecutive GCSAA Environmental Institute for Golf awards, two Tennessee Governor's Environ-

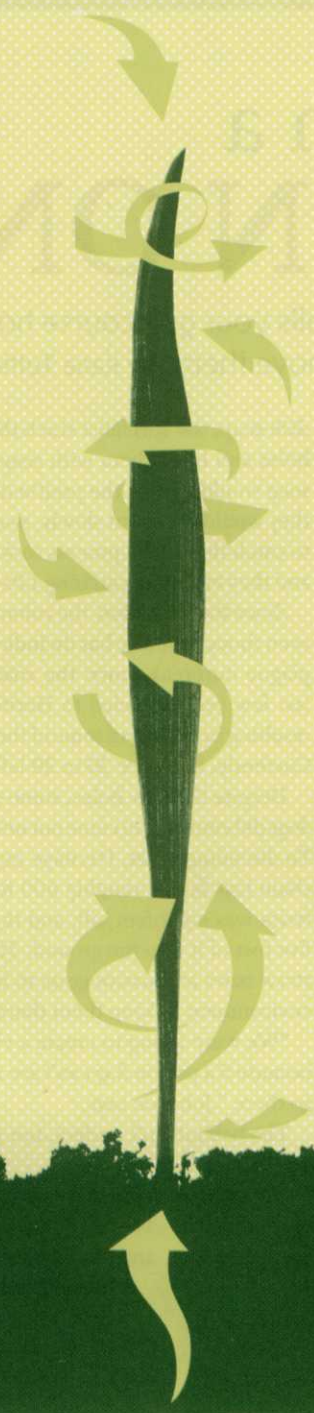
mental Stewardship Awards, and certifications by Audubon International and the Groundwater Foundation.

A lot of Carter's colleagues are now using his plans and designs on their own golf courses. He's proud of what he and his crew have accomplished and is excited to continue down the path of sustainability.

"We've experienced nothing but success out of it, and it didn't hardly take anything to do." GCI

Jason Stahl is a Cleveland-based writer and frequent GCI contributor.





Working together to stand up for the little guy.

Appear™ fungicide delivers improved summer stress tolerance and greater *pythium* and anthracnose control than your current Chipco® Signature® program. The special pH neutral, pigmented formulation provides a deeper green color for your greens and tees. Appear mixes easily with Daconil Action™ or Secure™ in a 14 day control program even under extreme summer temperatures.

To learn more about how Appear works together with your contact fungicide to provide improved turf quality, visit GreencastOnline.com/Apear.

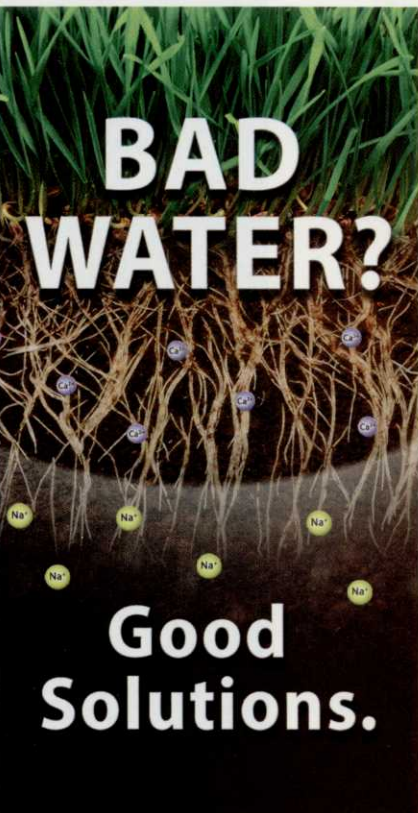
 **Appear™**
Fungicide

syngenta®

Scan the following QR for Appear efficacy trials.



© 2012 Syngenta. Important: Always read and follow label instructions before buying or using Syngenta products. The label contains important conditions of sale, including limitations of remedy and warranty. All products may not be registered for sale or use in all states. Please check with your state or local Extension Service before buying or using Syngenta products. Appear™, Daconil Action™, the Alliance Frame, the Purpose Icon and the Syngenta logo are trademarks of a Syngenta Group Company. Secure™ is a trademark of ISK Biosciences Corporation. Chipco® and Signature® are trademarks of Bayer CropScience. Syngenta Customer Center: 1-866-SYNGENTA (796-4368). MW 1LGG2040-P1 9/12



Spray Away Carbonate Problems

- Specifically designed for spray application
- Patented Synergy Technology ensures improved penetration, distribution and availability
- Frees up calcium, magnesium, and other essential nutrients in the soil
- Opens soil pores for better water movement

For more information, contact your Aquatrols distributor today.



More than a HOLE IN ONE

When a colony of animals calls your golf course home, it may be easier to just move them. By Katie Tuttle

A golf course is often home to many different pests and obnoxious creatures that wreak havoc on the turf. A lot of times it is easier to try to get rid of them, but maybe that's not the right answer. Maybe you need to move them.

That's what The Heritage Golf Course at Westmoor did with the prairie dog colony thriving on the land the course was built on.

Prior to construction in 1998, Heritage worked with Audubon International to create a best management practices plan that would ensure the course be built Sanctuary Certified.

One of the issues with the land was that a prairie dog colony containing 100-150 prairie dogs was located on the front nine of the planned course.

"We thought instead of trying to work around the prairie dogs, we'd move them," says superintendent Lance Johnson.

An area of similar size to the colony was identified southeast of No. 5 and construction began. A contractor came to the course and made starter holes five to six feet deep for the prairie dogs to expand upon and create their own tunnel system. After the new habitat was created, they were able to start the relocation process.

A prairie dog specialist came out to humanely remove the prairie dogs from their holes. Using a 250-gallon water trailer filled with water and

dish soap, the specialist stuck the hose in the holes and filled them with soapy water. The soap would irritate the prairie dog's eyes and they would crawl out slowly, making it easier to catch them. The process took a few weeks and they ended up catching 120-130 of them.

Since the relocation, the colony has existed, even though the size has dwindled. A bubonic plague outbreak down the road within the last few years traveled to Heritage's colony, resulting in the loss of some of the prairie dogs. Currently, there are 20 to 30 left.

Despite the new holes, some of the prairie dogs did continue to come out onto the course. To discourage that, Heritage put in a buried chain link fence, roughly 600 feet long. The fence was eight feet tall, and they put about five feet of it into the ground. They also used straw bales and native grass to build a better environment to keep them there.

"We were trying to create a visual barrier, because if a prairie dog can't see it, they won't go there," Johnson says.

The habitat isn't perfect, but Johnson says it gets the job done.

"Every now and then we get a couple coming across," he says. "As the years have gone by, they're less and less interested in coming to the golf course." GCI

Katie Tuttle is GCI's assistant editor.



The course had a contractor make starter holes for the prairie dogs to expand upon.



Jeffrey D. Brauer is a licensed golf course architect and president of GolfScapes, a golf course design firm in Arlington, Texas. Brauer, a past president of the American Society of Golf Course Architects, can be reached at jeff@jeffreydbrauer.com.



DESIGN CONCEPTS

BETTER PRACTICE RANGES

A PGA pro once told me, “If the last decade was the construction decade, this one should be the instruction decade.” I thought of that during Masters Week, while looking at their new and improved practice range. Like most things at Augusta, it sets the standards others will shortly follow.

The original Augusta layout was like many early 20th century routings, and its practice areas were almost afterthoughts. Like the hockey goalie mask, it took far too long for an obviously good idea to become standard practice. However, driving ranges eventually became standard features, and later, practice sand bunkers, chipping areas, and target greens.

The evolution continues, and a modern practice facility, epitomized by Augusta National, seeks to truly recreate a multitude of conditions you might experience on the course.

Range design has become a lot more complicated. The new features also require more land – an increase from about 10 acres to over 15.

With 99 percent of golfers spending the most time just “banging balls” the basics remain the same – big tees and wide landing areas. Practice range tees need 20-30 days for turf recovery, so we design practice tees at least 30 yards deep, and prefer more.

Tee width should accommodate the weekend morning or shotgun tournament. Allowing an hour of practice before the tee time means accommodating 20-28 players, and shotgun tournaments might accommodate a quarter of the 144 players, if done in shifts. With 10-12 foot-wide stalls, your tee should be 240-360 feet wide.

The landing zone should be at least 300 yards long and 500 feet wide. 330 yards and the tee should gently curve to help aim all golfers to the middle. 330 yards long and 600 feet wide is



preferred to contain nearly all shots. The ideal practice range plays into the prevailing wind, which accentuates missed shots. It may help shorten the range, but require widening. A few ranges have multiple tees at different wind angles, with the ultimate being a full circle practice area allowing golfers to practice in any wind direction.

The true practice value comes from adding details:

Target Greens. Placed at a variety of distances, and looking more like real greens and less like little dirt humps. Augusta actually replicates on course greens closely. However, it's more important that you provide opportunities to practice to “tucked pins” on all corners of a green.

Target Fairway. Augusta actually has two target fairways, split with a line of trees, with one set up for hooks/draws and the other for fade tee shots.

Variable Hitting Conditions. Rather than a flat tee of fairway grass, golfers need both rough and fairway grasses for full practice. Since fairway lies are rarely flat, some tee areas ought to have gentle slopes in all directions. Of course, this includes a

fairway sand bunker, and grass bunkers, mounds, and other conditions found on the course, down to hitting from under a typical tree. Where possible, shots to severely uphill or downhill greens should be recreated.

Short Game Area. The putting green should be carefully crafted to resemble the slopes on the course greens.

The chipping green should be similar in size to on course greens, and with a variety of typical hazards so golfers can practice any recovery shot they will likely encounter on the golf course including green side sand and grass bunkers, rough and fairway height chipping areas, and some mounds and valleys to negotiate. The green should have a variety of slopes towards and away to recreate almost any combination of hazard shot to green slope, replicating high lobs, chip and run, short and long bunker shots, deep bunker shots, and shots from any unusual lies.

Distance Control Area. At one area, placing a line of markers at 10-yard intervals from 40-110 yards so golfers can practice precise distance control for short approaches. **GCI**



A journey, not a *destination*

GCI's Bruce Williams outlines a practical guide to adopting sustainability principles at your course.

by Bruce Williams

The concept of sustainability in golf has been developing over the last couple of decades. Early origins came from across the pond as the term “sustainability” was being used more frequently in the UK. While it was a slow process, the terminology and concept has slowly grown in North America to the point that a variety of organizations have embraced the concept.

Most of the regional golf turf conferences have presentations that cover this subject. As golf evolves to find its “new normal” it will be important for the game and business to support sustainability.

SUSTAINABILITY? Each golf course can implement sustainable natural resource management in all facets of the business. It is important to note that the concept of sustainability is not about reaching specific criteria in a short period of time but more importantly having a plan that makes progress to ensure a golf course utilizes efficient and environmentally friendly practices. Those practices are broad and several different organizations have written criteria and checklists to guide a facility through the process.

The types of initiatives should include:

- Recycling
- Use of energy renewable resources
- Utilizing environmentally friendly pest control inputs

- Irrigation management to reduce overall reduction in water usage
- Zero Waste generation
- Continuing education for staff and communication to golfers and the community

It is easy to understand that moving toward sustainability is a project that can take many years and the process is never ending. It is all about setting goals for the short, medium and long term. As science and technology advance there will always be new ways to do things more economically and efficiently. Through continued advances in science and research the bar will always move higher in creating opportunities for facilities to be environmentally friendly.



ation

A good way to look at becoming sustainable is to develop a plan that may not be achievable in the short term but a plan that is carried out over time. Most certification programs have components that not only measure progress but they also ensure that each recertification period must show improved sustainability from previous years.

ZERO WASTE. One of the most aggressive programs for sustainability is the Zero Waste Program undertaken by the Dairy Creek Golf Club operated by the County of San Luis Obispo in California. Led by, Josh Heptig, director of golf operations the goal was simply to manage all inputs on the property and achieve a goal of no waste.

As stated earlier facilities go through a process. Dairy Creek GC was no different. Their initial steps were to analyze the situation and develop a game plan. Part of that process was to find solutions and also to develop partners to collaborate with to achieve their lofty goals. San Luis Obispo County's Integrated Waste Management Authority stepped up and provided two vessel composters to get the ball rolling. Seeing the potential at several golf courses owned by the county, a \$220,000 grant from CalRecycle became a reality to provide recycling containers for all the golf facilities managed by the County of SLO. Soon after the initiation of the program a local Eco-Rotary Club joined forces with the county golf courses and assisted with volunteers who

contributed time and funds to support this effort. Over several months compost bins were constructed and many hours of managing food wastes to create compost helped to make the program a success.

All materials used in the processing or consumption of foods and goods are managed with a logical flow. This would include processing food waste, recycling items like plastic, glass, cardboard, aluminum, batteries, oil, etc. The amount of material that cannot be recycled is minimal to none so it has resulted in achieving the zero waste goal.

THE GEO PLAN. A comprehensive program for sustainability exists with GEO. While there are others, it is easy to focus on one program

Reasons for sustainability

- Real results based on science, technology and proven case studies
- Credibility through certification and validation of standards
- Good for the game and the image we portray around the globe
- Stakeholder trust through involving staff, golfers and the community to promote environmentally friendly programs
- Continual improvement through a journey rather than a destination
- Creating efficiencies with a golf facility that is all important for economic survival

and allow for a comparison to others out there such as ISC-Audubon. The first steps are to do your homework and research. Evaluate the GEO program by going to the website and take an hour or so to surf the site. At some point there will be a request to fill in some information identifying your type of facility. Once you see if you fall into the arena of golf course construction or existing golf course operations you will see what criteria is required for you to participate in advancing your efforts for sustainability and hopefully achieving certification.

Establish an online club profile with GEO. Next, a Sustainability Statement for your facility is developed by working with GEO staff and the team at your facility. Online input continues with establishing what good things you are currently doing and then setting goals to achieve and understanding the gap in between to develop a road map for success. For certification there are minimal standards that are required but the key is to be committed to improving sustainability over time. Certification periods are three years and then the renewal process starts over again for the next three-year cycle.

Eventually an on-site visit will be scheduled with a GEO sustainability associate. Those individuals appraise your application, give ideas for future improvements, factor in regional differences and write a summary. A visit takes a half day to complete. Upon



Each golf course can implement sustainable natural resource management in all facets of the business.

completing the visit and writing a summary report the associate verifies the information, meeting of the standards and then makes a recommendation for awarding the Ecolabel.

Many facilities find value in the achievement and share that information with the golfing community in their region. They proudly display their certificate prominently. If improvement projects are a part of your plan then they will need to be scheduled and completed. By instituting previously mentioned processes it should be easy to track your results allowing a facility to qualify any expenses and to evaluate the return on investment of this program.

THE RIGHT THING. At this point it may not be a requirement for any existing facility to have a plan for sustainability. However, it is often a requirement for permitting for any new golf course development. Also there are smaller components that have become requirements in various regions. If we use water reduction in drought-stricken areas, or the use of recycled water, as a requirement rather than a request it is obvious that society and government are steering us in that direction. Mandatory recycling of green waste is an adjustment that has been made at many golf courses and what was once thought as onerous is now just a normal way of doing business. **GCI**

Who is on board?

Through the Environmental Institute for Golf, GCSAA is a strong supporter of continuing education for golf course superintendents by providing the latest environmental and agronomic techniques to maintain healthy turfgrass and protect environmental resources through sustainable practices. GCSAA has members at a large percentage of golf courses in North America. Through their magazine and online presence they provide monthly information on sustainable practices.

The United States Golf Association has a team of agronomists that conduct Turfgrass Advisory Visits all across North America. As a part of that process those agronomists give advice and share tips on how to develop more sustainable practices for each and every facility. Additionally the USGA has long championed the cause through both Green Section Journal articles and also through a couple decades of support and collaboration with programs like the Audubon Cooperative Sanctuary Program.

The Audubon Cooperative Sanctuary Program was, and continues to be, a very positive program embraced by many golf courses. Ron Dodson has led that organization since its infancy. Just this past month Ron has stepped down from that leadership position and has now taken on a similar role with the International Sustainability Council. We can expect to hear great things from this group in the upcoming months.

The ISC-Audubon mission is to foster sustainable living and lifestyles

at home, work and play. They accomplish this through a number of award winning education and certification programs. The vision of ISC-Audubon is to help create a more sustainable world. They assist people and their businesses then discover and implement sustainability solutions that are reliable, practical, efficient and that reduce risk.

GEO is a global Golf Environmental Organization that is based in Scotland. While the original outreach was in the UK and Europe it has expanded rapidly to the rest of the globe. GEO offers training and certification of sustainable facilities as does ISC-Audubon. GEO also has a number of allies in the industry and those include GCSAA, Royal and Ancient, CMAA, American Society of Golf Course Architects and the Golf Course Builders Association of America.

Through working together the industry has several programs to choose from for your facility. Some have certification programs and all provide tips and education. Certifications have a cost and need to be considered as a part of the evolution to sustainability.

It is recommended that golf facilities join these organizations and support them so that you can have a thorough evaluation of what fits best for your facility.

For more information contact:

GCSAA: www.gcsaa.org

GEO: www.golfenvironment.org

USGA: .usga.org

ISC-Audubon: www.isc-audubon.org

Henry DeLozier, a principal in the Global Golf Advisors consultancy. DeLozier joined Global Golf Advisors in 2008 after nine years as the vice president of golf of Pulte Homes. He is a past president of the National Golf Course Owners Association's board of directors and serves on the PGA of America's Employers Advisory Council.



RIGHT ON

“**E**fficiency is doing things right; effectiveness is doing the right things,”

according to Peter Drucker, the Austrian-born management consultant, educator and author who many consider the father of modern management thought leadership.

I'm constantly drawn to Drucker's teachings because of their simplicity. Drucker said the essential work of leaders – regardless of the business or industry in which they worked – could be pared to the way they

If, as Drucker said, “Efficiency is doing things right and effectiveness is doing the right things,” I'd add that great management is doing both at the same time.

managed three key areas: resources, information and anxiety.

We see management's challenges for those of us in the golf business in each of those areas, which are ingrained in four of Drucker's most honored teachings.

SERVING THE CUSTOMER IS THE PRIORITY OF EVERY BUSINESS. The starting point for every business opportunity and obligation is the customer – and, at private clubs, the member. Do you know what you customers and members want? As the golf season launches in the northern tier, club managers and leaders must reconnect with their customers and members and seek answers to three questions:

- What services will add to their enjoyment?

- What reasons can we provide to encourage them to bring friends to the club?

- What are their “hot buttons,” the things they want and need most from their club experience?

PLANNED ABANDONMENT. Drucker urged managers to develop the wisdom and courage to look candidly at their organizations to decide which parts should be abandoned. Many clubs rely too heavily on past practices that should be jettisoned to make way for a new operating model. The recessionary cycle revealed some of the most flawed perceptions:

- Membership communications and marketing were unnecessary for private clubs. In fact, in the midst of the Information Age, clubs and golf courses must maintain regular and meaningful communication to remain relevant.

- Refundable memberships were the wave of the future. Assuming that there will be more people seeking to buy memberships than there are people who wish to leave the club proved an error in judgment.

- Superior course conditioning is an option. Golfers proved just the opposite: care and upkeep are critical to the market attractiveness of every golf facility. Deferring maintenance – such as seasonal aeration and turf repair – has an adverse multiplying effect.

- Assumptions accurately inform next year's budget. Last year's budget is a starting point, but zero-based budgeting is essential to operational efficiency and innovation. Overreliance on assumptions ensures a repeat of past mistakes.

ATTITUDE IS KING. The people who are customer-facing make all the difference. Hire the best people available and hire for attitude. You can teach

tactics and procedures, but a positive attitude, which makes customers and members glad they came to the course, comes naturally – or not. Empower employees who serve customers and members to make decisions that create raving fans of the club. Celebrate their innovative ideas and solutions that earn recognition and appreciation from customers and members. Drucker taught that a primary duty of the manager is to prepare workers to perform well and to give them the freedom to do so. Ask yourself, how do you increase the value of your team?

KNOW YOUR MARKET AND OUR CUSTOMER. Many of the problems plaguing the golf business – especially those involving development and membership – stem from inadequate planning and ill-informed market knowledge. Many courses and clubs lack real market data. They do not know where to find more customers or members, and they lack an understanding of how to communicate successfully with prospects. Lacking enough market information, too many clubs introduce new promotions and pricing plans that miss the market. There is no substitute for a patient and deliberate approach to collecting market information.

To take advantage of Drucker's teaching, we must remember the critical importance of the three core ingredients of business management success: that resources require constant vigilance, support and nurturing; that information must be coordinated, repetitive and simple to apply, and that anxiety can be managed up or down, depending on circumstances.

If, as Drucker said, “Efficiency is doing things right and effectiveness is doing the right things,” I'd add that great management is doing both at the same time. **GCI**



Dedicated to fighting evils,
StressGard™ Formulation Technology never rests.

Protect your course with the most powerful technology out there. When it comes to overall plant health, Bayer fungicides with **StressGard™** Formulation Technology give you control when it matters most. We've developed these products to work at a cellular level, strengthening turf and fighting against evil stressors like heat, drought and traffic so you'll have the strongest, healthiest turf and happy golfers. **To learn more, visit BackedByBayer.com/stressgard.**

Tartan® | Chipco Triton® Flo | Interface® | Chipco® Signature™

Our quality fungicides with StressGard Formulation Technology are proven to have preventive and curative properties against disease.



Bayer CropScience LP, Environmental Science Division, 2 TW Alexander Drive, Research Triangle Park, NC 27709. 1-800-331-2867. www.BackedByBayer.com. Bayer, the Bayer Cross, Chipco, Chipco Triton, Interface, and Tartan are registered trademarks of Bayer. **StressGard** and Signature are trademarks of Bayer. Not all products are registered in all states. Always read and follow label instructions carefully. ©2013 Bayer CropScience LP.

The Starting Rotation

2012 evaluation of fungicides and fungicide rotation programs for the control of anthracnose and effects on turf quality on an annual bluegrass putting green.

The purpose of this trial was to evaluate the effectiveness of various fungicides and fungicide rotations in controlling anthracnose (*Colletotrichum cereale*) and maintaining plot quality on an annual bluegrass (*Poa annua*) putting green.

was installed on top of the sub grade. Annual bluegrass sod (no known resistance issues) from Bos Sod Farms from Canada was placed over the sand.

The trial area was not inoculated with the anthracnose fungal pathogen before the trial, and therefore, the general

goal of turf cultural practices was to encourage the natural onset of the disease by stressing the turf with low mowing heights, limited nitrogen, and either too little or too much water. However, stressing the plots too much can cause all the plots to deteriorate, thus losing

any ability to distinguish plot quality differences resulting from the fungicide treatments. Therefore, the stress had to be balanced with a minimum acceptable level of plot quality.

With this goal in mind, the plots were mowed Monday through Friday using a Toro

MATERIALS AND METHODS. The trial was initiated on June 14th, 2012. Treatments 1 through 14 were applied six times on a two-week interval with the last treatment date being Aug. 23rd. Treatments 15 and 16 were applied three times on a four-week interval with the last treatment date being Aug. 9th. The trial was conducted on an annual bluegrass putting green located at the OSU Lewis-Brown Horticulture Farm in Corvallis, Ore., which is approximately 60 miles south of Portland. The green was built in April 2009 using the California Method (12 inches of USGA sand placed over a soil sub grade). Flat drainage

Table 1. Plot and Surface Quality without Regard to Color

Trt #	Product (s)	Rates (oz./M)	Plot Qual. 6/27	Surf. Qual. 7/12	Surf. Qual. 7/25	Surf. Qual. 8/09	Surf. Qual. 8/23	Surf. Qual. 9/6	Surf. Qual. Avg.
1	Untreated	na	5.9	7.5	7.0	6.3	5.3	4.8	6.2
2	Briskway alternated w/ Daconil Action	.62/3.5	6.6	7.6	7.9	7.8	7.9	8.0	7.8
3	Briskway alternated w/ Daconil Action	.50/3.5	6.0	7.1	7.6	7.4	7.8	7.5	7.5
4	A8574D	0.22	5.9	7.4	7.6	7.5	7.6	6.8	7.4
5	A8574D	0.42	6.0	7.9	7.8	7.4	7.0	6.5	7.3
6	A18281A	1.0	5.9	7.8	7.5	7.5	7.5	7.4	7.5
7	A19858A	0.6	6.1	7.4	7.3	7.0	7.3	7.1	7.2
8	Briskway + Daconil Action	.62+3.5	6.5	7.6	7.8	7.9	7.9	7.6	7.8
9	Briskway + Daconil Action	.50+3.5	6.3	7.6	7.9	8.0	7.8	8.0	7.9
10	Bayer Rotation 1	See Above	6.8	7.8	7.6	7.9	7.9	8.0	7.8
11	Bayer Rotation 2	See Above	6.9	8.0	7.9	7.8	7.9	8.0	7.9
12	Torque + Spectro alt. with Affirm + Spectro	.60+3.75/.90+3.75	6.0	7.6	7.8	8.0	7.9	7.8	7.8
13	BASF Rotation 1	See Above	5.9	7.5	7.8	7.8	7.8	7.5	7.7
14	Fertilizer Check	.20 lbs. N	7.0	7.9	7.4	7.8	6.5	6.3	7.2
15	BASF - Pillar G (48 oz)	48	6.0	7.4	7.5	7.0	7.0	6.8	7.1
16	BASF - Headway G (64 oz)	64	5.9	7.4	7.0	6.5	7.1	6.8	7.0
		LSD@ .05	0.6	ns	0.5	0.5	0.7	0.9	na



Flex walking greens mower set to a bench height of .105 inches. The plots were double mowed beginning the third week of July until the end of August. Irrigation was applied using a Rain Bird irrigation system with Hunter I-20 heads. At the onset of the trial, the irrigation system was set to apply 60 percent of ET (calculated from an on-site weather station). Irrigation was subsequently reduced until drought symptoms began appearing in the afternoon at which time the dry spots were hand watered. Following the drying out period, the irrigation was then set to apply 140 percent of ET for approximately two weeks. The cycle of drying followed by over irrigating continued throughout the trial. The plots were fairly lean when the trial started and were not fertilized until Aug. 8th when 0.20lbs per 1,000 sq. ft. of soluble nitrogen from UMAXX (urea) along with 6 ounces of Foltec foliar fertilizer (The Andersons) was applied.

As a result of the stress applied, the leaves began turning brown and the plot color approached the minimum acceptable level in the first week of August (see color ratings on Aug. 9th). After the fertilizer application, the turf color improved on most plots noted by the ratings on Aug. 23rd.

The treatments applied are listed below:

Trt #	Treatment	Rate (oz./1,000ft ²)
1	Untreated	na
2	Briskway alternated with Daconil Action	.62/3.5
3	Briskway alternated with Daconil Action	.50/3.5
4	A8574D	0.22
5	A8574D	0.42
6	A18281A	1.0
7	A19858A	0.6
8	Briskway + Daconil Action	.62+3.5
9	Briskway + Daconil Action	.50+3.5
10	Bayer Rotation 1	See Below
11	Bayer Rotation 2	See Below
12	Torque + Spectro alternated with Affirm + Spectro	.60+3.75/.90+3.75
13	BASF Rotation 1	See Below
14	Ammonium Sulfate alternated with Calcium Nitrate*	3.2 (of N)
15	Pillar G**	48
16	Headway G**	64

*0.20 lbs. of total nitrogen was applied per application.
** Pillar G and Headway G were applied every 4 weeks.

Spray Programs:

Bayer Rotation 1-Trt 10	Rate (oz./1,000ft ²)	Date of Application
Reserve	3.6	June 14 th
Signature + Daconil Ultrex	4.0+3.2	June 27 th
Insignia + Daconil Ultrex	0.90+3.2	July 12 th
Reserve	3.6	July 25 th
Signature + Daconil Ultrex	4.0+3.2	August 9 th
Reserve	3.6	August 23 rd

Bayer Rotation 1-Trt 11	Rate (oz./1,000ft ²)	Date of Application
Reserve	3.6	June 14 th
Signature + Daconil Ultrex	4.0+3.2	June 27 th
Reserve	3.6	July 12 th
Signature + Daconil Ultrex	4.0+3.2	July 25 th
Reserve	3.6	August 9 th
Reserve	3.6	August 23 rd

Bayer Rotation 1-Trt 13	Rate (oz./1,000ft ²)	Date of Application
Trinity	1.0	June 14 th
Insignia SC + Trinity	0.54+1.0	June 27 th
Honor	1.1	July 12 th
Trinity	1.0	July 25 th
Insignia SC + Trinity	0.54+1.0	August 9 th
Honor	1.1	August 23 rd

Daily high temperatures and relative humidity at the time of high temperature for the dates of applications are listed in the table below:

Date	High Temp	RH at time of High Temp
6/14	70	49%
6/27	77	36%
7/12	78	52%
7/25	84	49%
8/09	82	46%
8/23	73	43%

The individual plots measured 25 square feet (5 ft x 5 ft). The products were applied with a CO₂-powered sprayer using TeeJet 80015 nozzles at 30 psi producing a total spray volume of two gallons per 1,000 sq. ft. The speed was calibrated with an electronic metronome. Visual disease severity, color, and surface quality (without regard to color – i.e. uniformity, texture, and density) ratings were taken every two weeks. Additionally, plot quality ratings were taken on June 27th – two weeks after the first application. Ratings were taken the day of, or the day preceding, the fungicide application. Data from each rating date were subjected to analysis of variance using a randomized complete block design with four replications. Differences between means were determined by Fisher's LSD at the 5% level. The data and LSD values are displayed in Tables 1 through 3.

RESULTS. Overall, the disease pressure was moderate to low with untreated check plots receiving average disease cover ratings of 8.0 percent on Sept. 6th – 14 days after the final treatment. Additionally, the fertilizer check treatment (Trt 14) had disease cover ratings averaging 4.8 percent on Sept. 6th. This treatment had a total of 0.20 lbs. of total nitrogen per 1,000 sq. ft. applied per application.

The plots were rated for both color and surface quality (without regard for color) separately. The reason for the two ratings is that stressing the turf for anthracnose trials often results in poor color but not necessarily poor surface quality (without regard to color) if the fungicides applied are effective. This method of rating allows us to distinguish those plots that have otherwise good turf quality (with maybe not so good color) from those plots where both the turf color and the quality are poor. Using this method, surface quality will track pretty closely with the inverse of percent disease cover because the turf density gets negatively impacted by disease. Additionally, sometimes the fungicides themselves either improve turf quality or have a negative effect (e.g. DMI's tend to cause leaf texture to widen) which can impact surface quality.

There were no statistical differences between plots treated with fungicides for percent disease cover. Additionally, all fungicide treatments were statistically better than both the untreated control



The plots were rated for both color and surface quality (without regard for color) separately. Stressing the turf for anthracnose trials often results in poor color but not necessarily poor surface quality (without regard to color) if the fungicides applied are effective.

(Trt 1) and the untreated fertilizer control (Trt 14). Nine of the fourteen fungicide treatments had average disease cover ratings of 0.2 percent or less on Sept. 6th. Three more fungicide treatments had average disease cover ratings of 0.5 percent or less on Sept. 6th. Only two fungicide treatments had average disease cover ratings over 1 percent on Sept. 6th: A8574D (Trt 5) with 1.4 percent disease cover, and Pillar G (Trt 15) with 1.6 percent disease cover.

Because of the low fertility level, the color of the plots was generally lower than what one would normally see on a high-end golf course. However, the color was surprisingly good on many

Table 2. Percent Disease Cover

Trt #	Product (s)	Rates	7/12	7/25	8/09	8/23	9/6	Avg.
1	Untreated	na	0	0.8	2.8	6.9	8.0	3.7
2	Briskway alternated w/ Daconil Action	.62/3.5	0	0.0	0.1	0.0	0.1	0.0
3	Briskway alternated w/ Daconil Action	.50/3.5	0	0.1	0.1	0.1	0.1	0.1
4	A8574D	0.22	0	0.1	0.1	0.6	0.5	0.3
5	A8574D	0.42	0	0.0	0.1	1.4	1.4	0.6
6	A18281A	1.0	0	0.0	0.0	0.1	0.3	0.1
7	A19858A	0.6	0	0.0	0.0	0.1	0.1	0.1
8	Briskway + Daconil Action	.62+3.5	0	0.0	0.0	0.0	0.2	0.0
9	Briskway + Daconil Action	.50+3.5	0	0.0	0.0	0.1	0.2	0.1
10	Bayer Rotation 1	See Above	0	0.0	0.0	0.1	0.0	0.0
11	Bayer Rotation 2	See Above	0	0.0	0.0	0.0	0.0	0.0
12	Torque + Spectro alt. with Affirm + Spectro	.60+3.75/.90+3.75	0	0.0	0.0	0.1	0.1	0.0
13	BASF Rotation 1	See Above	0	0.0	0.1	0.1	0.0	0.0
14	Fertilizer Check	.20 lbs. N	0	0.5	2.1	3.1	4.8	2.1
15	BASF - Pillar G (48 oz)	48	0	0.1	0.1	1.4	1.6	0.7
16	BASF - Headway G (64 oz)	64	0	0.2	0.3	0.4	0.4	0.3
		LSD@ .05	ns	0.2	1.0	1.8	1.8	na

Real Science

treatments. Treatments that included pigments (Trts. 10 & 11) scored the highest in the color ratings on average, although the color dropped slightly after a DMI fungicide was

applied. Also, color ratings were negatively impacted by disease. Six fungicide treatments had an average color rating of 6.7 or higher throughout the trial. These included the two

Bayer rotations, Torque mixed with Spectro 90 alternated with Affirm mixed with Spectro 90, Briskway (.62 oz.) alternated with Daconil Action, and the two treatments of Briskway mixed with Daconil Action. The fertilizer check had an average color rating of 6.8.

The color ratings were generally lower than the surface quality ratings because the stresses imposed on the plots had a larger impact on color than surface quality.

The surface quality of most of the plots treated with fungicides was excellent. On Sept. 6th, 10 of the 14 fungicide treatments had a surface quality rating averaging 7.1 or higher. Of those, five had a surface quality rating or 7.8 or higher, which included the two Bayer rotations, Torque mixed with Spectro 90 alternated with Affirm mixed with Spectro 90, Briskway(0.50 oz.) mixed with Daconil Action, and Briskway (0.62 oz.) alternated with Daconil Action. **GCI**

Brian McDonald is a research assistant at Oregon State University.

Table 3. Color 1 – 9; 9 = dark green

Trt #	Product (s)	Rates	7/12	7/25	8/09	8/23	9/6	Avg.
1	Untreated	na	6.4	5.4	5.0	5.1	4.5	5.3
2	Briskway alternated w/ Daconil Action	.62/3.5	7.1	6.9	6.1	6.9	6.8	6.8
3	Briskway alternated w/ Daconil Action	.50/3.5	6.5	6.3	5.8	6.8	6.5	6.4
4	A8574D	0.22	6.3	5.8	5.0	6.0	5.5	5.7
5	A8574D	0.42	6.4	5.6	5.0	6.5	6.1	5.9
6	A18281A	1.0	5.9	5.6	4.6	6.3	6.3	5.7
7	A19858A	0.6	6.4	6.0	4.6	6.8	7.0	6.2
8	Briskway + Daconil Action	.62+3.5	6.9	6.6	6.0	6.8	7.0	6.7
9	Briskway + Daconil Action	.50+3.5	6.9	6.9	6.0	7.3	6.9	6.8
10	Bayer Rotation 1	See Above	7.3	6.4	6.1	7.4	7.6	7.0
11	Bayer Rotation 2	See Above	7.5	7.0	7.3	7.6	7.4	7.4
12	Torque + Spectro alt. with Affirm + Spectro	.60+3.75/.90+3.75	7.0	6.8	6.6	7.4	7.1	7.0
13	BASF Rotation 1	See Above	6.0	6.6	5.8	6.6	7.4	6.5
14	Fertilizer Check	.20 lbs. N	7.4	7.0	7.0	6.8	5.8	6.8
15	BASF - Pillar G (48 oz)	48	6.5	5.9	5.0	6.3	6.1	6.0
16	BASF - Headway G (64 oz)	64	6.3	5.5	5.6	7.0	6.6	6.2
		LSD@ .05	0.6	0.7	0.8	0.9	1.1	na

MORE control.

Clover, thistle and over 250 other broadleaf weeds disappear with one application of Millennium™ Ultra². With 'meltdown' and residual control, it keeps turf clean and pristine for weeks, and can be applied virtually any time for maximum flexibility. That's how Nufarm brings you more control – and more confidence. Ask your distributor for Millennium Ultra².

More where it matters most.
www.nufarm.com/usto

©2013 Nufarm. Important: Always read and follow label instructions. Millennium™ is a trademark of Nufarm.

Millennium[™] ULTRA²



Learn more about Rain Bird pump stations by viewing
a short video at www.rainbird.com/pumpstations



**Demanding one system that
was designed to be one system.
That's intelligent.**



*Put real-time alerts and response to work for
your course, with system access from your
smart phone, tablet or computer.*

Give your entire system an upgrade, with seamless integration from Rain Bird.

Your pump station is the heart of your irrigation system. Rain Bird pump stations have Pump Manager 2 and Smart Pump™ technology at the central control, so you can configure your system to automatically monitor and self-adjust to changing conditions. This seamless integration by Rain Bird improves your system's overall performance by reducing watering windows and minimizing energy use. That means you have less to worry about, and the ability to get more done in your day.

RAIN  BIRD®



John E. Kaminski, Ph.D. is an associate professor, Turfgrass Science, and director of the Golf Course Turfgrass Management Program at Penn State University. You can reach him at kaminski@psu.edu.

WHY PUSH WHAT YOU CAN'T DEFINE?

Remember when we used to talk about “IPM” programs? Integrated Pest Management was the standard phrase for all of the care and attention towards the environment when it came to managing golf courses.

The new buzzword? Sustainability. The word gets dropped by many superintendents and companies trying to market their products for use in our industry. While I’m a huge fan of the idea of sustainability, I am often confused by exactly what is meant by the term.

I have asked many people to define sustainability, only to receive various definitions... in addition to a few blank stares. Andrea Li, assistant golf superintendent at Connaught Golf Club in Canada, said sustainability is designed “to preserve the longevity of the golf course environment for our future generations of golfers.”

Via Twitter, @Aquatrols relayed the International Golf Federation’s definition of sustainability as “Optimizing the playing quality of the golf course in harmony with the conservation of its natural environment under economically sound and socially responsible management.”

In my opinion, sustainability is no different than IPM. In integrated pest management we utilize all resources available to us to provide a product. We take into account the economy as well as the environment. Isn’t this similar to maintaining a course in a sustainable way?

As I see it, the problem doesn’t lie in the definition of the word, but rather the varying opinions of what it means to the individual. I’m guessing if you ask a superintendent and an anti-golf environmentalist what it means, you’ll get two very different answers. In other words, there are varying degrees to which people will

consider themselves to be managing turfgrass in a sustainable manner. Due to these differences, the debate over what is sustainable can get heated.

The idea of sustainability is one that many people are passionate about and for that reason “push” their ideas on others. It’s like an argument about religion or politics. The problem is there is no right answer. Different people are going to have varying ideas and beliefs on whether they are sustainable in their management practices.

Let me use the vegetarian example. For about two years in college I de-

U.S. superintendents. Yes, they may use fewer pesticides (due primarily to weather-related circumstances) than a mid-Atlantic superintendent, but many of them still use pesticides to some degree. So do uncontrollable climatic differences make one turfgrass manager more sustainable than another?

If we accept that varying climatic conditions define sustainability, then we should probably shut down every desert course. Surely, the use of irrigation for the game of golf can’t be considered sustainable can it?

As I see it, the problem doesn’t really lie in the definition of [sustainability], but rather the **varying opinions** of what it means to the individual.

ecided to become a vegetarian. During this period I gave up all meat except for fish. People were always curious about my decision and it invoked a lot of discussion. My meat-eating friends would make fun of my food choices, while others would say I wasn’t “really a vegetarian” because I ate fish. The best discussion involved a vegan who told me and a “true vegetarian” that neither of us were doing it right. I didn’t know there was a wrong way.

The bottom line is everyone has different degrees to which they consider themselves sustainable, but most if not all of us practice some level of sustainability in our management practices. So why do people push their practices on others when most can’t even agree on a definition?

In some cases it’s a superintendent’s philosophy and passion. I see this often with greenkeepers in the UK. They are passionate about their sustainable management practices, but in many cases I can’t really see what they’re doing differently from

The answer is there are costs and benefits for everything. If we were truly sustainable we would all walk to work, grow our own food, and consume only what was necessary. We surely wouldn’t drive our gas-guzzling trucks, eat store-bought food, or indulge in anything considered unnecessary to sustain our lives.

Although it may seem like I’m anti-sustainability, the exact opposite is true. I feel we all can improve our management practices through proper IPM strategies. However, we should stop worrying about why others don’t do it like us and focus on what we as individuals can do in our specific cases. What is considered sustainable at a Minnesota muni course is not going to be the same at a West Chester, N.Y. private club.

Superintendents should work together to share programs and discuss what really works. If so, then the industry will continue to improve. We must stop placing one definition on sustainable turfgrass management. **GCI**

GOLF COURSE
INDUSTRY

THE INDUSTRY'S
#1 CHOICE

TRENDS/NEWS/OPINIONS

.....

READERSHIP

.....

DIGITAL
OFFERINGS

.....

PERSONALIZED
SERVICE



Travels With Terry

Globetrotting consulting agronomist Terry Buchen visits many golf courses annually with his digital camera in hand. He shares helpful ideas relating to maintenance equipment from the golf course superintendents he visits — as well as a few ideas of his own — with timely photos and captions that explore the changing world of golf course management.



Terry Buchen, CGCS, MG, is president of Golf Agronomy International. He's a 41-year, life member of the GCSAA. He can be reached at 757-561-7777 or terrybuchen@earthlink.net.

VERSATILE FORMER GOLF CART

The 27-hole Grandee Nasu Shirakawa Golf Club in Fukushima Prefecture, Japan, is the only golf course in Japan designed by Robert Trent Jones, Sr., who was assisted by Roger Rulewich, in 1995. Shigeto Hayashi is the golf course superintendent. This Yamaha Turf Mate was formerly used by women caddies to transport four golf bags around golf courses in Japan, where this type of vehicle was ultimately replaced by traditional four-wheel golf carts. Hayashi purchased it used about 10 years ago, along with four spare wheels and tires, for approximately 10,000 Japanese Yen (\$100 U.S.). It was then modified by removing the upper golf bag holder frame and installing the round plastic case and supports and the hooks for the topdressing drag mat to be attached to, which cost about 2,000 JY (\$20 U.S.). The greenskeeper operates this vehicle standing up and it is used for course setup, dragging in topdressing, dragging the dew off of the fairways, etc. It took about four hours to modify it.



CAPILLARY CONCRETE TEST BUNKER

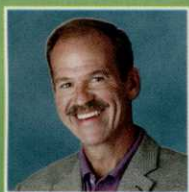
Capillary Concrete (CC), the unique pervious concrete-based bunker liner that is designed and manufactured in Sweden by Martin Sternberg, CGCS, is now being tested by Stephen Ehrbar, CGCS, director of golf course maintenance, and Nick Sabatino, assistant director of golf course maintenance, at the Jupiter Hills Club in Jupiter, Fla. The chipping green was initially built with a native sugar sand base, which is quite soft, and it needed to be stabilized. Ehrbar and Sabatino decided to test CC on the bunker slopes only so that golfers could walk up and down the slopes, with a new stabilized subsurface base, to play a shot. An 8-cubic-foot concrete mixer was used to blend the equivalent of one cubic yard of light weight porous aggregate (expanded shale or expanded slate, which are manufactured in seven different facilities in the U.S.), six bags of CC and 18-20 gallons of water. The mixture was then spread at a 2-inch consistent depth with a shovel and bunker rake and then it was smoothed-out with a long-handled paint roller. The mixture was allowed to dry for four hours after it was covered with a tarp to keep the sun off of it so it would set-up better. The mixture was tapered into the sub grade at the bottom of the slopes and then bunker sand (that settled to a 2-inch depth) was placed over it. Irrigation and rain water are



draining through the slopes flawlessly and the bunker slopes are now stabilized. CC costs about \$1.10/\$1.15 per square foot, the light-weight aggregate costs about 40 cents per square foot and the installation production was about 130 square foot per labor hour. The mixture was installed in late March and it is performing quite well.

GOLF COURSE INDUSTRY

THE INDUSTRY'S BEST EDITORIAL TEAM:



**PAT
JONES**

The first and
last word



**JEFF
BRAUER**

Architect of
course concepts



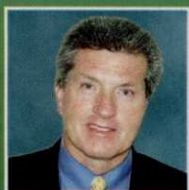
**TERRY
BUCHEN**

Dean of
superintendent
innovation



**HENRY
DELOZIER**

The industry's
brightest
business mind



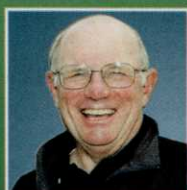
**TIM
MORAGHAN**

Connoisseur of
course conditions



**JOHN
KAMINSKI**

Agronomic
expertise and all
things digital



**MONROE
MILLER**

A veteran
perspective



**RON
DODSON**

All things
sustainable



**BRIAN
VINCHESI**

Irrigation's
go-to guy

(MORAGHAN continued from page 30)

One product he likes is sand, and he has increased top-dressing programs for tees, fairways, and putting greens. A lot of sand has been used to get the course dry and firm. Matt thinks this also has allowed him to cut back the use of pre-emergent herbicides, as there's been less weed germination.

Of course, too much sand can lead to leaf surface abrasion and disease, which would require spraying. So Matt doesn't top-dress any playing feature when it's hot because when the turf isn't growing it's more susceptible to injury and sand is abrasive.

Here are a few other sustainable practices in use at Merion:

Cultivation. Solid tine aeration is preferred over hollow core cultivations.

Fertilizer. Once again, less is more, since a fat, happy plant invites disease. Matt monitors growth habits, clipping rates, temperature, soil moisture content, and humidity before deciding to fertilize, apply pesticide, and irrigate.

Tees. Increased top-dressing makes tees firm, which means fewer divots and less over-seeding. Tees are mown with a solid front roller on the mower, not grooved rollers that can waste seed from divot mix by throwing it back into the mower bucket. This practice also preserves seed already on the tee.

Approaches. The greatest increase in top-dressing has been in approaches. Firming up the turf in front of greens enhances Merion's signature bump-and-run shots, but just as important, the golf course is drier and healthier, and the use of chemicals reduced. Using Tri-plex riding mowers reduces labor and the heavier equipment helps keep the approaches firm.

Bunkers. Merion's bunkers are all hand-raked. The crew does very little edging and does not mow bunker edges. They simply trim the seed heads.

Fairways. Starting this past winter, members were asked to hit off little green artificial mats, similar to those used on the Old Course at St. Andrews. Using mats, which attach to members' bags, reduced the number of fairway divots at a time of year when nothing was growing. The mats also helped preserve the turf within specified Open landing zones, which were roped off. The mats were a big success and will likely become club policy for winter play going forward.

Greens. Roll more, mow less. And to promote smoothness and better grooming, the club uses imported (and expensive) yak-hair brooms.

Matt Shaffer is doing some fascinating things at Merion, and I agree with him that most of his practices – except perhaps for the yaks – can succeed at courses throughout the U.S.

Superintendents should tell their green committees and other members to watch this year's U.S. Open very carefully. Besides the stellar play we've all come to expect at our national championship, they will see a great old course in prime condition thanks to a sincere and all-in commitment to sustainability. **GCI**

(IRRIGATION continued from page 46)

- Doing long range and capital planning for replacing irrigation components and doing preventive maintenance to keep pace with technology enhancements that better utilize limited resources.

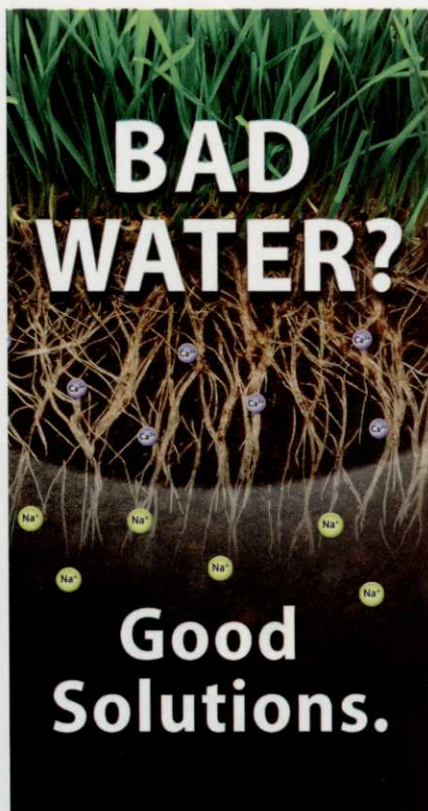
- Investing in more sprinklers to provide more control. More control gives you the opportunity to use less water and provide better conditions with fewer inputs.

- Installing a green roof on your pump house or other out buildings.

- Scheduling your pump station on a daily basis just like you schedule your irrigation system by selecting what pumps can come on, how much energy can be used and what the discharge pressure should be at each hour of the day.

- The list could go on and on, but the general gist is to maintain your irrigation and pump systems while maximizing their abilities and efficiencies.

The term "sustainability" is being way over used in today's society, but it is not going away. You need to understand what it involves in terms of your overall golf course operations and not just the irrigation system. You also need to be able to tout your sustainable initiatives and to recognize where you are not being sustainable. Good luck! **GCI**



CALTRISAL ST® ↓

Improve Soil Structure

- Improves the solubility of gypsum
- Releases more calcium for better sodium displacement
- Better aggregation of clay soils
- Improves infiltration and leaching

For more information, contact your Aquatrols distributor today.

Aquatrols®

www.aquatrols.com

COMPANY	WEBSITE	PAGE
Agrium		
Advanced Technologies	www.aatdirectsolutions.com	2
Aqua Aid	www.aquaaid.com	43
Aquatrols	www.aquatrols.com	28, 40, 47, 84, 89, 92, 108
Arysta LifeScience	www.arystalifescience.com	25
BASF	www.betterturf.basf.us	83
Bayer Environmental Science	www.backedbybayer.com	98
Champion Turf	www.championturffarms.com	34-35*
Clivus Multrum	www.clivusmultrum.com	41
Core Outdoor Power	www.coreoutdoorpower.com	24
Grigg Brothers	www.griggbros.com	85
Hydretain	www.hydretainadvantage.com	42
Jacobsen	www.jacobsengolf.com	112
John Deere	www.deere.com	27
JRM	www.jrmonline.com	82
JWB Marketing	www.birddamage.com	74
Milliken	www.millikenturf.com	36
Nufarm	www.nufarm.com	44, 102
OHP	www.ohp.com	31
PBI/Gordon	www.pbigordon.com	6*, 7*, 37, 71, 73, 75
Plant Food Systems	www.plantfoodsystems.com	76
Rain Bird	www.rainbird.com	103
SePro Corp.	www.sepro.com	87
Sipcam/Advan	www.sipcamadvan.com	111
STEC	www.stecequipment.com	77
Superthrive, LP	www.superthrive.com	41
Syngenta Professional Products	www.syngentaprofessionalproducts.com	26, 79, 91
Toro	www.toro.com	45
Trojan Battery Co.	www.trojanbattery.com	5
Turf Diagnostics & Design	www.turfdiag.com	37
Underhill	www.underhill.us	50
Wiedenmann North America	www.wiedenmannusa.com	29
Winfield Solutions	www.winfield.com	39

*denotes regional advertising

FOR SALE

Discount Small Engines & Parts

Small engines & parts from Briggs & Stratton, Kohler, Tecumseh, Robin and more.

www.smallenginesuppliers.com

Also, look up your own parts and buy online at

www.smallenginepartssuppliers.com

How to Outsmart Mother Nature...

Use EVERGREEN™
The Turf Blanket the World Relies On

- Earlier spring green-up
- Faster seed germination
- Deeper root development
- Delays dormancy in fall
- Ideal winter blanket
- Best for quick turf repairs
- Available in any size
- 3, 7 or 10 yr warranty covers

For details call 1-800-387-5808 today!

covermaster.com
E-MAIL: info@covermaster.com

COVERMASTER™
COVERMASTER™
COVERMASTER™
AHEAD OF THE GAME

COVERMASTER INC., REXDALE, ON, M9V 5C3
TEL 416-745-1811 FAX 416-742-6837

Let us help you get the word out.
Golf Course Industry Article Reprint Services

E-mail: reprints@gie.net or call 800-456-0707 to learn more.

MERGERS & ACQUISITIONS

ATTENTION OWNERS/BUYERS

Thinking of buying or selling your Golf Course Business/ Commercial Real Estate?

Specializing In:

- GOLF COURSES
- ACQUISITIONS
- MARINAS

CALL: Eddy A. Dingman, CNS
Coldwell Banker Commercial NRT

National Golf & Marina Properties Group

847-313-4633

www.golfcourseandmarinasales.com

SEEDS

NATIVE SEEDS

Largest distributor of native seed east of the Mississippi, from Canada to Florida! We specialize in upland to wetland sites, including bioengineering for riparian sites.

Your native seed source.

Contact **ERNST SEEDS** today.

www.ernstseed.com – 800/873-3321

SERVICES

WHAT DO YOUR CALLERS HEAR WHEN PLACED ON HOLD?

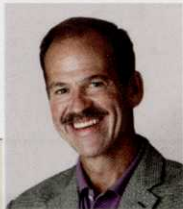
Promote your services and enhance your image with a customized "on hold" recording by Watt Media.

1-800-250-8233

MAXIMIZE YOUR ADVERTISING DOLLARS



Please contact Bonnie Velikonya at 800-456-0707 or bvelikonya@gie.net.



Pat Jones is editorial director and publisher of Golf Course Industry. He can be reached at pjones@gje.net or 216-236-5854.

DOING THE RIGHT THING

Over the past 30 years, I've had a front-row seat for the environmental sea-change that's taken place in the golf business. It's been a long, strange trip to say the least.

It all started because we were being attacked for polluting our own courses. Golf course superintendents were shocked to find themselves using poisons that "experts" claimed harmed wildlife and water and even people. Concerns came to a head in the late '80s when a suit was filed against a chemical manufacturer by the widow of a Navy officer who died after allegedly exposing himself to a tainted fungicide product thanks to his curious habit of putting his golf ball in his mouth between holes.

Much of the criticism was unfounded crap, but some of the old-school pesticides we used in the '70s and '80s did have ugly side effects. Chlordane stayed in soils forever. Mercury and cadmium products were equally persistent, mobile and dangerous to handle. Diazinon worked great and didn't hurt people, but EPA decided to single it out to prove it could ban a product purely because of its impact on birds and wildlife.

And pesticides weren't the only source of concern. During the various golf booms in the second half of the 20th century, developers filled a lot of wetlands and disrupted a lot of habitat to build housing with golf courses as their anchors. I'll bet that half the courses in the Southeast that were built in the '50s through the mid-'80s could never be built today because they were sited smack in the middle of sensitive, now-protected areas. At the time, we just thought they were swamps filled with critters and varmints. Turns out they were pristine

wetlands and habitats filled with valuable animal and plant species. Who knew?

When aging Yankees started moving to the Sun Belt, we built a ton of golf courses in the desert. We irrigated them by drilling wells into aquifers conveniently located under the sun-scorched sands. Even though it was quite literally a drop in a bucket, the perception that golf courses were siphoning millions of gallons of water a day out of underground reservoirs created another flashpoint, particularly when periodic drought restrictions hit homeowners and other businesses. The courses we built were just too damned thirsty.

Recently, golf and lawn care have come under fire again for possible contributions to the dead zones that threaten the Great Lakes. And, as recently as last month, a sweeping new ban of neonicotinoid pesticides – staple tools for many turf managers – was enacted in Europe in a likely overreaction to concerns about honey bee populations.

In short, there have been and always will be "environmental issues" for golf to deal with. As long as we continue to require water and plant protection to effectively present a good playing surface for the game, we will be scrutinized.

But, thanks to decades of efforts by Audubon International, the USGA, the GCSAA and dozens of leading chapters around the nation, that scrutiny is nothing compared to what it could have been.

The Cooperative Sanctuary Program for Golf created a groundswell of interest in doing the right thing. What other industries might have tried to solve with lobbying, regulatory dogfights and legal battles, we addressed with

education, better products, improved practices and – most importantly – a commitment to ensuring that golf could be sustainable.

Now, as the sanctuary program commences on a new quarter century, the landscape is very different. Economic sustainability is now as important as environmental sustainability.

Happily, these two concepts go hand-in-hand. Examples include reduced water, more efficient plant protection, back-to-basics agronomy and design/landscaping practices that eliminate labor and, often, create a more interesting playing field. Oh, and along the way we've found a way to save and protect a few of those critters and varmints, too.

It's far too soon to declare victory in golf's quest to be viewed as a "green" sport. As turf managers we're still too resource intensive and our use of water will always be in question. But, it's not too soon to say that we have evolved and changed to become far better stewards and far better businesspeople in response to some of the crises we faced 20 or 30 years ago.

Many organizations deserve a large share of the credit for this pretty amazing accomplishment. But the real kudos go to you.

Golf course superintendents were justifiably pissed off to be accused of being indiscriminate polluters and lackeys for rich folks who wanted perfection at any cost. That anger translated into action and real change. It was as if the profession collectively rose up and loudly stated, "Not me! I'm not going to screw up this beautiful place they pay me to manage. I'm not going to leave a black mark on the game. I'm going to do the right thing."

And you did. And that's why golf will abide. **GCI**

ETQ™
Enhanced Turf Quality

Proven fungicides. Premier technology. Pure science.

All season long with ETQ.

Our expanded ETQ™ fungicide portfolio delivers broad-spectrum disease control and enhanced turf quality all season long. These science-based solutions blend proven active ingredients with protective ETQ technology – in ratios to maximize turf health. The ETQ technology makes plants more efficient, thus improving fungicide effectiveness. The result is comprehensive disease protection, unparalleled stress management, remarkable turf quality . . . and peace of mind. Consider what our ETQ fungicides do:

- ▶ Protect turf from UVA and UVB rays, heat and other stress factors
- ▶ Optimize turf color, strength, density and consistency
- ▶ Provide an economic solution for disease control and enhanced turf quality
- ▶ Deliver total protection for high-performance turf

SipcamAdvan fungicides with ETQ technology.

Echo Dyad ETQ®
Turf Fungicide

(chlorothalonil)

E-Scape ETQ®
Turf Fungicide

(chlorothalonil/tebuconazole)

Eclipse ETQ®
Turf Fungicide

(iprodione)

Sipcam Clearscape® ETQ™
Turf Fungicide

(tebuconazole)



SipcamAdvan
The Natural Choice™

www.sipcamadvan.com
800-295-0733



The above conversation is an actual text exchange from a real club manager and superintendent. These conversations are happening around the country as more and more golf courses are improving their conditions with Jacobsen equipment. The advanced electric and hybrid technology, legendary performance, and trusted reliability of Jacobsen equipment will get your course talking – and texting. For more information about Jacobsen or to find a Jacobsen dealer near you, visit jacobsen.com.



1.888.922.TURF | www.jacobsen.com

