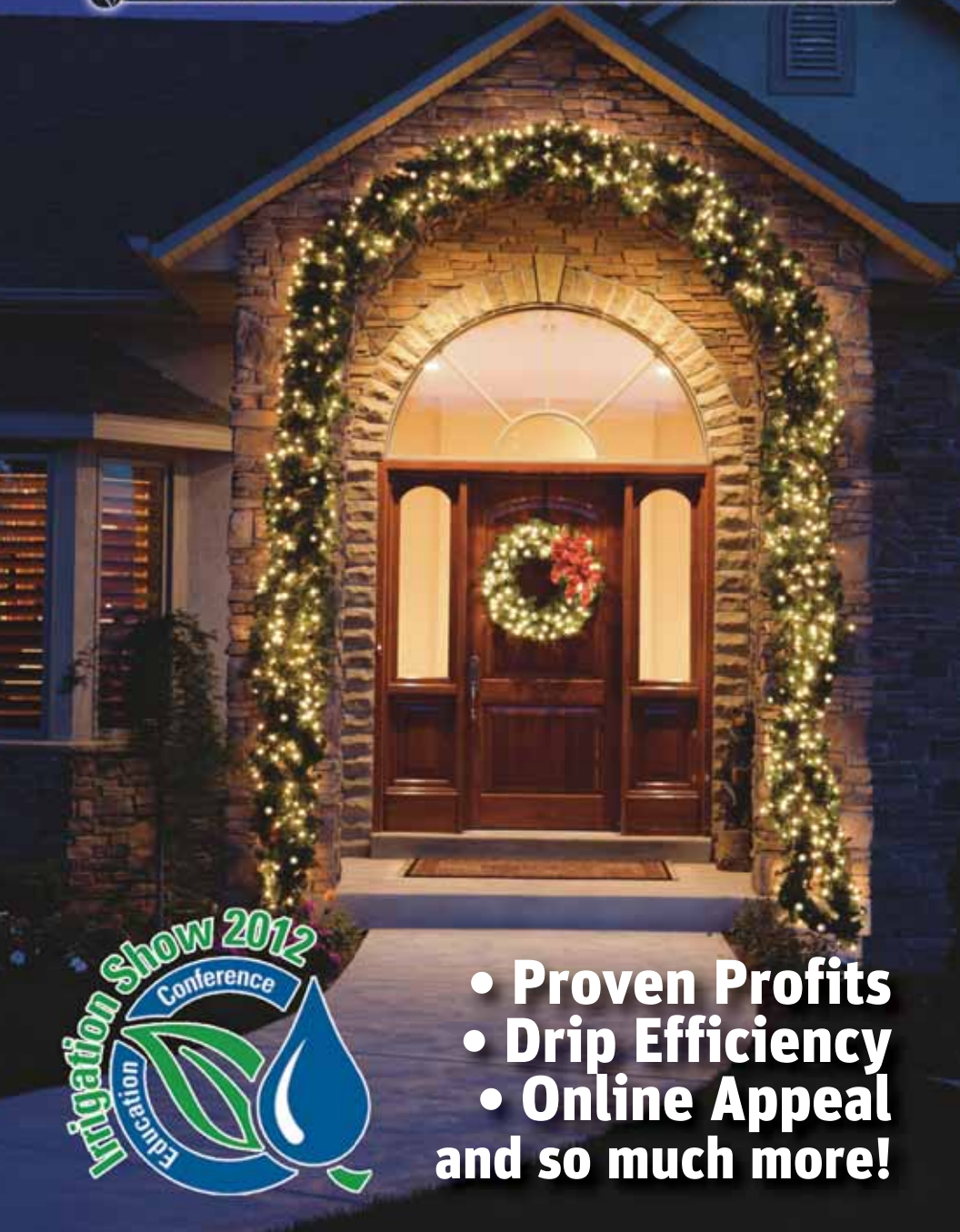


PIPELINE



The Official Publication of the Florida Irrigation Society



- Proven Profits
 - Drip Efficiency
 - Online Appeal
- and so much more!

SUPERPRO[™]

UPGRADE YOUR ROTOR...**TO THE BEST!**



- ◀ **INNOVATIVE FLOW CONTROL**
 - Reduces distance & flow rate proportionately
 - Provides full On/Off control
- ◀ **EASIEST TO ADJUST**
- ◀ **5" POP-UP HEIGHT**
- ◀ **5 YEAR WARRANTY**



◀ Scan the code with your smart phone & watch the video.

1.800.735.7246 | www.krain.com

K **RAIN**

PIPELINE



Volume 9, Issue 3: Fall 2012

FEATURES

- 12 The Irrigation Show Lands In Florida:
State & National Associations Join Forces for
Innovative Events**
- 14 Proven Profits During the Slow Season:
Add Holiday Decorating & Profits to Your
Irrigation Services**
- 16 Where is the Efficiency in Drip?**
- 28 The Tungsten/Halogen Cycle: Why Voltage is Key**
- 30 A Real No-Brainer? Are Smart Controllers
Viable for Landscape Water Conservation in
Central Florida?**



DEPARTMENTS

- 4 PRESIDENT MESSAGE**
- 6 INDUSTRY NEWS**
- 22 SALES & MARKETING**
- 24 INDUSTRY PROFILE**
- 26 TRIBAL KNOWLEDGE**
- 30 MEMBERSHIP APPLICATION**

Florida Irrigation Society Managing Every Drop

President

Matt Eaton
(904) 733-8720
matt.eaton@northfloridairrigation.com

Vice President

Tom Super
(239) 693-5488
tom@naturesblueprintinc.com

Secretary

Spencer Phillips
(561) 719-8747
sphillips@research-irrigation.com

Treasurer

Jeff Davidson
(813) 671-6865
dlirr@aol.com

Pipeline – Publisher

Lisa A. Wright
Wright Publishing Group, Inc.
726 Pasadena Avenue South
St. Petersburg, FL 33707
(727) 343-5600 ext. 60
lisa@wrightgrp.com

Direct advertising inquiries to:

Joe Sorrentino
Associations Direct, LLC
722 Vassar Street
Orlando, FL 32804
(407) 250-6784
jsorrentino@associations-direct.com

FIS Home Office

722 Vassar Street
Orlando, FL 32804
Office: (813) 839-4601
Fax: (407) 264-8425
administration@fisstate.org

Copyright 2012 © Pipeline Magazine. All rights reserved. Pipeline Magazine is a quarterly publication of the Florida Irrigation Society, located at P.O. Box 13502, Tampa, FL 33681. FIS is not responsible or liable for any errors, omissions or changes in information. Reproduction in whole or part is strictly prohibited.

The Florida Irrigation Society has closed the book on another successful Water Summit Annual Conference thanks to our members, sponsors and instructors. FIS Event Chairman Jeff Snyder and the Southwest Florida Chapter hosted the event, and thank you for your hard work! Plans for the 2013 are underway and thanks to those of you who have provided input as to the location preference. Look for details of next summer's Water Summit very soon.



Matt Eaton

The Society has been extremely busy this year managing multiple projects including the Water Summit Annual Conference, state licensing efforts, producing and implementing statewide educational classes, developing a chapter charter, collaborating with the Irrigation Association to produce one of the best IA shows in recent years and, last but certainly not least, painstakingly vetting and routing a request for proposal, evaluating proposal submissions and selecting an association management company to take over the daily administration of our Society.

Please join us at the IA Show Conference at the Orange County Convention Center November 4-5 and help us welcome the latest addition of our organization, Associations Direct Founding Partner/Strategic Director, Tom Bohn, Executive Director Joe Sorrentino, and Administrator Annette Sanchez. Trust me when I say no one could be happier with the results of the process or to be done with it—whichever came first!

In all seriousness, many of our current board directors have had the good fortune to work with Tom and his team at Associations Direct and feel extremely confident that we are in good hands. We're sure you'll see many improvements within our organization begin to take place quickly.

I would be remiss to not mention several of the board directors and their associates that have worked tirelessly for the past several months to ensure a smooth transition with every aspect of this organization. I could not be more proud to be a part of this current administration and the team effort that has taken place. It has been a privilege and an honor to serve with you.

Since this will probably be my last President's message, I need to say that we have come a long way this year. Hopefully, the Society is now in a better place, however, we still have a long way to go. We need to focus on doing a better job communicating between the state and the individual chapters or sections.

One of the improvements I hope to roll out with Associations Direct immediately is making sure that a state executive board member and one of the Associations Direct employees attend each local chapter at least once within the next few months to further discuss all the goings-on of the organization. It is extremely important to maintain better connectivity to the state organization, and if our members cannot make it to our general membership meetings that occur twice a year or read our various publications, we need to bring the message directly to the chapters.

The relationship between the state and the chapter is a two-way street, whereas the chapters exist solely because of the state organization (which is in place to support its membership). When issues arise, local chapters are encouraged to involve the state to ensure consistency in how the issue is handled. We have taken the first steps to resolving this issue in that we have identified that there is a problem. We have also hired a management company to provide the much needed consistency in communication.

It has been a long time since we've had a large support staff to assist with our efforts and be the sounding board for relaying the information to the proper chairperson/staff, etc. Conversely, we have never had so many obstacles occurring within our industry. So how we deal with these problems has never been so important. Let's embrace the inevitable change that is occurring in our industry and in our organization and continue to make the Florida Irrigation Society a unified voice for all of our constituents.

Please join your Florida Irrigation Society as we host this year's Contractor & Business Reception at the IA Show, November 5, from 3:30 p.m. – 5 p.m. on the tradeshow floor. Hear what your colleagues are doing in the market, meet industry leaders, get first hand explanations of new regulations from officials that create policy, and check out the new products and services manufacturers and distributors are offering. Register now or visit fisstate.org to register. We look forward to seeing you in November!



Tool-Free & Easy To Install!

Innovation from AGRIFIM

NEW! Pressure Regulating **WYE Filter**



- Tool-Free Installation
- 50% Smaller Than Current Solution
- Pressure Regulator Built In

Available in 3/4" and 1"

NEW! Universal Pop-Up Conversion Kit



- 150% Greater Flow Rate than Rain Bird
- Tool Free Assembly
- Installs at Grade
- **Universal** – Fits Most Spray Heads
- Universal Cap Off

Visit www.ndspro.com/agrifim/conversion-kit For a **FREE** Pack of Cap Offs



ndspro.com

Get Involved Locally & Meet Fellow Professionals



Dade/Broward Chapter: This Chapter organized in 1987 is a combination of contractors, distributors, consultants, and manufacturers from the Dade and Broward County area. This Chapter has a strong membership who is active in all aspects of the Florida Irrigation Society.

Northeast Florida Chapter: The Jacksonville Chapter was re-established in late 2004, and was named the Northeast Florida Chapter. This Chapter has strong membership that has become quite active with the Society.

Northwest Florida Chapter: In the 3.5 years since the founding of the chapter, they have maintained a strong core group and grown membership. Members continue to talk about the impending changes coming our way in the state and how important it is to stay informed. Monthly meetings are held on the second Tuesday of every other month.

Palm Beach/Martin Chapter: The Palm Beach/Martin County Chapter was reorganized in 2007 with the assistance of Bob Johnson and Spencer Phillips.

Southwest Florida Chapter: The Southwest Florida Chapter was reorganized in early 2006. This Chapter is diligently working with the cities and counties in their area regarding unlicensed contractor issues and ordinances.

Tampa Bay Chapter: The Tampa Bay Chapter is one of the largest local Chapters of the Florida Irrigation Society. The members of this Chapter have worked hard over the years to provide member services, member training, coordination with local government bodies, and enhanced their value to all citizens in their area. The Tampa Bay Chapter has worked hard and spent much personal time making sure codes are fair, logical, and enforced properly.

Volusia County Chapter: The Volusia County Chapter consists of contractors, consultants, distributors, manufacturers from the Daytona Beach, Port Orange, and local areas. The Chapter is quite active in proposed irrigation ordinances with helping in the setting of guidelines for fair and practical irrigation.

For more information, visit www.fis-state.org or call 813-839-4601.

Signature INTELLIGENCE • INFORMATION • IRRIGATION®
CONTROL SYSTEMS, INC.

GO SOLO!

8014 SoloRain
Battery Operated Controller

- Long life factory installed lithium battery
- 1 minute to 12 hours watering time
- Six watering programs available per day
- Mist cycle available
- SR version allows Rain Sensor
- Adaptors for other brands of valves available.

Made in America

MANUFACTURER	DEALER	WHOLESALE SUPPLIER	REPAIR SERVICE CENTER	OTHER CONTACTS
Signature Control Systems, Inc. 10000 W. US Highway 90 P.O. Box 10000 Tampa, FL 33610 Tel: 813-839-4601 www.fis-state.org	Signature Control Systems, Inc. 10000 W. US Highway 90 P.O. Box 10000 Tampa, FL 33610 Tel: 813-839-4601 www.fis-state.org	Signature Control Systems, Inc. 10000 W. US Highway 90 P.O. Box 10000 Tampa, FL 33610 Tel: 813-839-4601 www.fis-state.org	Signature Control Systems, Inc. 10000 W. US Highway 90 P.O. Box 10000 Tampa, FL 33610 Tel: 813-839-4601 www.fis-state.org	Signature Control Systems, Inc. 10000 W. US Highway 90 P.O. Box 10000 Tampa, FL 33610 Tel: 813-839-4601 www.fis-state.org

Grow your business with Smart Irrigation Products!

The green movement is growing stronger every day and is having an impact on the irrigation market. Demand is growing for irrigation retrofits to Smart Irrigation systems, plus improved agronomic demands and service offerings. Help your customers realize the environmental and economical benefits of having a water-smart landscape. With all the smart irrigation supplies and additional tools you might need, John Deere Landscapes is uniquely positioned to meet all of your water saving needs.

- Smart Irrigation Products
- Mulches and Soil Amendments
- Agronomic Products such as Moisture Manager
- Soil Testing
- Drought-Tolerant Plants
- EPA WaterSense Labeled Irrigation Controllers

Many municipal water providers are now offering rebates to homeowners and HOA's for Smart Irrigation products and drought tolerant landscapes. We have an extensive listing of available rebates on our web site at www.JohnDeereLandscapes.com. Be sure to check it out, and give us a call with all of your water-smart landscape questions or email us at SmartIrrigation@JohnDeereLandscapes.com.



JOHN DEERE
LANDSCAPES

800-347-4272
www.JohnDeereLandscapes.com

Northeast Chapter Fishing Tournament



Triple Challenge Tournament

The Creek Wars Triple Challenge Fishing Tournament will be held on

October 13 at the Jim King Park and Boat Ramp at Sisters Creek Marina in Jacksonville. Proceeds will benefit the Wolfson Children's Hospital and the Guy Harvey Ocean Foundation. A mandatory Captains Meeting will be held at Strike-Zone Fishing (courtyard) on Oct. 12 from 6:00 to 8:30 p.m.

Register on-line or at select business locations. Sponsors for the tournament, to name a few, are Champion Brands Inc., Rowe's IGA Stores and Strike-Zone Fishing. For more information, registration and sponsorship opportunities contact Kirk Wurster 904-483-6212 or visit our website www.creekwars.com.

Got Irrigation News? Our editorial staff would love to hear from you. Please send your press releases and photos from the field to FIS@wrightgrp.com. We are always looking for ideas, suggestions, photos and authors!

**Dependable.
Knowledgeable.
Professional.**

- IRRIGATION
- TURF PRODUCTS
- OUTDOOR LIGHTING
- DRAINAGE
- FOUNTAINS & PONDS
- SEPTIC
- PUMPS

SINCE 1972

**A Personal Approach to your
Business & your Success**

CENTRAL
PUMP & SUPPLY, Inc.

[321] 576-0565 www.centralpump.net

Help Homeowners Reduce Pollution



The Florida Yards & Neighborhoods Program was developed to address serious problems of pollution and disappearing habitats by enlisting homeowners in the battle to save our natural environment. This program provides special educational and outreach activities directed at the community to help residents reduce pollution and enhance their environment by improving home and landscape management. Learn more at www.floridayards.org.



Add Profitable Holiday Decorating To Your Services

North Florida Irrigation Equipment Can Help You Get Started Fast:

- Training and marketing support – no franchise fee or minimums.
- Best products: standard lights, energy-efficient LEDs, wreaths, trees, yard art and more.
- Buy locally, as you need it for your jobs.
- Sells easily to your existing clients – residential & commercial.

Call us or visit www.NorthFloridaIrrigation.com for details

Jacksonville

904.733.8720

St. Augustine

904.797.2923



NORTH FLORIDA
IRRIGATION EQUIPMENT
INC.



 SEASONAL
SOURCE

Florida Water Summit Unites Irrigators

If water is your business, the 2012 "all new and improved Florida Water Summit" offered something for you. Held at the beautiful Sanibel Harbor Resort in Fort Myers, the conference covered a wide array of important issues facing today's irrigation industry, from sales and marketing to customer service and social media.

As the name suggests, this year's event presented attendees with new and exciting resources, including two full days of educational tracks that featured nationally recognized presenters. Jim Huston led off the management track sponsored by K Rain, giving great advice on how to capture business expenses and successfully estimate work in a down economy.

The second day of the management track featured Jeff Carowitz, who shared revolutionary ideas on how to use social media as an inexpensive way to market a company and create a buzz. Kevin Dougherty with Florida-based Kevlar Consulting gave an energetic presentation on time management and customer service sponsored by John Deere Land-

scape. In a fun exercise, seminar participants took turns role-playing as difficult customers and learned how to defuse anger to make the conversation productive.

Nearly two dozen industry professionals joined Kurt Thompson for his two-day class sponsored by FIS Outdoor to prepare for the Irrigation Association's Certified Landscape Irrigation Auditor exam. This and other IA certifications are an excellent way to differentiate you and your company from the sea of service providers.

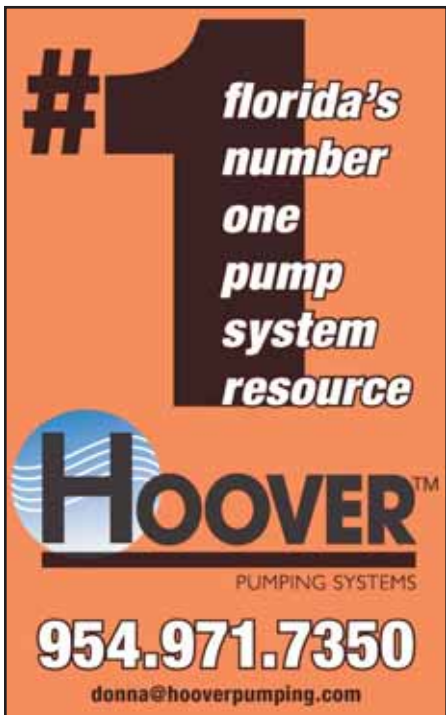
A special thanks goes out to the Southwest Florida Chapter for hosting the event. Southwest Florida and Tampa Bay Chapters invited attendees and their families to barbeque on the Sanibel Causeway. Face painting and games for kids and adults were part of the event, as was finger licking good food.

In all, the event was very successful and attracted more than double the attendees of the 2011 conference. Mark your calendars now to attend next year's event, scheduled for July 31 to August 3, 2013.

FIS Leaders Named for 2013

The Florida Irrigation Society Board of Directors is pleased to announce the nominees for the 2013 Executive Officers: **President** Tom Super (of Nature's Blueprint in Fort Myers); **Vice President** Spencer Phillips (of Research Irrigation in Medley); **Secretary** Andy Voelz (of Toro/Irritrol based in Bradenton); **Treasurer** Jeff Davidson (of Davidson Landscape & Irrigation in Valrico). Connect with them online at www.fisstate.org/boardofdirectors.html.


Florida Irrigation Society Managing Every Drop™



#1 *florida's number one pump system resource*

HOOVER™
PUMPING SYSTEMS

954.971.7350
donna@hooverpumping.com



To all our members, volunteers, exhibitors,
sponsors and attendees for making the
Florida Water Summit 2012 a success...

Thank you.

We'll see you **next Summer!**

For all the latest news and updates about next year's
Florida Water Summit, visit www.fisstate.org

**Florida Irrigation
Society** Managing Every Drop



The Irrigation Show Lands in Florida:

State & National Associations Join Forces for Innovative Events

The Irrigation Show hosted by the Irrigation Association has long been the highlight of the year for the irrigation industry worldwide. It historically draws thousands of agriculture, turf and golf irrigation professionals seeking to learn about the newest technology, add certification credentials and attend the industry's leading educational courses and seminars.

Over the years, the event has grown to include allied associations and industries such as landscape lighting and water gardening. At this year's Irrigation Show in Orlando, FL, from November 2-6, at the Orange County Convention Center, the Florida Irrigation Society is joining forces with the Irrigation Association to add some unique events that are sure to add value to the experience for both the attendees and exhibitors alike. Look for time, location and details of all the events in the IA Show Guide when you arrive.

The Job & Career Fair

This will be held on Monday, November 5 from 11 am to 2 pm at the Irrigation Show. The fair is focusing on attracting and placing skilled applicants with landscape and irrigation industry




employers such as manufacturers, wholesale & retail distribution, installation & service contractors, resorts & theme parks, municipalities, plant & nursery growers, and agribusiness. Other partners in the fair are the Florida Nursery, Grower and Landscape Association (FNGLA), along with the state-supported workforce assistance agencies Employ Florida, and Employ Florida Vets.

Additionally, there will be leading educational providers and colleges that offer professional development courses, as well as two-year and four-year degrees in horticulture, irrigation and agriculture, including the IA Education Foundation, IA certification programs, as well as the FNGLA certification programs. This is the first of what the IA hopes to be a regular event at the Irrigation Show. It is free to both prospective employees and recruiters, and includes a badge to attend the Irrigation Show for that day. Register for the fair at www.fisstate.org today! See more about the Irrigation Show at www.irrigation.org.

FIS Florida Contractor & Irrigation Business Reception

This is a special event sponsored by the FIS members for all Florida contractors and irrigation businesses attending the Irrigation Show on Monday, November 5, from 3:30 pm until 5:00 pm on the tradeshow floor. Meet and mingle with the Florida business people working for a better irrigation industry, share your views and needs with other irrigation business professionals or just enjoy the refreshments, food and fun. There will be a prize drawing during the event for those in attendance. Tickets will be available at



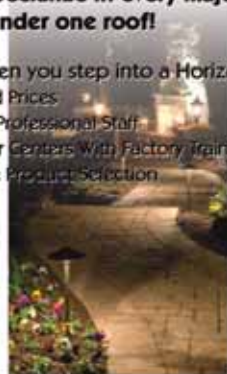
the tradeshow booths of all Florida business exhibiting at the Irrigation Show, as well as the FIS, FNGLA and IA booths. 

Your One Stop Shop For Everything Landscape.

At Horizon, we specialize in every major area of your business— and we do it all under one roof!

Expect the best when you step into a Horizon store:

- Great Service and Prices
- Knowledgeable, Professional Staff
- Full Service Repair Centers With Factory Trained Mechanics
- Contractor-Grade Product Selection



ation | specialty | landscape | equipment | irrigation | specialty | landscape | equipmer



Your local Horizon stores:

Boynton Beach 561.533.1441 | Ft. Pierce 772.465.1966
Stuart 772.287.9905 | Lake Park 561.863.5580

**Horizon**
The Edge You Need

Scan the QR code, call us or visit us at HorizonOnline.com to learn more.

PROVEN PROFIT\$ DURING THE SLOW SEASON:

By **Wayne Wheeler**, General Manager,
Seasonal Source



**Add Holiday Decorating
& Profits to Your
Irrigation Services**

Holiday decorating is one of the fastest growing professional services offered by irrigation contractors according to several national trade publications. Demographic trends like an aging population, two-income career families and a desire for a hassle-free lifestyle have driven the demand for professional decorating services at residential, commercial and institutional sites. Why have leading irrigation contractors decided to pursue this new service?

Just a handful of holiday decorating installations can provide a significant boost to your cash flow and profits during the traditional slow months of November and December. Holiday decorating helps you keep your crew busy and recover overhead costs when jobs are scarce. Plus, it's a great way to keep in touch with your valued customers.

Holiday decorating services include installation, removal and storage. These are needed every year. Business owners rely on holiday decorations to bring in Christmas shoppers, so they decorate regardless of the economy. Upper-income homeowners and the elderly appreciate hassle-free decorating that saves time and effort. Once customers purchase professional holiday decorating services, they become repeat buyers, season after season.

Manufacturers make it easy to get started in holiday decorating. Many of them supply complimentary marketing materials, training classes and field support from professional distributors. With support from local wholesalers, there is no longer a need to purchase a franchise to add holiday decorating to your service offering.

Learn how easy it can be to add this in-demand service to your offering and do your first project or two this holiday season. You'll quickly find that this is a great fit for your irrigation business.

To watch how-to video tutorials on how to install holiday lighting, plan power supplies and wiring, please visit <http://seasonalsource.com/topic/13-how-to-video-tutorials.aspx>. Seasonal Source is a manufacturer of holiday dec-



orating supplies for professional installers and products are sold through irrigation wholesale distributors. 💧

CONTRACTOR TIPS:

Tip #1: Remember, water always flows downhill, so be careful with extension cords running from the roofline! A cord that runs down to the outlet can welcome water, which will cause the GFI to trip. The trick: loop the cord at the roofline or downhill before entering the outlet-water never flows up hill!

Tip #2: When hanging a wreath, make sure you anchor it from two positions so the wind doesn't blow it back and forth and put marks on the house.

Tip #3: Did you know you can mount a lighted wreath on a front door by running your small 18g lamp cord up the inside of the weather stripping on the hinge side of the door? Works great!



Where is the Efficiency in DRIIP?

By **Kurt K. Thompson**, Owner, K. Thompson & Associates, LLC

Where is the efficiency in drip? What kind of question is that? Of course drip irrigation is efficient! At least that is the universally held belief. It is an accepted and proven fact that drip emitters are the most uniform means of applying water in the landscape – 20% to 50% better than any overhead sprinkler. So how could anyone doubt the efficiency of drip irrigation?

Let's begin the investigation by defining "efficiency". To paraphrase a number of "official" definitions, efficiency can be described as:

The percentage of the total amount of water that is metered which goes to the beneficial use of the plant.

For example, if an irrigation zone was operated long enough to put out 300 gallons as metered at the source, what percentage of those 300 gallons went to the beneficial use of the plant? In order for it to benefit the plant, it must go where the roots are present and not beyond, and only in an amount that the soil can hold within that root zone (depth & width).

A strange thing about efficiency: It is impossible to actually measure in the field because of where the water goes if not just to the root zone – pipe or tubing leaks, evaporation, runoff, water that goes where there are no roots (below the roots, sidewalks, leaf surfaces), etc.. Because of this, the only way to approach achieving a higher efficiency is to avoid the things that adversely affect this theoretical measurement, and implement the more positive factors.

The factors that affect efficiency can be grouped into three categories:

- Uniformity – Optimum pressure, spacing, and flow
- Management – Proper timing for soil and plants
- Maintenance – Keep it working like originally installed

UNIFORMITY

To understand the first factor of efficiency, we need to examine the three elements that affect uniformity – Pressure, Spacing, and Flow. The closer all three are to "optimum", the higher the uniformity. This leads to the question: "Who establishes what is optimum pressure, spacing, or flow of any sprinkler or emitter?" Answer:

The manufacturer of each specific device. (Note the term optimum is used and not "perfect", "correct", "proper", etc. because optimum is not an absolute. Optimum can vary by product type and the application.) If any one of the three elements of uniformity is

affected, the other two are affected. This relationship is represented as the Uniformity Triangle (Fig. 1).

The first element of uniformity is the operating pressure of the emitter or sprinkler. Because the generally accepted practice for drip in landscape is to use pressure compensating emitters and/or a pressure regulator at the zone valve, the pressure at the drip emitter is typically optimum. Without either or both methods of pressure control, the uniformity of the emitters can be considerably diminished.

The second element of uniformity is the flow of the emitters. This is the rate in which the emitters apply the water. For drip, the unit of measure for flow is gallons per hour (GPH). This means the flow rate of drip emitters (and micro

Fig. 1

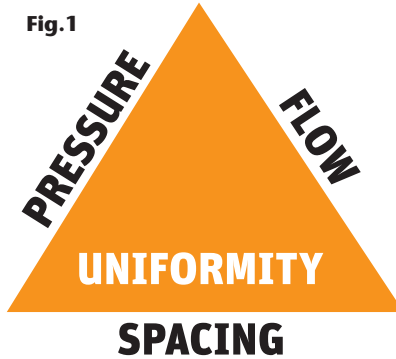
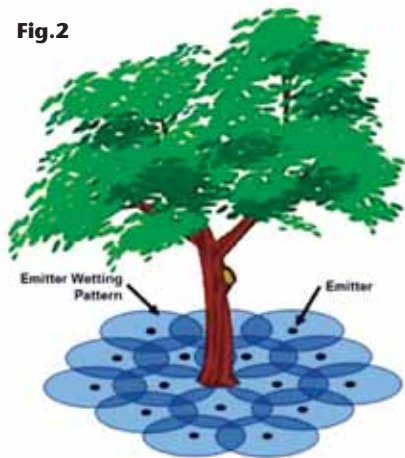


Fig.2



sprays) can be one-sixtieth of the flow rate of sprays and rotors (GPM). This leads to the common misconception that the precipitation rate of drip is also much lower than rotors or sprays. (This will be discussed later in the article.)

The flow of a drip emitter, like a sprinkler nozzle, is determined by the manufacturer. Emitter flow rates commonly used in the landscape are 0.5 GPH, 1 GPM, and 2 GPH. In actuality, even though the emitter is called a 1 GPM emitter, the flow rate might be slightly different such as 0.6 or 0.9 GPH. Be sure to look at the literature for the specific brand and model of emitter when designing a system or calculating runtimes.

Selecting an emitter that is appropriate for the operating pressure and spacing affects the uniformity. But having the appropriate flow per emitter AND total number of emitters to supply an adequate amount of water to each plant type within the drip zone is a major driver of efficiency in drip.

For example, a typical landscape bed will have a number of different types of plants. Each type will probably have a different height and width at maturity, as well as different growth rates. In addition to these variables, the same landscape bed probably has plants with different soil moisture conditions in which they thrive.

Some prefer drier soils, and some prefer wetter soils, but all being watered on the same irrigation (drip) zone.

To achieve the highest efficiency, each of these variables affecting the water need of the different plants within the zone should be satisfied. The size and number of emitters per plant will have to be adjusted to deliver as close to optimum soil moisture as possible to be considered efficient. This will require an understanding of the plant's water needs. A good general source for this information for the state of Florida is the Florida Water StarSM Waterwise plant data base (<http://publicserver2.sjrwmd.com/waterwise/search.jsp>).

The third element of uniformity is spacing. In terms of uniformity, it is important to space the emitters so that the wetting patterns overlap much like the spray patterns of over-head sprinklers, as shown in Fig. 2. To get the best uniformity, the spacing should be optimum for the pressure, flow, and soil type. Many manufacturers have data on the size of the wetting pattern based on these variables.

For efficiency, it is as much about where the emitters are not covering as much as where they are. The emitters should be placed to deliver water to the soil where the roots are (or will be) and avoid placing emitters where there will not be any roots. Watering soil without roots is as efficient as watering the sidewalk. When using in-line emitter tubing, particular attention should be paid to avoid this significant inefficiency. Unnecessary soil moisture also promotes weed growth.

Uniformity plays a crucial role in the overall drip zone efficiency. The closer each of the three elements is to optimum, the better the uniformity. While optimum pressure and flow are relatively simple to achieve, the optimum spacing and adequate soil moisture for each plant type within a zone can be the

more problematic to achieve acceptable uniformity and efficiency.

The saving grace for balancing uniformity with efficiency may be the fact that landscape plants, for the most part, are pretty forgiving when it comes to precise placement of water. Shrubs, trees, and ground cover have much larger root zones in relationship to the size of the plant than a turf-grass plant. In other words, once established, landscape plants have a larger water-receiving “antenna” to pick up water.

(Author’s Note: It is highly recommended that a formal drip irrigation training course is taken to learn the essentials of designing a system with drip.)

MANAGEMENT

The second factor affecting efficiency of drip irrigation is the management of the system. This is another term for the scheduling of the water – run time and frequency. Obviously, the most uniform drip installation will not be very efficient if the water is not properly scheduled. For example, after a sufficient rainfall, none of the water applied by the irrigation system will benefit the plants because the soil is already full of water. Likewise, if the irrigation system is scheduled to apply more water into the soil than it can hold, the water is not being used efficiently.

One key reason for poor scheduling of drip zones is the misperception that because the emitters are applying water in gallons per hour (as opposed to gallons per minute), drip zones must be applying the water at a low precipitation rate. In a typical zone of spray sprinklers, the precipitation rate is 1.50 to 1.75 inches per hour. For rotor zones, it is 0.35 to 0.75 inches per hour. For drip zones, it is between 1.00 and 1.50 inches per hour!

It is essential to know the precipitation rate of any irrigation zone before calculating a run time. There are two

formulas that can be used to calculate the precipitation rate for a dip zone:

For single or multiple emitter wetting pattern or total drip area:

$$PR = 1.605 \times Q_{gph} A$$

WHERE

PR = precipitation rate {inches per hour}

Q_{gph} = flow rate {gallons per hour}

A = area {square feet}

1.605 = constant

For in-line emitter tubing:

$$PR = 231.1 \times Q_{gph} Sei \times Sli$$

WHERE

PR = precipitation rate {inches per hour}

Q_{gph} = flow rate {gallons per hour}

Sei = emitter spacing {inches}

Sli = tubing spacing {inches}

231.1 = constant

For single or multiple emitter wetting pattern or total drip area:

As an example of using a calculate PR to figure a schedule, assume a drip zone has emitters spaced at 12” x 12” and the emitters have a flow rate of 0.9 gph. Then the precipitation rate is:

$$PR = 231.1 \times 0.9 \text{ gph} 12'' \times 12'' = 207.99144 = 1.444 \oplus 1.44 \text{ in./hr.}$$

If the weekly irrigation water need for the zone is 0.75 inches per week. Then the run time is:

$$\text{Run Time} = 0.75 \text{ in./wk.} 1.44 \text{ in./hr.} \times 60 = 0.521 \times 60 = 31.26 \oplus 32 \text{ minutes per week}$$

If the regulations allows for 2 days per week, then this zone would be



scheduled to operate 2 start times per week for 16 minutes per start time to deliver 0.75 inches of water. If this same irrigation zone were scheduled using the typical misconception of a low precipitation rate, it might have 60 minutes of run time per week, or more! This would mean that at least half of the water would be wasted, crucifying the efficiency. **SCHEDULING REMINDER** - The weekly water need changes as the plant material grows AND with every month of the growing season!

MAINTENANCE

The third factor of efficiency is often the most regularly forgotten. The maintenance of a drip irrigation zone is vitally important to keep the equipment operating as it was when first installed. The biggest obstacle to performing regular maintenance on a drip zone is that it is hidden under the mulch. This makes most leaks or broken components invisible.

In practical terms, there are few methods or techniques that are effective in determining if the drip is functioning properly, short of watching for plant stress. One method that has reasonable efficacy is the practice of installing a pop-up micro spray at the distant ends of the drip tubing. This will allow the system to be identified as “on” and could provide some hints as to the integrity of the equipment because as the tubing gets holes in it, or emitters are broken off or plugged, the pressure at the pop-up micro sprays would be


observed as having changed. Otherwise, the only alternative method to observing pressure changes would be to locate the ends of the tubing lines and insert a pitot tube with a pressure gauge into the tubing. This would require marking the ends to they could be found every year.

In Florida and most of the eastern United States, the most accepted method of plant selection is based upon the concept of “the right plant in the right place”. When the right shrubs are planted in the right place, they become established after one full season and right trees in the right place become established in two seasons.

With the exception of annuals and a few plant species, a “normal” seasonal rainfall will supply enough water to established plants without additional irrigation. Unfortunately, “normal” is not necessarily typical when it come to the weather. This makes the purpose of drip zones to not only establish the plants, but to provide a “backup system” for drought emergencies.

In terms of being the most efficient with drip irrigation, it should be turned off once the plants are established and only turned on when drought conditions persist. If plants are not the exception (annuals and a few species), or there is not a drought, then operating drip on established plants is the same as watering the driveway – no plants are benefitted by the water.

Drip can be the most efficient irrigation method. But without optimizing these five ingredients, drip will be the most inefficient method:

- 1 Optimum pressure, flow, and spacing
- 2 Adequate size and number of emitters per plant type within a drip zone
- 3 Deliberate schedule calculation and adjustment
- 4 Regularly scheduled maintenance and observation 

Watch the Rain Bird® RD1800™ take on the competition at
www.rainbird.com/RD1800



Surviving where
others crumble.
That's intelligent.



The new Rain Bird® RD1800™—a spray head tough enough for your most challenging landscapes.

It's a muck-filled, chlorine-treated, bacteria-infested jungle out there. Good thing the RD1800 is no ordinary spray. Its exclusive Triple-Blade Wiper Seal prevents stick-ups. Its innovative design handles the thickest grit and most dramatic pressure variations with ease. Exclusive Flow-Shield™ Technology helps you identify and solve problems faster. Surviving the world's filthiest environments. That's The Intelligent Use of Water.™



Get the new Rain Bird Landscape Irrigation Catalog app. Available on the Android Market and iTunes Store.



RAIN BIRD.

ONLINE APPEAL: HOW DOES YOUR COMPANY RATE?

By Jeff Carowitz, Strategic Force Marketing



There's no question that homeowners are increasingly turning to the Internet for information to identify contractors to complete projects. Ratings and review sites like Angie's List, CitySearch, Yelp and Google Reviews are making available a whole new set of information on companies and their products. They're also putting increased power in the hands of consumers to make complaints, praise excellent service or vent their anger.

In the good old days, often the best path to hiring a qualified professional was through a referral from a friend or neighbor. But, what if your friends and neighbors didn't have a good contractor to recommend? Now many turn to the Internet for a wealth of information.

Do you know about rating sites like Angie's List? It's a paid service available that homeowners can join for a

monthly fee that connects them to real-life reviews of service providers based on their actual experiences. Customers can read reviews and learn about contractors from others like themselves. According to the Nielsen Company, consumers place almost as much trust in these online reviews (70% trust) as they do in referrals from their friends (90% trust). You can see why Angie's List is growing so fast!

Your company is probably already on several of these rating and review sites, either because you've started a listing or because a customer has done it for you. You want to be aware and engaged with what clients are saying about you in the on-line world. If your company shines on these forums, it can be a path to steady calls from high-value customers.

Here's a quick guide to leveraging review and rating sites:

- Know where you stand. Check to see whether you're on Angie's List, Yelp, CitySearch and check your reviews associated with your Google Places profile. Read what customers are saying about you and verify that the details (phone number, address, etc.) of your listing are correct. Note that if you're not yet listed on Angie's List, you can submit your company information (but not a review) through Angie's List Company Connect. Most reviews are usually positive, but those that aren't can help you address past mistakes and/or make improvements in your services. In some cases, you may be able to make amends with an upset customer and get them to reconsider their negative comments.
- Encourage satisfied customers to write reviews. Include a message on the comment cards you include with your invoices to encourage cus-

tomers to share their positive thoughts with others. Be sure to mention how easy it is for them to post a Google review or to share feedback on Angie's List. Let them know how important their feedback will be to the community and how valuable it will be for your continued success. You can never have too many good reviews.

Once your company has amassed a plethora of positive reviews on-line, you'll find two things will happen that will put you ahead of the crowd. First, the top-rated contractors get the phone calls. The better your rating, the better you will do. Second, you can encourage potential clients to read all of the positive comments your company has received. What better way for them to know they'll get great service? 💧

Jeff Carowitz is the leading marketing consultant to the landscape irrigation industry. Reach him at Jeff@StrategicForceMarketing.com



30+ Branch Locations!
100 Delivery Trucks!
Huge Inventory!
Great Service!
Great Pricing!



FIRST IN SERVICE



All Your Outdoor Product Needs in One Place

IRRIGATION 	LIGHTING 	EQUIPMENT 
CHEMICALS 	FERTILIZER 	MULCH 
PUMPS 	TOOLS 	GOLF 

www.fisoutdoor.com **1-877-FIS-1NOW**

EXPERIENCE MATTERS



Bill has been married to his wife, Jan, for 43 years and has two daughters, three granddaughters that all live in Florida.

“You don’t know where you’re going until you know where you’ve been,” is a catch phrase that might just apply to FIS member Bill Hagen of Hagen Irrigation, Inc. in Altamonte Springs, FL. As one of longest active members at the state level --- over 40 years – Bill is always supportive, shows up at legislature meetings and truly cares about the people and profession of irrigation.

How and when did you get your start in the irrigation industry?

Started as a plumber in the Air Force in Atlanta in 1970; my technical title was aerospace pipe technician. After the military, I went to work for a Toro distributor.

How has the FIS evolved since you joined in the 1970s and how has it benefited you?

When I joined FIS, it was almost all agriculture and now it is almost all turf irrigation. There are more educational programs and written standards. The Society has also benefited me by giving me a chance to interact and network with other contractors... it’s nice to be able to bounce questions and ideas around with other irrigators.

Where do you see the future of our industry?

More consolidations of companies offering both landscape and landscape maintenance as well as irrigation. There is room for smaller companies that focus on irrigation as its core offering. I see

the need for more training to keep up with the available technology and water conservation, smart controllers, water conserving devices and proper design will continue to drive the industry.

What industry-related event are you most proud of?

I was instrumental in forming the first irrigation group in central Florida, which later became the Central Florida Chapter of FIS, the first chapter of the state organization. I had the chance to lead in movement towards back flow certifications and proper application utilizing the necessary equipment.

What is the one thing about you that most people may be surprised to know?

I used to be an avid off road enthusiast, owning a Jeep and was a member of off-roading clubs. The “signature look” of my wearing red suspenders started about 20 years ago....I’m easy to pick out of the room. 💧

Excel... Not just a brand name, a definition!



EXCEL™ CV SERIES

Pressure Compensating Dripline

- Available in .6 and 1 GPH
- Dow FINGERPRINT™ 7510 materials
- Improved bending radius - kink resistant
- Two outlets per emitter ensure better performance with a reduced chance of clogging
- Meets most "equal to" specifications

RELIABILITY

When it comes to dripline you want a product that is dependable, durable and an excellent value. The DIG Excel™ dripline's pressure compensating emitters provide consistent, steady flow through varying elevations. In addition each emitter has a built in check valve preventing low head drainage. Excel™ dripline easily conforms to irregular shaped areas and is ideal for above and below grade installations.



Visit us at: www.digcorp.com or call
800-322-9146 for more information





\$ELLING IS NOT HARD

By Kevin Colesworthy

Are your service calls structured in a way that encourages your client to spend a little more money? If you'll take a few extra minutes to assess the entire system, you can find a number of things that need improvement. Remember, it doesn't have to be broken to be replaced or upgraded! Controllers, sprinklers, nozzles and rain sensors have an effective life span and you can improve their equipment for a few dollars more rather than simply replacing it. Practice your presentations for every possible component.

"I can hang the same controller but, with the advancements in products, I'll set you up with a timer that's designed to address our water shortages and

restrictions. The price difference can be replaced by the savings on your water bill in less than year."

"I took a minute to run through your landscape lighting while my guys finished up. You have several lamps that are burned out. Did you know that I can replace them all with LED lamps that not only last longer but save electricity?"

Consider making a list of the things you see. Just like the car repair shop, go over the list and schedule future work if they aren't willing

to do it all at once. Don't wait for them to call you.

Follow up in a reasonable amount of time and you get more business. Making a sale is better than writing a ticket. It's the fastest way to grow! 💧



BUILDING MY REPUTATION WITH NETAFIM



"With water rates rising, clients are looking for new solutions. We recently converted ¼ acre of turf from overhead sprinklers to Netafim dripline. The client saw nearly 40% savings in water costs per month. We're installing Netafim in lawns, landscapes and large commercial sites. It's the fastest-growing segment of our business."

Wayne Nolan
Nolan Plumbing and Irrigation
Jacksonville, Florida



Expand Your Business with Netafim
Reliable, Water Efficient, Easy to Install



THE TUNGSTEN/ HALOGEN CYCLE: Why Voltage is Key

By Steve Parrott, CAST Lighting



Before we get into the somewhat complex technical discussion, rest assured that this is not unlike a game of tennis. If you can wade through the science, I'll reward you with the tennis at the end. Let me introduce you to the "Tungsten/Halogen Regenerative Cycle".

Tungsten halogen lamps get their name from the metal tungsten that's used for the filament wire and the halogen gas (actually iodine, bromine or a combination) that surrounds it. As a current passes through the wire, it heats up, the tungsten atoms vibrate wildly and electrons and photons are released creating light. Without the halogen gas, these excited tungsten atoms would quickly evaporate making the filament wire thinner and thinner until it couldn't handle the current and breaks.

Also, (without the halogen gas) the evaporating tungsten atoms would deposit on the inner walls of the lamp, blackening them and reducing the light output.

The presence of halogen (very reactive gases) slows both the evaporation of tungsten atoms and the blackening of the walls. It does this in a very clever way. When the tungsten atoms leave the filament they react with the halogen in a cooler area of the lamp and form a gaseous tungsten/halogen compound. This compound floats around inside the lamp until it eventually reaches the hot filament and deposits the tungsten metal there, thus extending its life. This is the Tungsten/Halogen Regenerative Cycle.

This cycle is very much dependent on temperature. The halogen only picks up the tungsten in a certain low temperature range. And, it deposits it in a certain high temperature range. If the temperature (directly related to voltage) goes too high then the halogen gas won't react with tungsten and the tungsten will deposit on the glass and the filament becomes thinner. If the temperature goes too low then the halogen picks up the tungsten but won't deposit

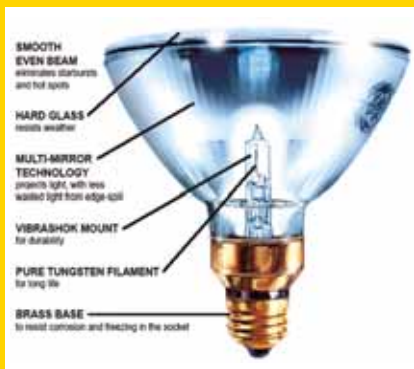
it, instead it (the gaseous compound) condenses on the glass and the filament becomes thinner. In both cases the lamp life is reduced.

Now for the tennis, imagine Joe Tungsten with a bucket of tennis balls, hitting them across the net to Jim Halogen. This back and forth hitting can go for a long time as long as Jim can comfortably run back and forth hitting the balls. If the air temperature drops, Jim's hands are freezing and he can't hit the ball. If the temperature goes too high, Jim drops from

exhaustion and the balls sail past. In both cases, the bucket quickly empties. In the same way, halogen gases have a certain ideal temperature range where they work well. And the temperature is determined by the voltage.

To summarize, both high and low

voltages reduce lamp life. If you don't have one already, I suggest you invest in a good voltmeter! Most voltmeters, even the expensive ones, are calibrated in the factory to have their greatest accuracy in the 120-volt range. In the low voltage range, these voltmeters could be off by as much as one half a volt. The CAST Volt/Amp Meter (Model CMETER) is calibrated for greatest accuracy in the 12-volt range. If your jobs are plagued by short lamp life, incorrect voltage measurement could be the cause. 🌟



A REAL NO-BRAINER?

Are Smart Controllers Viable for Landscape Water Conservation in Central Florida?

By **Michael D. Dukes**, Ph.D. P.E. and **Stacia L. Davis**, M.E. E.I.T.

Smart irrigation controller technologies are becoming more popular in Florida. Due to increasing popularity, it is important to determine if these technologies can be implemented widely in Florida to provide reductions in potable water demand while maintaining good quality landscapes.

Two types of smart controllers, the ESP-SMT (Rain Bird, Azusa, CA) ET controller and the Watertec S100 (Baseline, Inc., Meridian, ID) soil moisture sensor (SMS) were studied to determine whether they can reduce irrigation application of high water users located in unincorporated Orange County. All participants were customers of Orange County Utilities, which services unincorporated Orange County.

The ESP-SMT directly measures temperature and relative humidity to estimate evapotranspiration (ET) and measures rainfall using a tipping bucket rain gauge (Fig. 1). In combination with individualized programming of landscape characteristics for each zone, irrigation is scheduled based on ET and rainfall. The Watertec S100 measures volumetric water content through time-domain-



Fig. 1: The components of a Rain Bird ESP-SMT include A) the irrigation controller that replaces the timer and B) an independent weather station that replaces the rain sensor (still pictured) on the roof eave.

transmissometry (TDT) technology (Fig. 2). This technology uses the electrical properties of the soil, water air system to determine moisture content since in

most soils water is the dominant component that determines electrical resistance. The sensor bypasses scheduled irrigation events when the measured soil moisture is greater than the threshold.

The study design includes five treatments where four treatments received one of the smart technologies and exemptions from watering restrictions. The final treatment is a "typical" irrigation system and landscape. All homes have dedicated irrigation meters.

Half of the participants receiving smart technologies also participated in an on-site training session that included programming optimization and supplementary educational materials. For the ET controllers, general programming changes made during the on-site visit included limiting irrigation to three days per week and customizing application rates and plant types. The on-site training session for SMS involved updating timer settings to apply 0.25 inches of irrigation, twice per day, three days per week, unless bypassed by the sensor. Additionally, the installer was asked to bury the sensor by inserting into the soil column at a 3-inch depth for all cooperators selected to receive the on-site visit. Those with SMS but did not receive an on-site visit were installed using the contractor-selected methodology that included loosely packing the soil around the sensor in a hole at a 6 inch depth (Fig. 3).

Potential cooperators for this study included customers with excessive irrigation. High irrigation users within unincorporated Orange County were target-

ed by comparing their monthly historical irrigation, based on 2003 to 2009 billing data, to estimated gross irrigation requirements. Homeowners with ratios of irrigation to the estimated requirement greater than 1.5 (i.e. 50% more irrigation than necessary) and less than 4 narrowed recruitment to customers with habitual over-irrigation while eliminating outliers with extenuating circumstances (ratio > 4).

Out of the 843 respondents to the sign-up questionnaire, homeowners were immediately removed as potential participants if they did not have an automatic irrigation system using the potable water supply. Additional requirements included owning the home for more than two years and being a year-round resident. Additionally, some homeowners chose to be removed from the study due to misunderstanding the program or commitment requirements of the study.



Fig. 2: The Baseline Watertec S100 soil moisture sensor was buried in the ground and the sensor controller was added to the current timer to bypass irrigation events when the soil was too wet.



Fig. 3: The Baseline Watertec S100 soil moisture sensor was buried in a trench at a 6 inch depth chosen by the irrigation contractor.

From the remaining respondents still eligible, potential cooperators were grouped to facilitate site visits and to avoid weather variability which could occur with sites too far from one another. Irrigation evaluations were performed to determine current timer schedules, any problems with the systems, and irrigated areas for more accurate predicted irrigation ratios. Potential cooperators were removed if they had a major problem or multiple minor problems with the irrigation system. Minor problems included issues that produce low volume losses such as sprinkler leaks or clogs whereas major problems included issues that produce high volume losses, faulty wiring, or solenoid problems.

Cooperators were selected from within nine location clusters in Orange County where six locations were predominantly flatwoods soils and the remaining three locations were considered sandy soils. The six flatwoods locations contained all five treatments replicated four times totaling twenty cooperators per location. Not enough cooperators were available in the sandy soil locations resulting in modified treatments. At two locations, the technology treatments without the on-site visit were removed leaving two treatments that each received technologies and on-site visits and the monitored only group. One sandy soil location had enough cooperators for all treatments, but the monitored only group had three replications instead of four. Overall, there were

a total of 167 cooperators and treatments were installed from 23 March 2011 through 23 February 2012.

Of the 291 evaluated homes, the average number of zones per home was 4.4 and the average area per zone was 1,050 ft². A majority of the potential cooperators follow the day of the week watering restrictions with a maximum of 10% in violation at any one location. This suggests that following watering restrictions is important to homeowners in unincorporated Orange County.

There were a total of 424 minor problems and 61 major problems found across all 291 evaluated homes (see Table 1). Though there were some homes that did not have any problems, many homes had multiple minor problems indicating maintenance neglect. Common locations for minor problems were along high traffic areas like the roadway, sidewalk, and driveway.

Though there were fewer major problems, most homes that had a major problem also had multiple minor problems. Potential cooperators that had major and minor problems and were reluctant to fix them or the problems were long term issues were removed from the study. Potential cooperators that had multiple minor problems but had good landscape quality were asked to make repairs to their system to remain in the study. Improper maintenance of irrigation systems such as neglect of broken sprinkler heads or pipe leaks can significantly increase average household

NORTH

CORPORATE OFFICES
686 THIRD PLACE - VERO BEACH, FL
(772) 569-3810 • (800) 940-3810
(772) 778-5919 FAX

SOUTH SUPPLY

WHOLESALE DISTRIBUTORS

THE TOTAL ONE STOP SUPPLIER FOR ALL YOUR IRRIGATION, WELL, DRAINAGE, WATER TREATMENT, PIPE, VALVE AND FITTING NEEDS

7 CONVENIENT LOCATIONS TO SERVE YOU

<p>STUART 3200 DOMINICATE (772) 286-2776</p>	<p>MELBOURNE 5 SOUTH WICKHAM (321) 768-0644</p>	<p>LONGWOOD 450 CORPORATE (407) 331-7473</p>	<p>KISSIMMEE 902 SHADY LANE (407) 932-0011</p>	<p>EUSTIS 701 W. ATWATER (352) 483-0054</p>	<p>SO. DAYTONA 1952 S. RIDGEWOOD (386) 304-6008</p>
---	--	---	---	--	--

Visit Our Website @ www.northsouth.net For Convenient Online Ordering

Table 1: Count of major and minor problems found when evaluating potential cooperators.

Location	Number Evaluated	Number in Treatment	Minor Problems	Major Problems
Hunters Creek Area	54	40	58	10
Keenes Pointe Area	37	19	54	7
N. Tanner Rd. Area	29	15	36	8
Turtle Creek Area	28	20	34	2
Waterford Lakes Area	96	60	183	22
Sweetwater Country Club (Apopka)	16	13	17	7
Not grouped	31	0	42	5
Totals	291	167	424	61

water consumption over time. There was significantly more maintenance issues found during irrigation evaluations than was expected. Many homeowners would benefit from regular maintenance on an annual or semi-annual basis.

Initial results suggest that the smart technologies are applying significantly less irrigation than the comparison homes with the SMS treatments exhibiting the most water savings. Irrigation application for the comparison group in some loca-

tions averaged the annual irrigation requirement, calculated from historical ET and rainfall, within only a few months' time. Currently, there seems to be no significant differences in irrigation application as a result of the on-site training. However, these results are preliminary since initial data collection efforts contain only a few months of data. Data collection will continue for a minimum of one year to evaluate overall performance under various weather conditions common in Florida. 💧



THE REAL DEAL.

We're more than a product source, we're your business resource.

FIND US:
www.ewing1.com

TALK TO US:
800.343.9464

Check out our **earn** partner program
and take advantage of money-saving offers!



IRRIGATION | TURF PRODUCTS | LANDSCAPE LIGHTING | EROSION CONTROL | WATER FEATURES | HARDSCAPE

APPLICATION FOR MEMBERSHIP

Membership year: January 1, 2013 – December 31, 2013

I am: A New Member

Renewing my Membership

Please make check payable to: Florida Irrigation Society Or To Pay By Credit Card Go To:
<http://www.fisstate.org/registration.html#MembershipDues>

Company: _____ Phone: _____
Name: _____ Fax: _____
Address: _____ City: _____
State: _____ Zip: _____ County: _____ Email: _____

Select the Chapter you will be affiliated:

- | | |
|--|--|
| <input type="checkbox"/> Central Florida | <input type="checkbox"/> Palm Beach |
| <input type="checkbox"/> Dade/Broward | <input type="checkbox"/> Southwest Florida |
| <input type="checkbox"/> Northeast Florida | <input type="checkbox"/> Tampa Bay |
| <input type="checkbox"/> Northwest Florida | <input type="checkbox"/> Volusia County |

Please indicate your Category and enclose relevant dues:

	Annual Dues
<input type="checkbox"/> A Manufacturer	\$330.00
<input type="checkbox"/> B Distributor	\$275.00
<input type="checkbox"/> C Contractor	\$200.00
<input type="checkbox"/> D Consultant, P.E., L.A.	\$200.00
<input type="checkbox"/> E Irrigation System Operator	\$200.00
<input type="checkbox"/> F Associate	\$50.00
<input type="checkbox"/> G Technical	\$50.00
<input type="checkbox"/> H Student	\$10.00
<input type="checkbox"/> I Supporting	\$100.00

Helpful Category Information:

- *Associate Members are employees of current FIS Member firms in categories A-E.
- *Technical Members are individuals employed by educational institutions or governmental agencies.
- *Students retain all Membership rights except voting Representation.
- *Supporting Members are individuals that wish to be members that are not in the irrigation industry. (Example: Insurance Agents, Auto Dealers, etc.)

Please tell us about yourself so we can better serve your specific industry needs:

- | | |
|--|---|
| <input type="checkbox"/> Installer of Irrigation Systems | <input type="checkbox"/> Registered Professional Engineer |
| <input type="checkbox"/> Distributor in irrigation equipment | <input type="checkbox"/> Registered Landscape Architect |
| <input type="checkbox"/> Irrigation System Design only | <input type="checkbox"/> Certified IA Designer |
| <input type="checkbox"/> Manufacturer | <input type="checkbox"/> Certified Landscape Irrigation Auditor |
| <input type="checkbox"/> Well Driller | <input type="checkbox"/> Landscape Contractors |
| <input type="checkbox"/> Operator or Irrigation Systems | <input type="checkbox"/> Other Certifications: _____ |

If your business is located in a county that requires an irrigation contractor license through testing, please provide your license number(s) and counties for Membership Directory listing.

License #: _____	County: _____
License #: _____	County: _____
License #: _____	County: _____
License #: _____	County: _____
License #: _____	County: _____

Applicant Signature & Date _____

15-YEAR WARRANTY. 75% LESS ENERGY.
NO LAMPS TO REPLACE—EVER. NOTHING'S CHANGED.

INTEGRATED LED LANDSCAPE LIGHTING JUST GOT BETTER

You need to see it to believe it.

KICHLER 
LIGHTING

IN STOCK EVERYDAY AT



**NORTH FLORIDA
IRRIGATION EQUIPMENT
INC.**

nfie.net

904.733.8720 | Jacksonville
904.797.2923 | St. Augustine

Stop by Booth Number 1515

2012 IRRIGATION SHOW

NOVEMBER 4-5

ORANGE COUNTY CONVENTION CENTER
ORLANDO, FLORIDA



**Florida Irrigation
Society**

Managing Every Drop™

Florida Irrigation Society, Inc.

P.O. Box 13502

Tampa, FL 33681



Look to the Future. Come to Orlando.

New Technologies, Products and Practices That
Will Change the Way You Water.



2012 Irrigation Show & Education Conference

Irrigation Show | Nov. 4–5

Education Conference | Nov. 2–6

Orange County Convention Center | Orlando, Fla.

