

# 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.

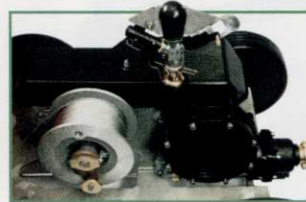
Tracker™ requires minimal labor to operate. Powered by water, it pulls itself along a nylon cable, dragging up to 360 ft. of 1" reinforced heavy-duty hose (sold separately). Each pass irrigates about 2/3 acre per 8 hours of operations.

## 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™

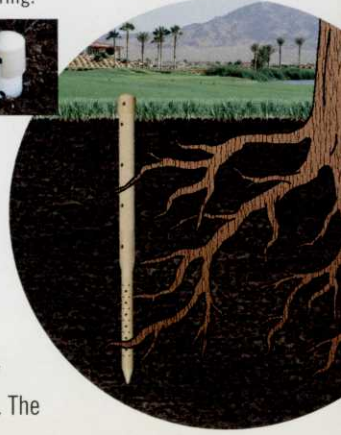
## TREE WATERING STAKES

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.

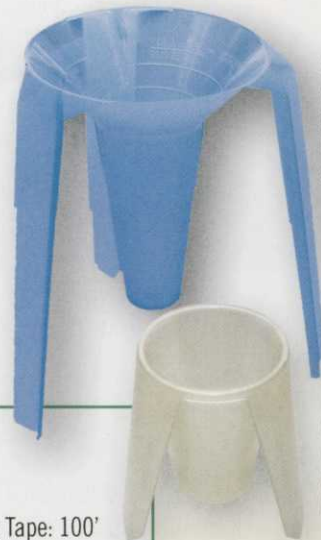
**AuditMaster LT Kit** excludes the CatchCanPro Mini cups. This kit is optimized for golf courses, sports fields and other **LARGE TURF** audits.



## 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		

**MADE IN USA** 



# 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.



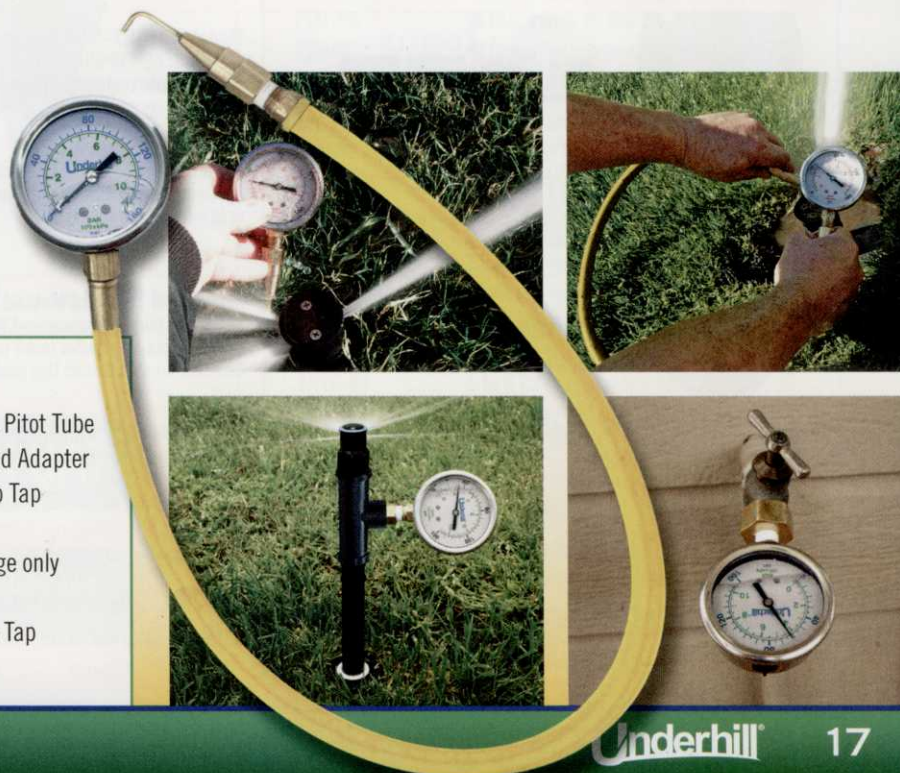
## ordering

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><b>Model SPM 106 - TORO Engraved Caps:</b> Perfect-fit caps engraved and color filled for high visibility. Multiple number locations vary for lids with holes.</p>	<p>FITS: <b>Toro</b> 730, 750, 760, 780, 830/850S, 834S, 835S, DT34/35S, 854S, DT54/55, 860S, 880S            COLORS: Caps - ●/○/●/●            Numbers - ○/●/●/●/●/●/●</p>
	<p><b>Model SPM 107 - Rain Bird Engraved Caps:</b> Perfect fit caps engraved and color filled for high visibility number identification.</p>	<p>FITS: <b>Rain Bird</b> E900, E950, E700, E750, E500, E550, 700, 751, 51DR            COLORS: Caps - ●/○/●/●            Numbers - ○/●/●/●/●/●/●</p>
	<p><b>Model SPM 110 - Hunter Engraved Caps/Covers:</b> Perfect-fit flange covers (G800, G900) and caps (G90), engraved and color filled for high visibility.</p>	<p>FITS: <b>Hunter</b> G800, G900, G90            COLORS: Flange cover / caps - ●            Numbers - ○/●/●/●/●/●/●</p>
	<p><b>Model SPM 101 - Fit Over Discs:</b> 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: <b>Toro</b> 630, 650, 660, 670, 680, 690, 830/850S, 834S, 835S, DT34/35, 854S, 855S, DT54/55, 860S, 880S, <b>Rain Bird</b> 47/51 DR, 71/91/95, E900, E950, E700, E750, E500, E550, 1100, <b>Hunter</b> G-70/75, G-90/95, G-990, G-995, <b>John Deere/Signature</b> – Call            COLORS: Discs - ●/●/●, Numbers - ●</p>
	<p><b>Model SPM 105 - Universal Tags:</b> 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><b>Model SPM 103 - TORO Snap-In Markers:</b> OEM UPGRADE to high quality polycarbonate custom fit. One complete, high-visibility marker snaps into OEM plug.</p>	<p>FITS: <b>Toro</b> 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><b>Model SPM 108 - TORO &amp; Hunter:</b> Special engraved plastic material designed to fit into OEM lid recess</p>	<p>FITS: <b>Toro</b> 730, 750, 760, 780, 834S, DT34/35, 854S, DT54/55, 860S, 880S and <b>Hunter</b> G800, G70/75B, G870, G875, G880, G885, G990, G995            COLORS: Markers - ○/●, Numbers - ●</p>
	<p><b>Model SPM 104 - Lid/Molded Recess Markers:</b> Durable replacement lid, with reverse engraved number insert process. Excellent number ID with this model</p>	<p>FITS: <b>Rain Bird</b> 47, 51            COLORS: Lid - ●/○/●            Insert - ○/●/●            Numbers - ○/●</p>
	<p><b>Model SPM 102 - Rain Bird Yardage Highlighter Snap-Ring:</b> Replaces OEM snap ring with perfect fit bright yardage and reclaimed color identification.</p>	<p>FITS: <b>Rain Bird</b> E900, E950, E700, E750, E500, E550, 700, 751            COLORS: ○/●/● (Reclaimed Water)</p>

**ordering example** **View/download complete ordering guide at [www.underhill.us](http://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.



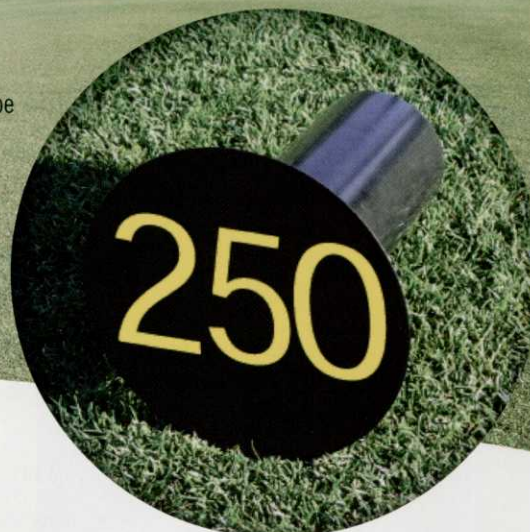
### FAIRWAY CUSTOM OPTIONS

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



### TEE BOX / DRIVING RANGE CUSTOM OPTIONS

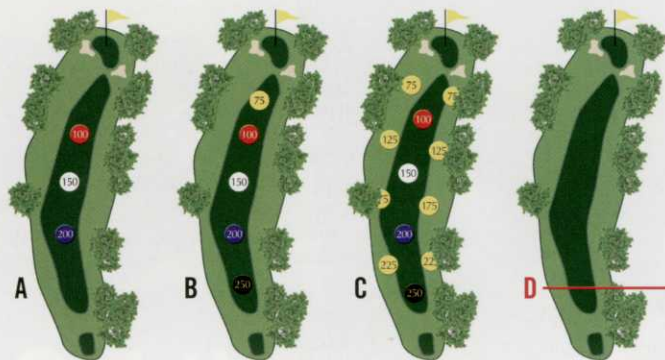
Markers can be customized to display specific multiple numbers, include logos, or custom design.



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](http://www.underhill.us)





20505 Crescent Bay Drive Lake Forest, CA 92630 USA

tel: (949) 305-7050 fax: (949) 305-7051  
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## UNDERHILL INTERNATIONAL PROFESSIONAL WATERING PRODUCTS 2013

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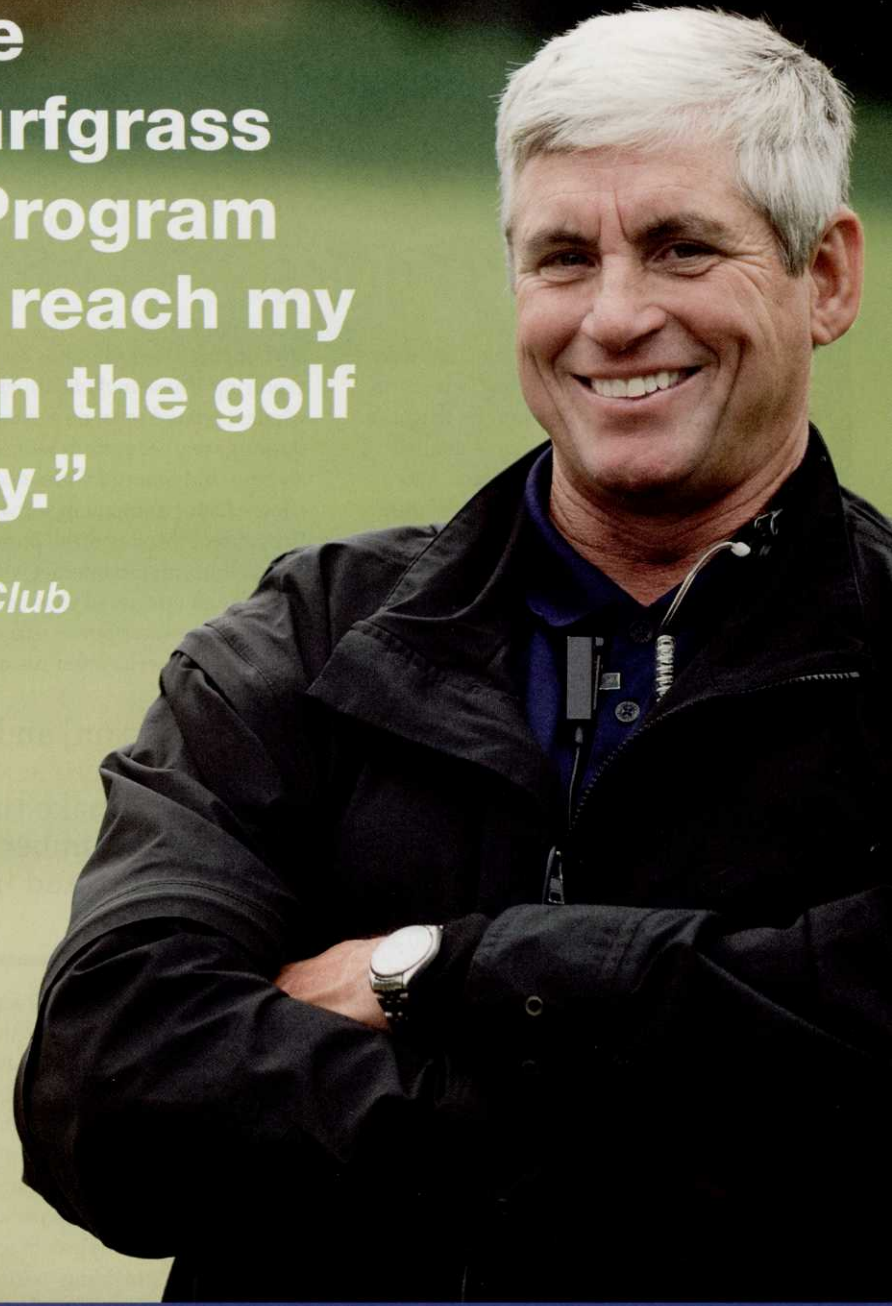
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course industry.”**

*Matt Shaffer, Merion Golf Club*



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**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](mailto:bvinchesi@irrigationconsulting.com) or 978/433-8972.

## GETTING IT DONE

I recently attended the American Society of Irrigation Consultants (ASIC) – yes, there's an irrigation consultants association – annual meeting in Scottsdale, Ariz. And since ASIC was in Scottsdale, they invited Sean Emerson and Jeff Plotts to talk about how they irrigate their courses from both a water-quality and a water-quantity standpoint.

Sean, director of agronomy at Desert Mountain Club, oversees six 18-hole courses using some 2-million gallons per acre annually on a combination of warm- and cool-season turf. Jeff has the same position at TPC Scottsdale, overseeing 400 acres at a 36-hole resort/public facility utilizing warm-season turf. The 400 acres consists of 185 acres of turf, 200 acres of desert landscape and 15 acres of surface water. He also hosts a PGA Tour event every January.

Sean is an opinionated individual who is also a great speaker. His presentation centered on the efforts his staff has taken to decrease not only their water use, but their energy use, too, while providing excellent playing conditions on green turf. At Desert Mountain they are concerned with the usual irrigation parameters: precipitation rate, cycle time, uniformity and part circle arcs. However, they have gone one step further observing gallons per kilowatt (gal/kw). The gallons-per-kilowatt measurement allows Desert Mountain to determine not just how efficient they are with water or energy, but how one influences and impacts the other.

To be more energy and water efficient, Desert Mountain has cre-

ated or purchased solutions for data capturing. These include utilizing wireless ground sensors, weather stations, weather pattern monitoring and the IBM Smarter Cities system to allow existing equipment software's (irrigation central control, pump station monitoring) to interact with each other for an integrated view and feedback of their water/power usage. They monitor lake levels, water use and

to salt accumulations and turf health. Using the data, Jeff created Water Quality Management Zones (WQMZ) to manage irrigation applications and Na<sup>+</sup> accumulation. The WQMZ's are also designed to manage salt loads during different times of the year based on turf stands. In the future, each sprinkler is assigned to a WQMZ zone and will be programmed accordingly and will utilize soil-moisture

Sean [Emerson] and Jeff [Plotts] were quick to point out that **to accomplish what they have to date**, and to make their programs successful, they have used a number of different consultants to help structure and implement their water, soil and energy plans.

energy use for trends. For all aspects of their water and energy use they plan, implement, record, evaluate, and revise. The result is significant water and energy savings, as well as improved conditions and lots of data to further refine their procedures.

Jeff has a more subdued personality, but he still gets his points across. His passion for providing tournament conditions is evident. TPC Scottsdale has a number of operational issues including: being a flood basin, difficult water quality, fine textured clay soils, lack of positive drainage and an arid environment. Each is a difficult problem on their own, but combined they present a challenge. He studies and measures data on salinity areas, distribution uniformity, and turf vigor. This allows TPC Scottsdale to correlate irrigation and drainage patterns

sensors to substantiate and fine tune their process. With this data, TPC Scottsdale will make correlations between salinity and moisture. Jeff also uses micro-irrigation (above ground micro sprays) to decrease salt and transitional stresses.

The results of Jeff's initiatives have resulted in an average of 138.75 less acre feet (45.21 million gallons) of water used annually over the last five years. Not only has that saved considerable dollars, but also reduced salt inputs by 189.45 tons annually.

Both Desert Mountain and TPC Scottsdale are examples of how poor water quality can be managed and at the same time save water and energy. They provide a superior golf product in spite of these challenges and are happy to share their approaches, experiences and results with others. GCI

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