



KEEP TABS ON YOUR Controller

BY FRANK H. ANDORKA JR.,
MANAGING EDITOR

You startle awake at 3 a.m., bathed in a cold sweat. You throw on a pair of sweat pants, stumble to your half-ton pickup and peel out of your driveway, headed straight to your course.

As you reach the street next to the third fairway, you notice beautiful plumes of water from your irrigation system glistening in the moonlight. Your heart rate slows and you breathe a sigh of relief. Your irrigation controller turned your system on properly after all. It was just a nightmare. All is right with the world.

With golfers pushing superintendents to keep courses in near-perfect condition, proper irrigation is vital. But superintendents have too many other responsibilities to spend their waking hours monitoring their irrigation systems. So the dependability and efficiency of their irrigation controllers play an enormous role in helping superintendents relax.

"Over the next 10 years, there will be less usable water available for any use, let alone for golf course irrigation," says Brian Vinchesi, president of Irrigation Consulting in Pepperell, Mass. "For all the focus on reduced water use, that's not nearly as important as using water more efficiently. Effective controllers go a long way to making that a reality."

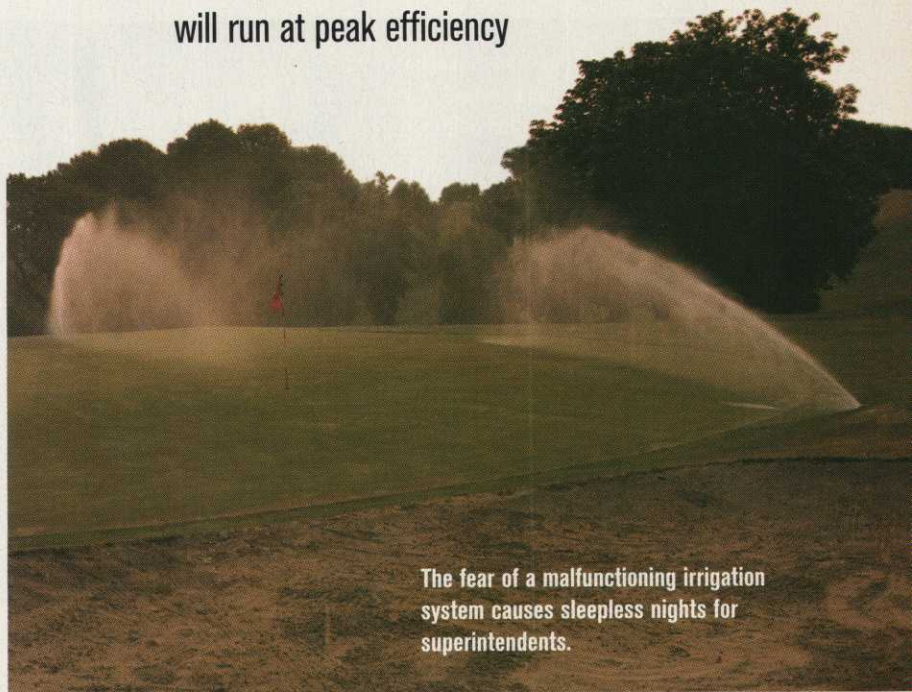
Here's what experts say you can do to make sure your irrigation controllers won't keep you up at night:

Budget for an irrigation audit to find out how much water your course actually needs.

Jim Barrett, president of James Barrett Associates in Montclair, N.J., says you need to find out how much water you're actually using be-

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Proper monitoring ensures
that your irrigation system
will run at peak efficiency



The fear of a malfunctioning irrigation system causes sleepless nights for superintendents.

The Future Holds Hand-Held Controllers

Irrigation consultants believe hand-held controllers, particularly those run through personal digital assistants (PDAs), are the wave of the future — at least at the high end of the market.

"In five years, hand-held controllers will become the standard," says Jim Barrett, president of James Barrett Associates in Montclair, N.J. "I know irrigation companies are researching how to create the proper software."

Instead of being tied to desktop computers, superintendents can monitor their pump stations and irrigation heads from fairways, their homes or even their trucks, Barrett says. "Hand-held controllers will be hugely powerful tools," he says.

PDAs offer the most flexibility when it comes to controlling irrigation systems remotely, says Brian Vinchesi, president of Irrigation Consulting in Pepperell, Mass. A PDA can cull information from weather stations, Global Positioning System maps and other information that traditional controllers can't process.

"The PDA will process information from disparate sources without you having to compile it yourself beforehand," Vinchesi says. "You'll be able to put water where you want it, when you want it, without having to stop doing other jobs that you need to get done."
— Frank H. Andorka Jr., Managing Editor

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fore you can determine whether your controller is operating efficiently.

"It takes time and money to do an audit, but it's worth it in the long run," Barrett says. "You'll often find you're using too much water."

An audit calculates how much water a course should use based on evapotranspiration rates, weather patterns, percolation rates and turf types, Barrett says. Then it measures the amount of water a course ac-

tually puts down and compares the two. "The answer isn't always black and white, but an audit will help determine whether you're way off base," Barrett says.

Inspect sprinkler heads on a regular basis to ensure they run for the correct amount of time.

Precision watering depends on controllers to calculate accurately the time a sprinkler head runs, Vinchesi says. But some superintendents assume if they program specific times into their controllers, their

irrigation systems will run that amount of time. If your controller isn't working, you're making a mistake with your assumption, Vinchesi says.

"You may set it for 10 minutes and it may run for 12 minutes instead," he adds. "If that's what your system is doing, then you're obviously wasting water."

Vinchesi says superintendents should also make sure that when their controllers turn the system on, it doesn't skip heads or fail to turn on at the proper time. Both scenarios indicate a faulty controller, he says.

Study the feedback your controller gives you.

You know reams of paperwork pile up on your desk daily. But even if you don't read another report, pay close attention to the printout detailing your irrigation system's output, says Dan Benner, founder and principal of Hydro Environmental in Marietta, Ga.

"You need to get daily diagnostic information from the field about the operation of your irrigation system," Benner says. "If there's a huge disparity from one day to the next, there's a problem. Read the reports and keep tabs on vast fluctuations."

If your current controller doesn't allow for such two-way communication, Benner suggests upgrading to one that does.

Monitor the water pressure throughout the system.

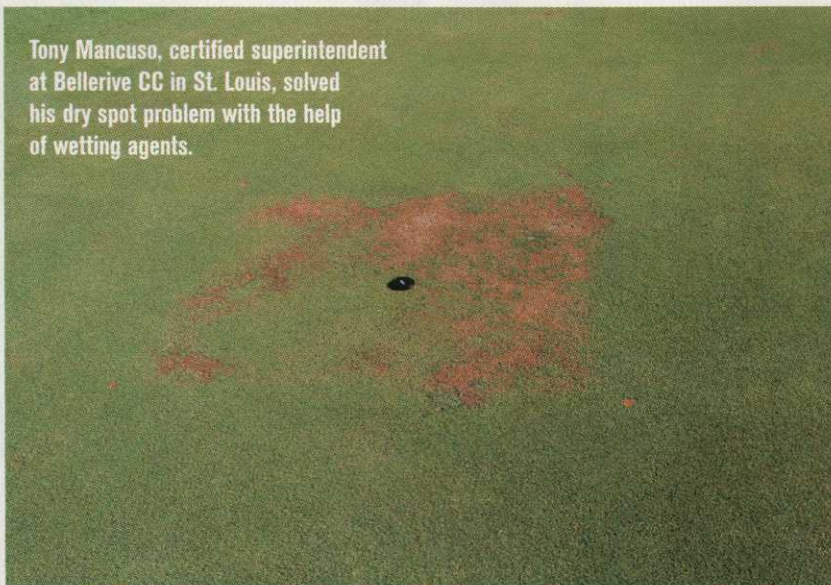
Proper pressure management is often overlooked as having an effect on irrigation efficiency, but it's vital to know how much pressure your system produces, Vinchesi says.

"A lack of pressure will make your irrigation system work harder with fewer results," he adds. "Run regular checks to make sure the proper amount of water is being pumped."

Although few systems currently allow it, Benner says he looks forward to the day when irrigation systems and pump stations can be run by the same controller.

"Pump stations have traditionally run independently from the irrigation system, and that's not the best way to manage efficiency," Benner says. "Unfortunately, irrigation companies aren't to the point where

Tony Mancuso, certified superintendent at Bellerive CC in St. Louis, solved his dry spot problem with the help of wetting agents.



Wetting Agents Help Superintendents Conserve Water

Here's another vote of confidence for wetting agents. Tony Mancuso, certified superintendent at Bellerive CC in St. Louis, couldn't figure out what to do with the localized dry spot he often found on his greens. At first, he irrigated them. In areas where his greens rest on clay soil, however, the water pooled rather than penetrated. Mancuso often overwatered to ensure enough water reached the roots.

Overwatering, however, created moss and algae problems. But when Mancuso allowed the greens time to recover from the oversaturation, the dry spots cropped up again. He needed a way out of the predicament, which Mancuso found in wetting agents.

"We're always battling localized dry spot in this area of the country," Mancuso says. "If you treat the problem traditionally, you can create more problems than you

solve. Wetting agents can help immensely."

Wetting agents allow water to move more freely through the soil. They also help the soil retain water for longer periods, even when the surface of the soil dries out. For Mancuso, that means using less water.

"You have to know your soil and what problems you're dealing with," Mancuso says. "Wetting agents aren't a magic bullet for all dry soil problems, but they can help if you understand your soil profile."

Since he started using wetting agents on the greens, Mancuso says he has cut the amount of time he runs his overhead irrigation system in half. He only turns his irrigation system on the greens every three or four days. With minimal hand watering between applications, Mancuso says his greens are in good shape. — FA.

they would share the information to bring that to fruition."

But having an efficient controller isn't solely about saving water, Benner says.

"If your irrigation system is operating properly, it won't use as much energy," he adds. "You also won't be doing as much labor-intensive hand-watering. That's an additional savings on energy and labor."

Not to mention the energy you'll save by getting a good night's sleep. ■

For more information, try these irrigation-related sites:

CONSULTANTS:

■ www.asic.org

The American Society of Irrigation Consultants (925-516-1124)

■ www.irrigation.org

The Irrigation Association (703-536-7080)

COMPANIES:

■ www.flowtronex.net

Flowtronex International (800-786-7480)

■ www.rainaid.com

Century Rain Aid (800-347-4272)

■ www.rainbird.com

Rain Bird Irrigation (626-963-9311)

■ www.syncroflo.com

SyncroFlo (770-447-4443)

■ www.toro.com

The Toro Co. (800-664-4740)

■ www.signaturecontrolsystems.com

Signature Control Systems (949-580-3640)

WETTING AGENTS:

■ www.aquatrols.com

Aquatrols (800-257-7797)

■ www.planthealthcare.com

Plant Health Care (800-421-9051)

■ www.clearychemical.com

Cleary Chemical (800-524-1662)

■ rootsinc.com

Roots (800-342-6173)

■ www.precisionlab.com

Precision Laboratories (800-323-6280)

■ www.lesco.com

Lesco (800-321-5325)

■ AquaAid (800-394-1551)

■ Montco/Surfside (215-836-4992)

FINE GRADE
endoROOTS™
granular

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FINE GRADE endoROOTS™ is dryROOTS™ with 100,000 spores and propagules of EndoMycorrhizas (EM). It is effective on turfgrasses, flowers, and many trees and ornamentals. Mycorrhizae help plant uptake of nutrients and water, and provide resistance against disease and stress. There are eight species of EndoMycorrhizae in this product:

Glomus mosseae	
Glomus intraradices	
Glomus clarum	
Glomus monosporus	
Glomus deserticola	
Glomus brasilianum	
Gigaspora margarita	
Glomus aggregatum	

Guaranteed analysis	
Total Nitrogen (N)	3.0%
0.5% Water Soluble Nitrogen (N)	
2.5% Water Insoluble Nitrogen (N)	
Available Phosphate (P ₂ O ₅)	3.0%
Soluble Potash (K ₂ O)	4.0%
Calcium (Ca)	9.0%
Magnesium (Mg)	0.8%
0.8% Water Soluble Magnesium (Mg)	
Sulfur (S)	1.5%
1.5% Combined Sulfur (S)	
Iron (Fe)	1.0%

Derived from: composted poultry manure, ferrous sulfate, and potassium sulfate.

Non-plant food ingredients: help meal, humus, vitamins, amino-acids, and EndoMycorrhizae spores.

Net weight 50 lbs. (22.6 kg)

APPLICATIONS

Fertilization	Apply 7 lbs./1,000 sq. ft. Work material in thoroughly.
Divot mixes	Add 25 lbs./cubic yard to sand divot mix.
Sod/seeding new seeding	As a soil prep, use 10 lbs./1,000 sq. ft. applied to soil surface before sod installation or seeding.
New construction renoevation	Add 15 lbs. to 1 cubic yard.

Spreader settings

FINE GRADE endoROOTS™ can be mixed with fertilizers and soil amendments. In hot weather (above 85°F), lightly water in.

Settings for 7 lbs./1,000 sq. ft.

Cyclone	4.9
Earthway	12
Prizaloom	J
Lesco	F
Scott's RX7	J
Scott's RBA	I
Spiller	4.9
Vycon (4 mph)	36

Notice
Buyer assumes all responsibility for safety and use not in accordance with directions. Read entire label carefully.

Caution
KEEP OUT OF REACH OF CHILDREN.

roots inc. 3120 Weatherford Road • Independence • MO • 64055 • tel: 800 342-6173 • www.rootsinc.com

Mycorrhiza for Turf

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