

Playing catch-up with ?

IRRIGATION INNOVATIONS

■ Turfgrass and landscapes cannot survive without water. The continued availability of fresh water is an ever-growing challenge to the green industry—perhaps its greatest challenge. The charge to irrigation suppliers is to provide innovative products for ever-more-efficient turfgrass and landscape irrigation.

Turfgrass and landscape managers say suppliers do a good job. Even so, the green industry itself still has a long way to go in maximizing the efficiency of its water use, say these same managers.

John Gustavson, landscape irrigation specialist with Carole R. Johnson & Associates, Cambridge, Mass., appreciates irrigation innovations that conserve water: soil moisture sensors, devices that

Even with a profusion of efficient water-saving irrigation equipment on the market today, WHO—and not WHAT—makes the difference.

automatically detect broken underground irrigation pipes, drip emitters, and the newest generation of controllers.

"The water supply here in the east isn't as critical as, say, in Colorado, but it's getting critical as far as cost," says Gustavson. "I think the Northeast is backing into real conservation from a matter of cost as opposed to out-and-out lack of availability. The incorporation of some type of water conservation element is something I've been putting into a lot of my projects."

But products, no matter how innovative, function only as well as their operators allow them, and even Gustavson admits that "the potential to over-water is great." In the Northeast anyway, irrigation isn't normally critical to landscape plant or turfgrass survival. Typically, irrigation supplements natural rainfall during summer drought or drier-than-normal autumns.

"The tendency is—and this is most true in some corporate centers—'Hey, we've got it (irrigation). We're going to use it.' People sometimes like to turn on their system and watch it because it looks so wonderful," he says.

In fact, irrigation suppliers themselves realize that whatever technology they engineer into their products suffers at the hands of poor water management practices.

"The challenge in efficient irrigation is one of management," says Ron Wolfarth, product manager, Rain Bird Commercial Division, Tucson. "You can have the most efficient irrigation system possible, but if it's managed poorly on a day-to-day basis, you can waste more water than an inefficient system that is managed properly."

Richard A. Fisher, ASLA, San Diego, believes this gap between irrigation technology and proper system management is more prevalent in municipal systems



Golf course superintendents continue to replace electro-mechanical irrigation systems with computerized, central control systems. Also, look for more hand-held radios in the coming years.

than on golf courses. For one thing, a golf course superintendent's livelihood is tied to water management. Usually, the superintendent is intimately aware of the system. In city parks and boulevards, on the other hand, systems aren't inspected or managed as intensely.

"The labor force in the landscape maintenance industry has not improved to the magnitude that the equipment has," claims Fisher, who heads up the Landscape Architecture Division of BSI Consultants. "And—at least here in California with its struggling economy—it would probably be naive to believe it will change in the short term. The competitiveness in the bidding of landscape maintenance has become extreme.

"We're not seeing the operation of the equipment coming close to its potential," he adds.

Sometimes forces outside the industry drive it to more efficiency. Fisher feels that may be the case with California's Assembly Bill 325.

That legislation, initiated in 1991 and now being adopted, requires that California communities adopt water laws that:

- encourage groupings of plants

according to water needs (it does not prohibit or require specific species);

- encourage use of automatic irrigation systems with water conserving designs;

- focus on proper grading and drainage, as well as the using mulches, to promote healthy plant growth and prevent excessive erosion and runoff;

- promote the use of reclaimed water;

- recognize regional differences, including fire prevention needs;

- provide economic incentives to promote efficient use of water; and

- require routine irrigation system repair and adjustment, water audits and prescribing the amount of water applied per landscape acre.

"We find that the developer or the homeowner is putting a greater investment in their irrigation systems," says Fisher. "We see an overall better effort on the research of irrigation design. There's a more conscientious concern about what the soils report says, looking into evaporation coefficients, those types of factors rather than programming the system to apply an inch of water a week and leaving it at that."

"Technologically, we think the manufacturers have come a long way in providing us with advanced equipment, particularly with controllers. The timing capabilities of controllers can now be extremely flexible so that we can apply water to particular hydrozones efficiently."

Among the irrigation trends that Fisher sees:

- ✓ Increased use of reclaimed water. "In some of our park projects, even though reclaimed water is not available yet, the city is telling us to design the system so that it can be converted to reclaimed water when it becomes available," says Fisher. Although there are strict regulations about applying reclaimed water, its use will definitely grow.

- ✓ More drip systems. "There are challenges to both the installer and the maintenance personnel when you get into a drip system, but from a water conservation standpoint they work," says Fisher.

- ✓ More use of sensors that monitor soil moisture, shut off systems during rain, detect leaks and system failures.

—Ron Hall

WHAT'S NEW IN IRRIGATION

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■ Some innovations in the irrigation equipment market look like something out of Buck Rogers of the 21st Century. Hey, after all, it is almost the 21st century.

Take Toro Irrigation's Greenkeeper controller, expandable with two-station modules.

"The controller would be able to expand even after it is installed," explains Tim Tousignant, Toro's residential/commercial marketing manager. "The benefit is the flexibility it gives the end user in terms of aftermarket installation without reinvesting in all new hardware."

This and other controller improvement, Tousignant says, give golf courses, municipalities, even homeowners "more sophisticated approaches" to their water management needs.

Scott Morgan, Toro's golf marketing manager, says golf course superintendents are continuing to replace electro-mechanical systems with computerized, central-control systems. Also, hand-held radio controls will be more common.

Curt Thompson, national sales manager for Buckner Irrigation, says "the high-tech advancements have come about because the cost of micro-circuitry and the hardware that the software drives has become affordable." Even so, adds Thompson, the system has to be designed for the irrigation guy and not the computer guy.

"We don't design ours to be hard to operate. If you can pick

your nose, you can run our system. It only takes one finger," he claims. His company offers systems that monitor pump activity and flow, automatically shut master valves off, and even electronically page the operator when there's a concern.

But not all irrigation product advances involve radios, electronics or controllers. Some are as basic as rotors and valves.

Ron Wolfarth, a product manager at Rain Bird, points to his company's Rain Curtain technology and its new sprinklers that provide excellent and more even close-in watering, efficient irrigation for the 1/4 area closest to the closed-case rotor itself.

The Rain Curtain technology, he says, produces an even "curtain" of water without heavy spots, and dispenses larger water droplets that resist wind drift.

Mike Saliwanchik, Senninger Irrigation Inc., Orlando, Fla., says the rising cost of energy (to operate a system's pumps) and the growing use of reclaimed water also spur irrigation product development and improvement.

A new Senninger product, the T-Spray, responds to those concerns and is directed toward nurseries and plant growers. Saliwanchik describes it as a device that runs a higher volume of irrigation water to the plants without the clogging problems of other micro-spray or sprinkler products.

Other neat stuff we found in product catalogs, in no particular order:



Solatrol: Light Energized Irrigation Technology (LEIT-Link). Universal control units that operate under ambient light, even in the heaviest shade. It looks like a parking meter but it's a lot handier.

Circle No. 251 on Reader Inquiry Card

King Technology: Waterproof safety connectors. Sparkproof, silicone-filled, twist-on. Splices solid and/or stranded wires. Meets NEC coded direct-bury standards.

Circle No. 252 on Reader Inquiry Card

Kifco: Water-Reel traveling irrigation machines. Portable, can irrigate a complete football field in a single pass. Relatively inexpensive but labor saving. Good back-up for in-ground systems.

Circle No. 253 on Reader Inquiry Card

Glen-Hilton Products: Freeze-Click preset temperature sensor to keep sprinkler systems from operating during freezing or near-freezing temperatures. From the same folks who manufacture the Mini-Click II rain sensor shut-off.

Circle No. 254 on Reader Inquiry Card

Salco Drip Irrigation: Drip emitters—single outlet, six outlet and bubbler. Flexible drip hose made of PVC. Full line of drip irrigation accessories.

Circle No. 255 on Reader Inquiry Card

Olson Irrigation Systems: Threaded sprinkler riser. Raise or lower a sprinkler with minimum digging. Pressure-Compensated Emitter. Patented silicone cylinder, self-cleaning pulsating action.

Circle No. 256 on Reader Inquiry Card

Aquapore Moisture Systems: Porous pipe. Handy in raised beds, perimeters, planters, median strips. Applies precise amounts of

water to plant root zones. Uniform distribution of water along length of pipe.

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Greenlawn Sprinkler: Valves, valves and more valves. Also, heads and risers, manifold tees, and nozzles, including plant and shrubbery nozzles.

Circle No. 258 on Reader Inquiry Card

Murdock Water Sensor Equipment: Hydrants (post and flush-box). Drinking fountains. Emergency showers and eye wash equipment. Sturdy.

Circle No. 259 on Reader Inquiry Card

Smith Precision: Liquid fertilizer injectors. Seven models. Operate on water flow. No lubrication or adjustment required.

Circle No. 260 on Reader Inquiry Card

Remote Control Technology:

Hand-held remote controls. At the touch of a button, turn on any valve from up to 1/2 mile from the controller.

Circle No. 261 on Reader Inquiry Card



COVER STORY II

by Mark L. Dlugoss

A sure cure for equipment ills

■ The worst possible thing that can happen to a landscape manager is "downtime." The most common reason for downtime?—equipment breakdowns.

If any piece of equipment is neglected over a length of time, a problem is sure to become serious, such as a hose or belt breaking; even worse, an oil seal blowing out and leaking. Now a simple repair of \$5 to \$10 has escalated to \$300 to \$400. While expenses increase on the repair, money is also lost because of not being able to perform a contracted job. Time and productivity is also lost with idle workers, who, incidentally, are still being paid while a repair is made.

"Knowing all that, then, why don't landscapers maintain their equipment on regular basis?" asks Mike Goodwin, worldwide service manager, commercial division, the Toro Co., Bloomington, Minn. "The main reason is time. Everyone is in a hurry to get the job done,

Visual checklists are the most basic kind of preventive maintenance, according to experts.

to meet a schedule, and everything is secondary to that point."

But time—and money—can be saved in the long run by creating a preventive maintenance program, which also helps avoid expensive repair costs and downtime and to extend the life of the equipment.

Developing a program—Begin with the manufacturers. Each piece of equipment has recommended service intervals.

"Most manufacturers have a detailed suggested maintenance program that they provide with their equipment," declares Joseph O'Reilly, service advisor for Kubota Tractor Corp., Compton, Calif.

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