

company is a full-service landscape/maintenance provider with 40% of its services devoted to maintenance, 50% to landscape design and installation and 10% to irrigation repair. Average crews consist of two people.

Product information sources: As a member of ALCA, Wollett attends the organization's annual trade show. He also has a top-notch supplier who has kept Wollett updated on important maintenance and product information.

Equipment arsenal: "With irrigation maintenance, the tools are pretty basic. Electric volt meters and wire locators are the most important pieces of equipment you need."

Picking supplier: "Same-day delivery is critical, and that's what we get from our supplier. We also want someone who's knowledgeable about the products they sell."

Biggest challenges: Although Wollett isn't faced with any water restrictions in his city, he sees them forthcoming in the next five years. In the meantime, he's already taken steps to conserve water by making sure all heads are adjusted properly, installing rain sensors and using a drip irrigation system on all planting beds.

Products to watch for: "For the type of work we do, I think the products we use are pretty cut-and-dried. We stick to standard equipment and keep things simple."

A word to the wise: "Before getting into the irrigation field, work for an irrigation company first. You can go to school to learn the basics, but working in the field is the best teacher there is."



Wollett

sports TURF innovations

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Circle 120

Easy does it

Manufacturers discuss end users' desire for irrigation products that are easier to use and easier to install

BY VICKY POULSEN

With thousands of irrigation components on the market, it can get confusing and costly if you don't keep up with the latest information on these products. Purchasing substandard or too complicated systems can become your worst nightmare.

Also, consider all the issues of installation and maintenance for existing equipment: municipal and regional water restrictions, audits and licensing requirements in some areas of the country and, of course, liability insurance.

Easy-to-use and install products are still priorities, but most contractors also want information and training that come with them. We asked several manufacturers about what they had to offer, and here's what they had to say:

AMETEK INC. ACCESS BOXES, SHEBOYGAN, WI 800/222-7558

Tom Engel, National Sales Mgr.
Irrigation products: Meter boxes manufactured in five major sizes. They have extensions, a variety of names and colors, and various applications in the turf irrigation, waterworks and electrical industries."

Product information: Available through sales reps, distributors

and Web site at www.access-boxes.plymouthwater.com

Key trends: "Labor-saving items like our three-in. extension for 10-in. round box T-tap lids which are easier to open and close. Colored lids are popular because they blend in with the landscape. Lids come labeled with 'Control Valve,' 'Water Meter,' 'CATV,' 'Sewer' and 'Telephone.' "

Best features: "Our lids are strong and long-lasting and come with a 10-year guarantee. They have greater UV-resistance and can withstand heavier loads."

DATA INDUSTRIAL CORP., MATTAPOISETT, MA 508/758-6390

Norman Bartlett, VP Sales & Marketing

Irrigation products: Nonmagnetic impeller flow sensor systems.

Product information: Word-of-mouth, trade publications, trade shows and Web site at www.dataindustrial.com

Key trends: "Customers want products that are easier to work with and install. They want flow meters that tie into the irrigation

controls. That way, they'll interact with the irrigation controller, which will sense if there is a leak or a stuck valve. They also want wireless communications to eliminate the need to run wires between flow sensors and meters."

Best features: "Our Model 1500 flow monitor with the Model IR220B flow sensor gives accurate, repeatable and economical measure of liquid flow in any pipe from 1/2 in. to over 40 in. diameter even at low flow rates. Our forward-swept, six-bladed impeller design provides more constant torque than four-bladed impellers. Coupled with our nonmagnetic sensing mechanism, they're less prone to fouling from particles or debris. Our stand-alone flow sensors are designed with a universal fit.

IRRITROL SYSTEMS, RIVERSIDE, CA 909/785-3623

Keith Shepersky, Brand Mgr.

Irrigation products: A full line of valves, controllers, sprayheads and rotors.

Product information: Available through trade magazine advertising, trade shows., network of distributors and Web site at www.irritrol.com.



Key trends: "Irrigation controllers are now almost required in standard systems. They have schedules which allow them to adapt the program to water restrictions in a specific area every third day or every other day. There's also a move to eliminate the need for a fuse and make the controller diagnose itself and display to the end-user if there's a problem. The controller continues to water all the other operable stations."

Best features: "Our Rain Dial Plus controllers include a 365-day calendar, water budgeting, advanced surge protection and nonvolatile memory."

LASCO FITTINGS, INC., BROWNSVILLE, TN 800/776-2756

Bryan Juwig, National Sales Mgr.
Irrigation products: PVC pipe fittings and specialty items for the irrigation market.

Netafim drip irrigation products help this landscape thrive.



Product information: Get information through wholesale distributors or the Web at www.lascofittings.com.

Key trends: "People who use these products want greater reliability and easier installation. Simplicity is key. Easy installation will help eliminate installation labor costs. For example, PVC pipe fittings are a commodity item, but our swing joints and tap couplings that use special threads are specialty items that a leakproof joint without taping or using pipe sealant."

Best features: "We're introducing several new products this year that promise to make irrigation installation quicker, easier and more stable. These products are the Snap-Lok and Male Brass Stabilizer Elbow, which work together to lock and stabilize a quick coupler valve without the use of any tools."

**NETAFIM USA, FRESNO, CA
559/453-6800**

Kurt Maloney, Market Segment Leader for Landscape.

Irrigation products: Drip irrigation products include the Tech-line® system designed for both commercial and residential use. These drip emitters are constructed inside the 1/2-in. polyethylene pipe for easy installation.

Product information: Netafim's website (www.netafimUSA.com) provides plenty of product and design information. If you're competent at irrigation system design with sprinklers, it will only take you short time to understand how drip irrigation works.

Key trends: "The trend is to save water and this design allows contractors to irrigate without affecting foot traffic or staining walls or structures. Also, you can irrigate anytime, rather than being limited to certain hours for spray."

Best features: "It's an easy system to learn and very quick and inexpensive to install. The pipe can lay on the ground or in a shallow trench (typically 4-in. deep), so your equipment will be cheap and easy to use. It also works in beds and turf, and costs about the same as sprinklers."

**RAIN BIRD, GLENDORA, CA
626/963-9311**

Patricia Thompson, Marketing Communications Manager

Irrigation products: Rain Bird's

line includes rotors, spray heads, valves, controllers, accessories and Xerigation® drip irrigation equipment.

Product information: Through their sales force, distributors, Web site (www.rainbird.com) and marketing programs.

Key trends: "One of the most important trends in irrigation is the need for efficient water management. Rain Bird has developed products to help our customers comply with local watering restrictions and to conserve water. These include: the 1800-SAM-PRS spray head; the Rain Curtain rotor nozzles; and the Maxicom® central control system. The 1800-SAM-PRS spray head is for use in areas with changing elevations and/or high or widely fluctuating water pressures, and to prevent flooding and water waste. Rain Curtain rotor nozzles maximize rotor performance and coverage. The configuration of the nozzle is designed for both close-in and long distance watering. Maxicom central control operates multiple controllers, sensors and other devices from one central location."

Best features: "Products designed to help our customers manage water more efficiently include the ESP-MC controllers with Cycle+Soak, which splits total station run time into usable cycles, minimizing puddling and runoff."

**RAIN MASTER IRRIGATION
SYSTEMS, INC.,
SIMI VALLEY, CA
800/777-1477**

Karrie Bragg, Customer Service
Irrigation products: Controllers, handheld remote controls and central computerized control systems. Product focus is dedicated to the development of state-of-the-art electronics, software and communications for controllers and central control systems.

Product information: "Get information about our products through our sales reps, distributors and Web site (www.rain-master.com).

Key trends: "Landscapers want user-friendly, flow-sensing capability with automatic shutdown and central control. The Evolution (total control with the computer) system is the most popular product with landscapers. We foresee more ET-based scheduling and affordable central systems in the future."

Best features: "Our products have high reliability components; short circuit protection for field wiring faults including sensing and notification for all station outputs; lifetime retention of all programs; time retention without the battery use; electronic fuses with automatic reset; intelligent operation during power outages/restoration; high reliability membrane keyboards; and ease of use."



IRRIGATION *products*



Drip for beds or turf

Netafim's Techline drip irrigation system features embedded drip emitters inside the 1/2-in. polyethylene pipe, giving durability. Contractors can place these pipes on the ground or in shallow, 4-in. deep trenches using quick-install, easy-to-operate equipment. Drip system can be used in beds or turf on both residential or commercial applications and can be run anytime of the day. Deep-down irrigation does not stain structures or affect foot traffic. For more information contact Netafim at 559/453-6800 or www.netafimusa.com. / Circle #270

Go with the flow

With the Model Ir220B sensor, Data Industrial's Model 1500 wall-mounted flow monitor displays both flow rate and flow total on its two-line LCD. The 1500 can be programmed for units of measure, pipe size and sensor type. They may have a pulse output, two mechanical relays or a 4-20mA analog signal, all programmed from the front keypad. Sensors measure flow in pipes from 1/2-in. to 40 in. For information contact Data Industrial at 508/758-6390 or www.dataindustrial.com. / Circle #269

Global irrigation

Rain Master's Evolution Central System is based on a graphical user interface enabling global



functions to be easily performed. Most are performed with a single mouse click. Flexible report processing gives instant access to water usage information. For information contact Rain Master at 805/527-4498 or www.rain-master.com. / Circle #271

Monster rotors

Rain Bird's 7005 and 8005 heavy duty rotors fit large-scale commercial turf sites. The 7005 has a radius of throw of 39 to 71 ft.; the 8005 reaches 50 to 80 ft. Both have Rain Curtain nozzle technology

for effective water distribution. The nozzles are interchangeable from the front of the rotor with no special tools and rotors have continuous full and part-circle operation in the same unit with independently adjustable left and right arcs. Adjustments can be made with a standard flat-head screwdriver. For information contact Rain Bird at 626/963-9311 or www.rain-bird.com. / Circle #272

In control

Irritrol Systems' Rain Dial Plus controller has a 365-day calendar, water budgeting, advanced surge protection and nonvolatile memory. Three independent programs offer concurrent operation capability. The calendar has automatic weekday calculation for odd/even day watering options. For information contact Irritrol at 909/785-3623 or www.irritrol.com. / Circle #273

Fits like a glove

Lasco Fittings' Snap-Lok and Male Brass Stabilizer elbow work together to prevent the quick coupler body from unthreading from the swing joint. The elbow attaches to the quick coupler, and Snap-Lok snaps around it plus the coupler to lock them in place. Stabilization is achieved by inserting a scrap piece of 1-in. PVC pipe into the coupling formed by the closed Snap-Lok fitting. For information contact Lasco at 800/776-2756 or www.lascofittings.com. / Circle #274



Drip drop

AIDL Co.'s Plant-Drip watering system for potted plants has the properties of a soil moisture sensor and the ability to release water to the plant according to its exact needs. Its reservoir requires refilling only once every 10 to 15 days. For information contact AIDL at 213/804-2835 or www.aidlltd.com. / Circle #275





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PROFIT FROM IPM

**New products,
equipment and
techniques make
Integrated Pest
Management a
viable, and prof-
itable, option**

One advantage to IPM is that it eliminates harmful insects while preserving beneficial ones like this ladybug.

BY JOHN C. FECH AND
FREDERICK P. BAXENDALE

Pest control techniques have certainly changed over the years. Having learned from our mistakes, we no longer look for the biggest hammer to strike the pest. Integrated Pest Management (IPM) allows improvements in both pest control and environmental safety.

The change in attitude is coupled by a diversification of products and application equipment. Commitments by landscape managers as well as pesticide and equipment manufacturers have led to the development of more effective, economical and

less toxic pesticides with better ways to apply them. IPM is no longer a new way of thinking as it was in the early 1980s; it's now the standard for pest control in turf and ornamentals.

IPM defined

If you are new to the landscape maintenance business, you may not know that IPM promotes the use of multiple approaches to keep pest populations within limit. For turf and ornamentals, this involves using adapted cultivars of plant material and sound cultural practices to prevent or reduce pest problems.

The objective is to reduce our dependency on pesticides. IPM doesn't completely reject pesticides, as many situations still require their use. However, when used as a preventive measure, it encourages you to select the least toxic, most effective products and apply them in strict accordance with the label directions.

The goal of IPM is not to have more governmental regulation and interference with our system of free enterprise. IPM merely offers sensible ways to serve your clients and help you make a nice profit from the services you provide.

The pillars of IPM

The basic techniques or facets of an IPM program are:

- **Scouting.** You may have heard the phrase, "Let's give this a look-see" for new products. In landscape management, this is called scouting. Well-maintained properties should be scouted several times each



PROFIT

year. This can be provided as another customer service.

Scouting can serve many purposes: inspecting your irrigation system's performance; checking thatch thickness; and determining the presence of weeds, diseases and nutrient deficiencies. Your own check-off sheet can show each item listed in columns and should have a place for your technician to record specific conditions.

■ **Sampling.** This is an in-depth version of scouting. When you notice a problem during an inspection, take samples to confirm the diagnosis. The most direct way of sampling is attempting to locate pests around the damaged or injured area.

For example, symptoms of white grub injury include browning and thinning of the turf in irregularly shaped patches, ranging from two to ten feet in size, and can often be observed in the sunny lawn areas. While grubs may be present elsewhere in the landscape, full-sun turf experiences more stress, and this is where the damage will be visible first. Another symptom is the soft spongy feel of the turf, resulting from the grubs feeding on the roots and depleting the soil-thatch interface of its organic matter.

Sod webworm injury symptoms include brown and thinned turf, but instead of occurring in irregular patches the injury tends to show up more uniformly over larger areas. Sod webworm damage often mimics the injury from the *Bipolaris* leaf spot/melting out disease.

Both scouting and sampling require appropriate tools suited to the pest. For white grubs, a sod spade, shovel or a golf course cup cutter may be used. For webworms, you will need a watering can and some lemon-scented dishwashing detergent. Scale insects require a pocketknife, a 10x magnifier and hand pruners. Root rot can

be detected by digging plants with a shovel and inspecting the roots.

To see if the turf is infected with grubs, grab a handful of turf blades and pull them up. If the sod pulls loose easily, it's likely that grubs have eaten the roots. Peel away the sod in different directions looking for large, white, C-shaped grubs, usually found just below the thatch layer or in the upper inch of soil. Use the spade, shovel or cup

cutter to sample surrounding areas to determine the infestation's extent.

Unlike white grubs, sod webworms are tough to locate due to their small size — usually only a half-inch or so in length, and color — a light green to tan hue — that camouflages them. Webworms hide down in the thatch within a silken tunnel. To coax them to the surface, mark off a square yard of turf and pour soap solution (two table-

Make scouting and sampling work

As your focus shifts from "spray and pray" to a more prescribed approach, the mindset of your customers must shift as well. The customers need to start expecting something different — more looking and less spraying. They also need to begin placing a value on the expertise and diagnostic ability of the lawn professional. In the past, common practice has been to profit from how much product you can



pump onto a lawn or tree. So if you've spent time scouting or diagnosing a property, you'd better find a bug or two to recover the cost of your time.

To help your customers change their mindset, you must: 1. Change your billing and/or contract, and 2. Increase your level of communication with the customer. Here's how:

■ Devise a service contract that integrates routine inspection of turf areas and ornamental specimens with traditional scheduled visits for fertilization and pest control. Calculate what it costs for your technician to travel to the site and update their skills, along with other fixed costs for doing business such as insurance and overhead. Then, make routine scouting/sampling visits to the property and invoice the customer accordingly.

■ Consider issuing a customer pamphlet that outlines common lawn and landscape pests. Customers will see you as someone who cares for the landscape. If you're able to provide clear information on aeration, fertilization, pruning and mowing, you'll be viewed more as a community resource than just someone out to make a buck.

■ You can also communicate with your customers in subtle ways. Letterhead and invoices should advertise college degrees, industry recognition and any affiliations you have with professional trade associations. Company vehicles and equipment should display these logos as well. In short, charge for inspection and tout your credentials!



Sweep net sampling should be done after the initial scouting of a property when a problem has been noticed.

spoons of dishwashing detergent per gallon of water) and let soak. Webworms will wiggle up to the soil surface within 10 minutes.

■ **Resistant cultivars.** As you know, relying on repeated pesticide applications is costly. To strengthen your IPM program and reduce the need for chemical treatments, take advantage of the new pest-resistant landscape plants and turfgrasses released in the market each year. Examples of resistant cultivars you can incorporate into your IPM program are:

▶ Kentucky bluegrass cultivars that are resistant to *Bipolaris* leaf spot, a devastating disease that causes thinning of leaf blades and eventually the death of plant crowns.

▶ Crabapple cultivars that resist apple scab, a fungus that can defoliate the tree completely by midsummer.

▶ Turfgrasses infected with endophytic fungi in the genus *Acremonium* that have shown enhanced resistance to insect species such as aphids, armyworms, billbugs, chinch bugs, leafhoppers and webworms (endophytes are organisms, typically bacteria or fungi, growing within a plant). Among turf species containing endophytes are cultivars of perennial rye and certain tall and fine fescues.

■ **Sound cultural practices.** Plants that are properly installed and cared for experience fewer pest problems than those that are stressed. Traditional practices such as proper siting and establishment, fertilization, aeration, irrigation, mowing, pruning, soil testing, thatch control, mulching and others discourage pest development.

Research studies have documented an interesting example of this. Shade-giving trees such as ash, maple and birch are wonderful assets to a landscape if properly sited and maintained. But if they grow where it's too hot or where their roots are curtailed, they release certain compounds that attract boring insects who prefer to attack these trees instead of nearby healthy ones.

Properly fertilized, aerated and irrigated turfgrasses develop deep, extensive root systems. These types are more likely to grow well in spite of insect feeding on the roots. A lawn with a six- to eight-inch root system will tolerate more grub injury than one with short roots.

■ **Thresholds.** The need to control a given pest depends on its threshold level, or the number of pests present per unit area that will cause unacceptable harm. In



Full-sun turf experiences more stress, and this is where grub damage will be visible first.

high maintenance landscapes, thresholds are generally low and little or no damage is acceptable. Low maintenance areas such as parks may have higher thresholds. Consider control measures when the number of pests exceeds this preestablished threshold level.

The maintenance budget also affects thresholds. Pesticide applications can add considerable expense, and the property owner may often be willing to tolerate a few dandelions or brown patches of turf to

save money. Also, public perception or the potential for pesticide exposure affects thresholds. If plants at a shopping mall are infested with a few leafhoppers, the owner might think twice about having them sprayed, whereas a homeowner may have few qualms in this regard.

■ **Timing.** Look for pests and control them at the right time. Consider the life cycle of each pest before scouting and sampling. For example, masked chafer grubs feed on turf roots only as larvae, while Japanese beetles feed on grass roots as larvae and on landscape plants as adults. Neither species causes any injury as eggs or pupae. The cooperative extension office can provide life-cycle information for local pests.

Postemergent products should be applied in fall when most perennial broadleaf weeds are storing carbohydrates and nutrients in their crowns for winter and spring. After application, the herbicide is translocated downward along with the food. Weeds that don't die outright will be weakened and become susceptible to winter kill. Fall is also the best time to treat because newly germinated plants are easier to kill than large, mature ones commonly seen in spring.

Neighbors' vegetable and annual flower gardens are less likely to be affected by a little drift in fall than they would in summer or spring. Finally, there is less likelihood of phytotoxicity from the herbicide in cooler temperatures. **LM**

— John Fech and Fred Baxendale are with the University of Nebraska.

Read More www.landscapemanagement.net

Visit our Web site's "This Month's Features" page for a Quick Reference Guide to contact and systemic fungicides for managing turfgrass diseases that spells out which products are most effective against which diseases.

Im reports

TECH CENTER

Handy tools for handling plants

BY CURT HARLER / CONTRIBUTING EDITOR

Efficiency is the reason many new products that handle plants are designed the way they are. Two elements in particular — tires and tire size — can make a difference in plant handling.

Al Keefer, vice president of R.B. Stout Inc. in Akron, OH, says his company always makes sure to buy plant carts with balloon tires. Most turf-type tires avoid a tremendous amount of damage.

“Everything we have has larger tires on them, because they make it so much easier to go from gravel to asphalt. The tires work well on all surfaces,” Keefer notes. “We don’t use narrower tires that catch in the dirt.”

That goes for the typical two- and four-wheeled nursery carts.

One item regularly moved around the yard and the landscape is compost, which is a good source of organic matter for heavier soils and adds fertility as well. Leaves, weeds, waste hay and any other vegetable matter found around lawns can be composted.

Whether you make your own compost or buy it from a supplier, finding the most efficient method of transporting it to the job site, then applying it to beds and other plant areas without disturbing the turf can be challenging. Check out the products below to start reducing plant material or moving it around.

ARIENS

800/678-5443

www.ariens.com

Make a quality chip with the ProChip 12115 from Ariens, Brillion, WI. Unit has 15x17-in. throat capacity. The 90-degree SaverCut feature eliminates dead space behind the feed wheel, reduces jams and uses less fuel than machines with a 45-degree angle cut. A switch-on in-feed and discharge chute hinge prevents machine from operating when hinge is open. Unit cannot operate when bed knives or cutter knives are exposed.

Circle #258

ATI CORPORATION

800/342-0905

The GK-4866 grapple kit is designed for use on compact tractor loaders. Made by ATI, New Holland, PA, it lets operators handle brush, bales, leaves, bark mulch and other bulky items. The GK-4866 can be added to any standard 48- to 66-in. compact tractor bucket and removed easily. Eight bolts secure it to the bucket. Clamping power comes from a 1.75x6-in. hydraulic cylinder, mounted in-line with the grapple hook. It weighs only 137 lbs.

Circle #259



▲ Little Wonder power trimmers

Plant handling tips

- ▶ **Look for versatile components that allow you to handle a variety of mulch, plants or other landscape materials**
- ▶ **Search for sturdy products that eliminate hand work**
- ▶ **Hydraulic drive saves manpower and time when switching components**