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Xeriscaping Arizona: A beautiful setting and the ultimate in low water use landscapes.

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All plants need water for survival and growth, even the cactus found in the desert. But some require a lot more than others. Some plants, such as grasses, require more water but they cover the ground with sufficiently tight vegetative cover to cut back on loss of soil water by evaporation.

Lawngrasses are particularly effective in this way; a low-cut canopy of green foliage not only maintains a highly humid environment above the soil surface, it also creates conditions which enhance rainfall infiltration into the soil and reduce run-off.

This may not be of critical importance in areas of limited rainfall, but it is very important in humid regions of the country. The cactus-and-gravel look may be ideal for the arid Southwest, but not for other parts of the country.

Generally, native plants—both woody and herbaceous—are better acclimated to local environments than introduced species.

One prairie grass, buffalograss (*Buchloe dactyloides*), has high drought tolerance and fair to good growth characteristics for a lawngrass. When used in arid and semi-arid locations, it produces better lawns without irrigation than any other grass.

But most lawngrasses used in the United States are not native. Even Kentucky bluegrass, which is now the dominant lawngrass in the cool humid region, is not native to Kentucky. The most drought-tolerant lawngrass for use in

this region is tall fescue, not so much because it uses less moisture, but because its extensive root system permits it to use soil moisture more effectively.

In the warm, humid South, bermudagrasses, St. Augustinegrasses, zoysiagrasses, centipedegrasses and bahiagrasses all have originated outside of this country. Bermudagrasses are generally more drought-tolerant than the others, but all do a reasonably good job in landscape situations.

Ed Davis of Okeechobee, Fla., has considered xeriscape from the perspective of a sod producer and has concluded:

"The turf industry supports the wise use of water in the landscape. We also continue to sup-

port the need for practical turf areas. The term 'practical turf area' is a replacement for the negative term of 'limited turf' found in early xeriscape material.

"An example of a non-practical turf area would be the narrow strip of turf found along the side of a parking lot, road or building. Islands of turf in the parking areas are also a non-practical use of turf. These areas consume large amounts of water and labor. The mounds that are so popular in the landscape design today are also an example of non-practical turf usage.

"There must be a balance of practical turf areas, plant areas and impervious surfaces in the landscape. Xeriscape, if it accomplishes nothing else, will focus attention on this balance."

—The author is director of The Lawn Institute in Pleasant Hill, Tenn.



Dr. Eliot Roberts:
All plants need water.

IPM or PHC? Same care, different names

Soaps, oils and biologicals are combined with plant selection and spray techniques for tree/turf pest control at the Davey Tree Co.

■ The Davey Tree Company continues to make progress in its efforts to eliminate company-wide pesticide use by 95 percent over the next four years, says Dr. Roger Funk, Davey's director of research.

The gradual reduction in chemical use is one facet of the Kent, Ohio, company's "Plant Health Care" program, begun in the late seventies. Funk thinks the term Plant Health Care will soon replace Integrated Pest Management as a more practical description of what it is horticulturists and turf managers do. Funk also believes the term, "health care" is more acceptable to today's society than "pest management."

● Plant selection is the first step in tree/turf health care: If a plant is not truly adapted to a site, no amount of maintenance will make it healthy.

● Funk reports that Davey will begin widespread use of the biological control, B.t. (*Bacillus thuringiensis*) for gypsy moth and lepidoptera control on trees in 1992.

"After several years of research and field testing," reports Funk, "we find that the newest B.t., the 4A formulation, is satisfactory if you catch the lepidopterous insect in the early stages."

Davey has also been testing the M1 B.t. strain for elm leaf beetle larvae. Results have been good, but Funk cautions that the timing must be "exactly right."

● Milky spore for turf is more successful in the transition zone; the company notes poor results in the Midwest and East.

● Horticultural soaps and oils for tree care are also being tried and tested more than before, says Funk.

"Generally, oil does a better job on mites than soaps, and soaps do a better job than oil on aphids," says Funk. Company



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research continues to determine whether the newer oils can be used during the summer leaf stage. The company has already used oils successfully during the fall, when a larger window of time exists.

"However," adds Funk, "the plants are in a more sensitive stage then, so you have to wait until they become fully dormant, as the oils will delay dormancy."

According to Funk, Davey Tree will begin using oils on a limited basis in the summer of 1992, at a two percent rate. Funk cautions other companies that re-application of oils during the summer can be harmful to trees. "We also don't know if you can apply oils to the same plant in the same year."

Other Davey research findings:

- Vegetable oils (corn, soybean): Funk says research testing of these oils has shown 40 percent control of soft-bodied, sucking insects.

- Citric oil: Has pesticide properties, but high control rates also cause injury to the plant.

- Nemoil: Quality control problems during the extraction process not yet eliminated; has potential.

- Predator insects: The problem is keeping them within the targeted area.

- Funk also looks for Murphy's Oil Soap to receive EPA registration for tree insect control in 1992.



Dr. Roger Funk: Modifying spraying equipment to reduce odor, noise and drift will be the 'salvation of the tree care industry.'

- In company turf research, oils and soaps have shown ability to control all of the common turf insects.

Selective applications are based on refinements in post-pest timing charts, and might be more accurately applied by looking at temperatures and blooming time.

- Applicator education and training: In the past, the manager made the decision to apply control products from his office. Look for applicators to become more responsible in making decisions based on identification of tree, pest and predator insects.

In developing new spray techniques, Davey wants to address what Funk calls the three "triggers" of neighbor complaints: odor, drift and noise. Solutions include:

- Downsizing equipment to suit tree size.

- Odor-masking solutions: one product, called Maskit, will hide the odor of Orthene, in a 3.3-ounce:100-gallon ratio.

- A company-designed turf sprayer with two lines, dispensing fertilizer or pesticide in amounts as small as 4 ml.

—Terry McIver

Post-emergence results are very impressive

Crabgrass control was at 100 percent for some compounds tested at Ohio State University.

■ Tests of late post-emergence herbicide efficacy show a 50 to 100 percent decline in crabgrass for some applications, according to Dr. John Street of Ohio State University.

In evaluations conducted last year at OSU, Street and field technician Jill Taylor documented late post-emergence herbicide efficacy on crabgrass. They presented their findings at the Ohio Turfgrass Foundation Field Day.

Herbicides were applied to crabgrass at the 4- to 6-tiller stages. Irrigation was withheld for two days after treatment.

The post-emergence area was verticut

in two directions in mid-April and overseeded with one pound of crabgrass seed per 1,000 square feet. The stand was maintained at a mowing height of 1-3/4 inches and received an annual total of two pounds of nitrogen per 1,000 square feet. Irrigation was provided as needed to prevent wilt. Treatments were monitored for crabgrass percentage at periodic intervals after application.

"Acclaim has shown good efficacy for post-emergence crabgrass control," says Street. "However, some discoloration and stunting of Kentucky bluegrass occurs, and efficacy drops off dramatically under drought conditions.

"Impact (BASF 514) efficacy was good at the 0.125 and 0.25 ai/A rates. However, effectiveness was reduced some, and rate of activity was significantly reduced, with 50 percent crabgrass still present on September 6 (14 days after treatment)."

Impact's label rate is 0.50 ai/A, according to BASF.

Street called Impact's efficacy "excellent" at the 0.50 to 1.0 ai/A rates, and said 100 percent control was shown in two weeks' time.

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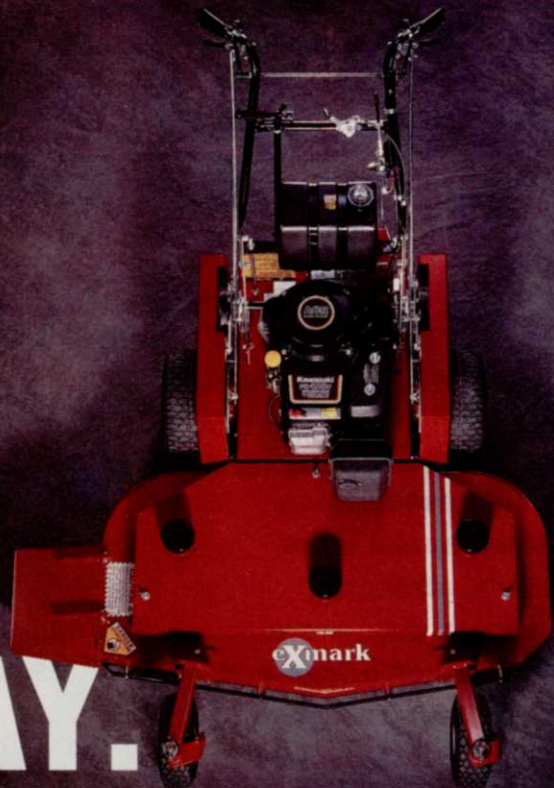
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LAWN CARE INDUSTRY

Andrews: PLCAA healthy, growing and looking to broaden its scope

In-coming association president seeks more members, stronger presence in D.C., more educational offerings and stronger links between PLCAA and state associations.

■ It's possible to describe Robert E. Andrews' philosophy in a single word: involvement.

Almost 20 years of involvement in green industry associations climax as Andrews steps in as the 1992 president of the Professional Lawn Care Association of America.

He brings to PLCAA's top post, colleagues agree, considerable and hard-earned talents as a facilitator and organizer, and more than a measure of persistence.

He's also coming into the post at a full gallop.

By late this summer he'd already developed committee assignments and by mid-fall conducted an exhaustive PLCAA strategic planning review. Next month he's conducting a workshop focusing on state association development.

Somewhere in the middle of all of this, Andrews, 45, sat down with *LANDSCAPE MANAGEMENT* to preview his 1992 PLCAA plans.

Andrews says he will seek:

● **More members.** Andrews says PLCAA must broaden its definition of the industry. "It's not that chemical lawn care is any more or less important, but our members and our potential members offer more diversified services now," he says. "We have to recognize there's a big, broad industry out there."

Beyond that, PLCAA must do a better job of



Robert E. Andrews will step aside for new leadership after his year as PLCAA president is over.

"closing the sale." He said about 900 companies inquired about PLCAA membership through September but only about 90 joined.

● **Stronger federal issues support.** The push to increase the lawn care industry's presence in Washington D.C. began this past spring when about 10 of the PLCAA's largest members contributed money (in some instances manpower) in response to the 1991 Senate "victim hearings." PLCAA set up a separate issues management fund and agreed to serve as umbrella organization for the effort. Andrews says PLCAA will intensify its efforts to get more member companies contributing to the fund, and offering in-person support.

● **More training and education.** "We've got to get back into the business of offering on-going education for our members, particularly technical education," says Andrews. "At some point we've got to bring someone back onto our staff that's technically oriented."

● **PLCAA/state association alliance.** "I'm really pleased to see PLCAA recognize

these state lawn care groups as allies," says Andrews. "They both have to exist. PLCAA can deal with issues on the federal level, the state associations can handle state and local issues."

PLCAA, he insists, is—after several years of sometimes painful but essential re-organization—a stable and growing national trade association again.

"We've come from a position of almost financial desperation to one where we're now able to breath a little easier," he says. "We're in the black and we can begin building our financial stability over the long haul."

Also, he points out, PLCAA membership—which dropped dramatically after hefty 1989 dues increases—is climbing again.

These two inter-related events (financial health and more members) couldn't take place, explains Andrews, if PLCAA's officers and board of directors hadn't made difficult decisions the past two years; first, overhauling PLCAA's staff (and staff expenses) and second, reducing dues for smaller, independent lawn care companies.

Equally encouraging, believes Andrews, is the long-term agreement PLCAA worked out with the the Associated Landscape Contractors of America and the Professional Grounds Management Society concerning the Green Industry Expo (GIE).

"Having our three associations together for an annual exposition is good for all of our members, good for our suppliers and, ultimately, good for the entire green industry," says Andrews, PLCAA's negotiator in the 11th-hour agreement reached this past spring in Cleveland.

That meeting outlined the involvement of the three trade associations in GIE into the mid-1990s.

—Ron Hall

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Posting, notification key topics in lawn care industry spotlight

■ Posting and notification are the pesticide issues that communities are focusing on after June's U.S. Supreme Court ruling. And, yes, they're making their own rules, as this series of articles about various communities throughout the nation shows.

Lawn pros seeing red over large, pink lawn posting signs

Too late to halt local laws, LCOs take up costly fight over restrictive requirements and get initial favorable ruling.

■ Once a local board drafts and puts pesticide laws on the books, it will fight to keep them there.

That's what the green industry is finding out.

ChemLawn of Easton (Mass.), TruGreen of Warwick (R.I.), Tuckahoe, and The Lawn Co., Inc., are defendants in a lawsuit filed by the Mansfield (Mass.) Board of Health. The suit alleges the companies disobeyed town pesticide laws early this past summer. It seeks a total of \$16,000 in fines from the companies.

The four, as a group, had been contesting the town's regulations.

Now, as a group, they're contesting its suit.

The five-member Mansfield Board of Health passed the regulations last February. Mansfield is a small city just off I-95, closer to Providence, R.I., than to Boston.

By the time lawn care companies reacted, and came in person to seek a compromise, the health board's resolve had hardened.

Emboldened by a June U.S. Supreme Court decision, the board soon thereafter scouted for, and found, victims.

"Apparently someone went around one day and determined we weren't complying with their laws," Ed McGuire, president, The Lawn Co., Inc., tells LANDSCAPE MANAGEMENT.

A town official seemingly took company names from lawn flags—the ones required by state law—and cited the companies for not posting pink (that's right, pink) 8-by-11-inch signs that regulations mandate.

Other provisions of the Mansfield "Turf

Care and Plant Regulator Applicators" regulation:

● Companies applying a turf pesticide or plant growth regulator within Mansfield must obtain a certificate of registration from the health board each year. The fee is \$100.

● The names of all products used as turf pesticides and plant growth regulators must be filed, with appropriate labels and MSDSs, with the board.

● All pesticide spills must be reported immediately to the board.

● All lawn service vehicles must carry storm drain protective covers and 100 pounds of granular absorbent.

● All applicators must be licensed. The license shall be surrendered for inspection upon request of the board or its agent.



McGuire: we weren't complying

Failure to comply may be cause for revocation of the registration certificate.

● There's a \$500 per violation per day penalty for violations in posting, product registration, and for failure to report spills.

In late August Superior Court Judge John Xifaras denied the health board's preliminary request to force the companies to comply with the laws.

"Any local regulation which imposes additional or inconsistent conditions or requirements on the use of pesticides beyond those established by state law must fail," wrote Judge Xifaras.

He said the Mansfield law "frustrates" the purpose of having standard signs as required by state law. These signs, he said, are recognizable by the public.

But the Xifaras decision represents, at best, a dubious victory for the applicators. Even if the lawn care firms win the lawsuit, they will have spent thousands of dollars in legal fees.

Meanwhile, the Mansfield health board continues to spend taxpayers' money in legal fees over concerns already debated and decided upon by the State of Massachusetts. That's the green industry's position anyway.

—Ron Hall

Farm, green industry unit for Indiana pre-emption law

Industry fears too many masters; weakening of state's regulatory framework if towns meddle with pesticide laws.

■ It's no easy matter telling a city councilman or county commissioner to butt out of the pesticide legislation picture.

There's some question now—in light of the U.S. Supreme Court ruling last June in *Mortier v. Town of Casey*—that you even

can. Or should.

"It's very difficult to tell people that their local elected officials don't have a say over certain things," admits Robert Andrews, owner of a lawn care company in Carmel, Ind. "After all, they are elected to represent their constituents' best interests."

But Andrews isn't the only business person or farmer in Indiana skittish about local legislators telling them what chemicals they can use and how they can use them.

Indiana, like most states, doesn't specifically forbid local political bodies from making their own pesticide laws.

Indiana does now, however, have a

coalition (green industry, pest control, agriculture) that wants to change that.

In fact, only Pennsylvania, West Virginia, Minnesota and Louisiana specifically address the question of smaller political bodies within their boundaries making pesticide law, apart from federal and state regulations. Generally speaking, towns, counties, etc. within these states cannot (the lines get kind of fuzzy on some issues) enact separate pesticide legislation.

Elsewhere, including Indiana, any local government seemingly can appoint itself as a pesticide regulator.

Andrews, in-coming president of the Professional Lawn Care Association of America, is one voice in this coalition seeking to convince Indiana legislators to pass a state law to keep local governments from becoming pesticide "policemen."

Adds Steve Biggers, golf course superintendent at Highland Country Club, Indianapolis: "We don't need over-reaction by any communities to pesticides. Nobody's going to benefit from communities passing pesticide laws in knee-jerk fashion."

The coalition, meeting twice by late summer, is moving deliberately. Still, it

hopes to line up legislative sponsors by year's end and bring the matter before state lawmakers early in 1992.

Andrews' application company, The Greenskeeper, operates in six central Indiana counties. He says a proliferation of local pesticide laws would be "disastrous."

An explosion of communities with different pesticide use laws could even threaten Indiana's present statewide regulatory system, a system Andrews describes as knowledgeable and progressive.

Indeed, representatives from the Office of the Indiana State Chemists have attended coalition meetings.

"They've invited us and included us in their meetings because we're the people who regulate pesticide use," says Dave Scott, a pesticide regulator based at Purdue University. "They obviously want to know what our position is in respect to pesticide laws."

Apart from convincing state lawmakers that the local meddling in pesticide laws is not wise, coalition members seek to convince government officials (and the public) that, as professional applicators, they're taking steps to safeguard the public.

Many lawn and landscape firms began

posting chemical applications before the matter even became an issue in their communities.

And now, posting, it seems, is becoming commonplace on golf courses within Indiana, too.

Members of each of the state's four golf course superintendents associations support a plan to post on the 1st and 10th tees on days when chemicals are used on their courses. Also, a sign in each pro shop will advise golfers that they can obtain information concerning chemical use on the course from the course superintendent.

Although Indiana's coalition is broad based and includes support from Indiana's strong agricultural lobby, members are uncertain just how much the state will restrict local pesticide regulation—if at all.

"There are two ways to approach preemption," says Andrews. "The state can outlaw local political bodies from legislating pesticide regulations. Or it can permit them to, but only with guidance from the lead regulatory agency in the state."

Adds Biggers, "we don't think it's realistic that we're going to get total preemption."

—Ron Hall

Compromise: the key in New Jersey

Try to influence local legislators at an early stage, rather than after the fact.

■ This past summer, one of David Sandler's Lawn-A-Mat customers told him of the borough's plans to toughen up the notification requirements in Fair Lawn, N.J. Sandler acted fast.

"I contacted the borough leaders and let them know I wanted to be apprised of the developments.

"Initially," recalls Sandler, "they would not give us any information, but they released information to the newspapers. Rumors and mis-information followed, but they wouldn't let (applicators) in on what was happening."

Sandler persisted, and soon he and two other landscapers were able to arrange a meeting with borough officials.



Sandler: rumors run rampant

it was kind of insane. Over the course of about a year, we met three or four times in group sessions, phone calls. Ultimately, the ordinance that was adopted was one we could live with."

Ultimately, says Sandler, ordinances become anti-competitive.

"Dealing with a patchquilt of local regulations is a nightmare we anticipate, though I think New Jersey has a statute which would encourage them to follow state guidelines."

"Initially," Sandler recalls, "the borough had wanted 100 percent pre-notification of everyone within 800 feet."

"We let our side be heard, and we kept the discourse on a civil level, even though we thought

As a responsible businessman, Sandler rolls with the punches.

"People are being affected by something they didn't want or need, regardless of what we consider the risk," says Sandler, who thinks neighbors are entitled to be pre-notified and are entitled to reasonable protection so that they won't be exposed.

Sandler advises company managers to stay informed. At the first hint of legislative activity, establish contact with the legislators, and let them know you'd like to be kept abreast of legislative developments.

Such activity represents a time commitment, "even though it means that after a 12-hour day you go to a work session with the borough officials in the evening," admits Sandler. "Someone has to make the effort to go to one of those work sessions, if you want to have any influence on the ultimate legislation.

"You're better off to have an influence at an early stage than to try to deal with it after the fact," Sandler advises. "If you stick your head in the sand, (the ordinance) is not going to disappear."

—Terry McIver