MARKET
WATCH

LAWN/TREE CARE

A good option

In Naperville, Ill., a public-private partnership demonstrates removal isn't the only option for EAB-infected trees. *By* MARISA PALMIERI

Municipality maintenance budgets typically have two line items for trees: prune and remove. Cities often don't have room in the budget to treat trees with control products, no matter how dire the need, but a public-private partnership in Naperville, Ill., over the last few years proved it can be done and it can save thousands of ash trees.

Naperville, like much of Illinois—and much of the Northeast U.S.—has an Emerald Ash Borer (EAB) problem. This tiny, green insect is lethal to ash trees if it goes undetected and untreated, and Naperville has about 16,000 ash trees on municipal property alone. The pest, which was first identified in the U.S. in Michigan in 2002, is predicted to cause $10 billion to $20 billion in losses to urban forests over the next decade.

Last year, Naperville City Council approved a plan to treat all viable municipal trees with the insecticides dinotefuran, emamectin or imidacloprid. It was no easy decision, but motivated residents, an educated city council and private partnerships made saving trees a better option than removing them.

"One common thing with all elected officials is we don't like to spend money—especially with unknown outcomes," says Naperville City Manager Doug Kreiger. "Our city council went to the trouble of learning and understanding the full treatment process and balanced that with the risk of no treatment or across-the-board tree removals. They determined we needed to do what we could to save our urban forest."

Ultimately, Naperville will spend about $2.3 million to treat its municipal ash trees, says Dick Dubulinski, director of public works. Tree removal would have cost $6 million. The Care of Trees manages soil applications for 14,000 of the city's trees and another company handles trunk injections for about 2,000 trees.

Having a record of successful treatments was an important piece of the puzzle in Naperville. That came in the form of the city being a part of Valent Professional Products' Legacy Tree Project (LTP) since 2010. The program provides free insecticide treatments for five years for 150 to 200 municipal ash trees. The goal of the Legacy Tree Project is to build awareness about treatment as an option.

The healthy state of the LTP-treated ash trees over a two-year period helped Naperville officials understand that treatment was an effective option for the rest of the muni trees.

For cities that forgo treatment, their dead ash situations may reach an "exponential phase" in which it's too late for treatment and reactive tree removal is unsustainable, says Joe Chamberlin a field development manager for Valent. There won't be a large enough budget to remove dead trees and there are not enough tree contractors to remove them, which has safety implications because dead trees could fall, damaging property or injuring citizens.

That may be the fate for the city of Chicago and many other cities, too.

"I've heard it said that we're going to be an island with the only ash trees around," says Naperville City Arborist Jack Mitz. "And I think it's true. If your intention is to save trees, you can't wait and debate because it will be too late."

A dead ash tree on private property in Naperville, Ill., is flagged for removal. The city is treating its 16,000 municipal ash trees with insecticides.

PHOTO: LANDSCAPE MANAGEMENT

Design debate

Does software save time or muddy the irrigation design process?

By JONATHAN KATZ

Professionals say there are pros and cons to both hand drawing designs and automated irrigation design software.

Designing an irrigation system can be a time-consuming process that becomes increasingly complicated when errors occur. Many irrigation contractors use design software to hasten the process and improve accuracy. Experiences using computerized design often vary. Some users report major efficiency increases, while other designers prefer the intimate knowledge they gain from manual designs.

Jason Anderson's first experience with irrigation design software occurred in 2005, a year before he joined the staff at Design Two Four Two Six in Bellevue, Wash. A coworker at his former company had introduced him to a system by Land F/X. Anderson was so impressed by the system's ability to automate designs that a year later he recommended it to his new boss at Design Two Four Two Six.

The design software costs about $3,000 for a single license. The software works within existing AutoCAD systems. Companies that don't already have Auto-CAD can purchase a basic AutoCAD version from Land F/X for another $1,000. Land F/X and similar systems enhance the capabilities of AutoCAD by performing automated calculations and allowing more flexibility to make adjustments.

The system has cut the time Anderson spends on designs by at least one-third, freeing him to take on additional projects. Previously, Anderson drew the plans by hand. He used Excel spreadsheets to tally the number of heads needed for a particular plan.

With Land F/X, Anderson can select a standard set of heads for a particular design and then click a tool in the program that automatically connects the lateral lines, the main line and the valve.

"I'm able to link them all together and tell the program how much water is coming through the water source," he says. "The program has been set up so it can take these calculations and essentially tell you whether or not the irrigation system is going to work. It really automates everything."

Anderson also can input elevations and access manufacturers' product information through the system.

The automated design process reduces the likelihood of mistakes, he says.

If Anderson misses a critical design component, the computer program automatically highlights the overlooked area, saving the company from potential change orders or stress on the irrigation system caused by poor installations.

TESTING THE WATERS

Landscape architect Marina Wrensch began using a four-week trial version of Land F/X in January to see if she could eliminate human error from the design process and improve efficiency. Wrensch, who works for Cameron McCarthy Landscape Architecture and Planning in Eugene, Ore., says her firm currently draws head layouts and zoning on trace paper before drafting the plan in AutoCAD. The hand drawing allows the designers to make adjustments that aren't possible in Auto-CAD. Land F/X provides similar flexibility while automating the process.

Wrensch estimates the system can cut design times by at least 30 percent.

"The time I saved scaling blocks, calculating GPM, PSI and pipe sizes was tremendous, in my eyes," she says.

While the system shows promise, there were some compatibility and technical issues, Wrensch says. Half of Cameron McCarthy's landscape architects use AutoCAD LT, which is not compatible with Land F/X. In addition, the learning curve was steeper than AutoCAD because of the expanded range of tools available. Wrensch also encountered a technical glitch when adding pipe hoops that caused all the pipe sections to disappear.

"Technical support did not know why and how this happened," she explains. "But with every piece of technology, you get a few hiccups nobody can explain."

So far, Wrensch hasn't convinced her company to purchase the Land F/X system, but she says she for one prefers computer-created drawings.

HANDS-ON KNOWLEDGE

Hand drawings may be more time consuming, but they can be invaluable to contractors who do both design and installation.

In 2004, Jim DeJarnatt left the telecommunications business to join a landscaping firm. Last year DeJarnatt decided to form his own irrigation business, a three-man operation called Aqua Jim in St. Louis.

DeJarnatt typically can produce a drawing in four to eight hours. He has dabbled with AutoCAD in the past but says the drawings offer him insight into the job that automated systems cannot.

"I like the drawing aspect of the work," he says. "It gives me a good feel for the job, especially if I'm going to be doing the installation. It gets me immersed in the job."

Katz is a freelance writer based in Cleveland.

PHOTOS: CAMERON MCCARTHY LANDSCAPE ARCHITECTURE

Paying by piecework

Does compensating employees by the job pay off? *By* DAVE TUCKER

When it comes to paying maintenance crewmen and foremen, have you considered the piecework system—paying your employees by the job instead of by the hour? With piecework you pay your employees for getting the job done; it doesn't matter how long it takes them.

PROS OF PIECEWORK

The one big pro is obvious: The employee begins to think like an owner.

Under a piecework system, employees are less often found milling around the shop. They think twice before coming back for a broken bracket on a trimmer. Time is money. If a foreman does have to come back, he'll make smart decisions, like leaving the other workers on the job. You'll also find him amazingly anxious to vanish from your presence to get back on the job. Routing will improve, too, as 7/11 stops suddenly will seem much less necessary and become less frequent.

Your foreman now correlates maximizing his paycheck to maximizing your product or service. Upon arrival at the job site, he's no longer inclined to wait for the song on the radio to end or finish the conversation regarding the latest subtleties of last night's game scores. He wants to start cutting as soon as he parks the truck.

In addition, instead of three crew members waiting around for the last crew member to finish up, they are all finishing up at the same time.

Wasted minutes add up quickly. If one crew does 20 jobs in a day and wastes five minutes on each job, it's 100 wasted minutes per crew member. For a two-man crew (200 minutes) that's three hours and 20 minutes per day. Can you afford it?
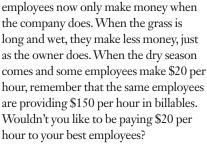
RAISING PAY

What if you could compete with the fast-food joints by attracting intelligent, motivated and hardworking employees who'd rather work in the great outdoors? Within the piecework system, you may be able to offer a hardworking individual the possibility of $20 per hour.

Plus, by using this system, owners spend less time managing employee problems and more time developing their businesses. In aligning employees' goals with your own, workers can become the team you've worked so hard to produce.

Ultimately, with a piecework system employees now only make money when the company does. When the grass is long and wet, they make less money, just as the owner does. When the dry season comes and some employees make $20 per hour, remember that the same employees are providing $150 per hour in billables. Wouldn't you like to be paying $20 per hour to your best employees?

Because the piecework system requires employees who are concerned about quality, not simply in making more money, this system needs the right kind of people. With piecework, employees need to be smart enough to realize that their paycheck depends upon satisfied customers.

IMPLEMENTING PIECEWORK

Any time a change is implemented by an employer, employees immediately assume it's to make the owner's pocket fatter and theirs thinner. To address this concern, consider introducing the piecework system gradually. At first, you may want to institute a substantial production-based bonus system (where approximately 10 percent to 20 percent of employees' pay would be a result of production bonuses). Then, begin by paying $1 per man-hour produced in a week, after 50 hours has been produced. Employees will see the immediate benefits of the system.

Ask yourself why you can be so much more productive in the field than your workers. Are you not already on the piecework system? Put your foremen and crew members on the same system and you'll find that your employees will not only work better, they'll work smarter.

PIECEWORK EXAMPLE

Each job is rated as X number of man-hours. A $45 job is approximately a 1.0 or 1.2 man-hour job, either $45 per hour or $37.50 per hour. If your labor costs average 40 percent, you can pay your workers 35 percent of the billing price, or $13.50. This strategy gives your otherwise $8-per-hour employee the opportunity to make $13.50 per job, no matter how long it takes him.

Tucker is president of CLIP Software and author of "Lawn Maintenance and the Beautiful Business," from where this article is adapted. Reach him via thebeautifulbusiness.com.

Seeing is believing

3-D imaging software makes life easier, clients happier for Pennsylvania-based Plantique.

By EMILY SCHAPPACHER

When Brian Richardson shows his clients 3-D images of their landscape design projects, he says he can see the light bulbs go off inside their heads. They may ask for a few more trees by the garage or perhaps a longer retaining wall, and Richardson can show them what it would look like with just a few clicks of a mouse. He can even add in the sound of a bubbling waterfall and it's as if the clients are already enjoying their backyard oasis.

"Even though [before] we would present a detailed plan and show them examples of materials, it was very tough for the client to visualize exactly what it was going to look like," says Richardson, senior designer at Plantique in Allentown, Pa. "But now, by the time we get started, they have already seen a very good representation of what the design will be like, and I don't have to assume they understand what we are going to do."

With design/build comprising 75 percent of Plantique's service mix, and with a customer base of 80 percent residential clients, the software has become an important sales tool for the $6.9 million company.

Richardson began seeing 3-D imaging software at trade shows and in trade publications about two years ago and knew Plantique needed to embrace the technology to stay competitive. After testing various programs, Plantique chose Realtime Landscaping Architect because it worked with its current estimating system. Other programs with 3-D capabilities include Pro Landscape, Dynascape and VisionScape.

Plantique started using 3-D regularly last March. The company has four software licenses, and spent about $5,500 initially to acquire the software. It also needed to add a plotter/scanner/copier to print designs to scale in color, which cost approximately $8,000.

SALES EFFICIENCY

Richardson says the software speeds up a client's decision-making process. Plantique has fewer mistakes and misunderstandings between clients and designers and fewer callbacks, as well. Sales meetings are more productive because the images decrease the amount of time designers need to spend explaining what the finished project will look like. Changes suggested by the client, which used to take a day or two to communicate through a hand drawing, can now be made in seconds during the very same meeting.

"It improves our efficiency because the client sees with their own eyes what they are getting," Richardson explains. "There will always be questions and changes on the fly, but many times it's nipped in the bud."

Like many types of technology, the software offers regular updates that enhance its performance. Over the past year, Plantique has installed updates that add the capability of including outdoor sounds, moving human figures and different neighborhood background settings, like mountain ranges or the countryside. Richardson says the updates are simple to install by just clicking on them when he receives a notice. But the updates, he adds, are one of the few simple aspects of the software for Richardson, 50, who says he's still trying to master the program. He's received help and training from some of Plantique's younger designers, who learned the program in school. Despite all the bells and whistles of 3-D imaging, he says he still believes in the importance of hand sketching. He often begins a sketch on paper and then scans it into the 3-D program to bring it to life.

Richardson advises contractors to communicate to clients that the 3-D images are "not exact representations, but very close approximations" of what the finished design will look like, as details like shapes, colors or material textures may vary in real life. But for Plantique, 3-D imaging has been a time-saving step in the right direction that Richardson says has placed the firm ahead of the curve.

"Hand drawing has worked well, but we knew it was going down this road," he says. "It's the wave of the future and it's only going to get better." **LM**

Schappacher is a freelance writer based in Cleveland.