

Davey to reduce pesticide applications in tree and lawn care by up to 80 percent

The Davey Company of Kent, Ohio, will reduce the use of traditional pesticides by 75 to 80 percent in tree, shrub and lawn care services by 1990.

"We will realize over 30,000 gallons of pesticides that will not be applied in 1988," says Roger Funk, Ph.D., vice-president of technical and human resources. "We will realize that without reduced control and with no additional cost to the customer."

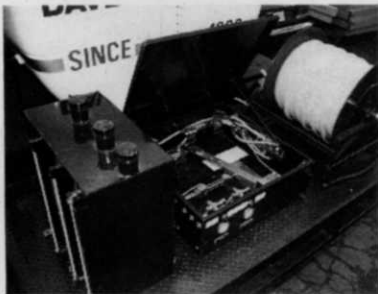
The company began what it calls its Plant Health Care concept in 1987. In five test territories, use of traditional pesticides on trees and shrubs were reduced by 50 percent. And use of herbicides and insecticides on turf were reduced by 40 and 50 percent, respectively.

"There are alternatives which are acceptable to the American public in terms of pesticide use," says Funk.

Davey surveyed 10,000 customers and found that they want less pesticide use, no more pests and no increase in prices. Funk and other Davey executives believe that the Plant Health Care concept is the answer to customer wishes.

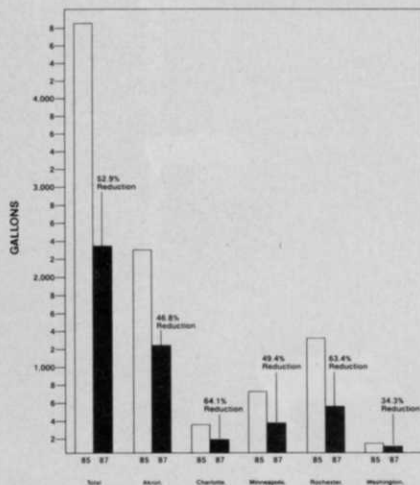
One key development in pesticide reduction resulted when Davey researchers mixed soaps with reduced amounts of pesticides. They found that soaps not only control pests, but also appear to act as an adhesive, adhering the reduced levels of pesticides to leaves longer, providing a residual effect. To achieve further pesticide reductions, Funk and his staff are continuing to test alternative products like mineral, neem and citrus oils; and natural pesticides derived from plants such as rotenone and pyrethrum.

"We're going to increase the use of horticultural oil in summertime," notes Funk. "And I'm extremely im-



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pressed with the results we've seen with neem oil."

Funk is likewise high on soaps for insect control. Says he: "With some insecticides, we've found that we can reduce applications to 1/16th of the original, mix with soaps and get the same level of control. In a petrie dish, the soaps will control all known species of lawn insects."

Funk adds that nematodes "look extremely promising."

Other techniques being used by Davey to reduce pesticide use are special pesticide timing charts keyed to the host, its "Customizer" spray injection system and low-drift spray equipment.

At presstime, Davey was considering marketing its "Customizer" to the lawn care market. The patented spray unit is specially designed for spot application of pesticides. Pesticides are not tank-mixed, but are secured in a separate reinforced tank and are injected in the fertilizer line only as needed. Another feature of the unit is a no-drift nozzle.

"It's not only the 'Customizer,' but it and the nozzle together that make it unique," Funk told a special press conference last month in Cleveland.

Brian Jeffers of Davey has invented a tree spray gun whose pressure can be adjusted by the technician at the gun without having to return to the truck. Use of this gun makes it easier to go from large trees to small shrubs

or vice versa without worry of excessive drift.

The bottom line? Less pesticide use. Look at these figures:

Before implementation of the Plant Health Care program, Davey had projected the use of 27,900 gallons of tree pesticides in 1988. Since the move to PHC, that estimate has been downgraded to 6,900 gallons. Davey had planned, pre-PHC, to use 16,000 gallons of turf herbicides; now, they're figuring on 7,600 gallons. And the company had plans for 3,300 gallons of turf insecticides before PHC; that estimate is now 1,930 gallons.

One of the most important factors in making total Plant Health Care work is educating the customer, Funk believes. "Education is the greatest service we provide to the customer. Beginning in 1988, we will take a more pro-active approach to education." He notes that Davey lawn technicians may even offer to adjust customers' lawn mower cutting heights this summer.

Davey president Dave Cowan concluded the press briefing with this:

"We're not doing this to save money or to make money. We're doing it because we believe in it."



Funk

INDUSTRY

'Get off our duffs,' says Eliot Roberts

Turf is a multi-billion dollar industry. In fact, it is valued nationally at about \$25 billion. That's the good news.

Eliot Roberts, Ph.D., executive director of the Lawn Institute, says the value of the turf industry can be assessed in four ways:

1. Facilities—golf courses, parks, cemeteries or home lawns.
2. Manufacturing—mowers, fertilizers and chemicals.
3. Services—consulting, USGA specialists or commercial

continued on page 14



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ENDANGERED LABELING...Chemical producers should realize by now that quick action on an EPA judgment is sometimes folly. Such is the case with endangered species labeling. Since it has become unlikely the endangered species program will be in place by this September, the EPA is issuing three options, according to a report in *Pesticide & Toxic Chemical News*. First, products already with new labels can be used until the product is gone. Second, stickers can be placed over language required by PR notices 87-4 and 87-5. Third, use labeling approved prior to issuance of those to PR notices. Stay tuned.

IT COULD HAPPEN...Fire can devastate a maintenance operation, as Scott Wallace, superintendent at Waveland Golf Course, in Des Moines, Iowa knows. After it happened to him, he learned some valuable lessons. His advice: store equipment and chemicals in separate areas...keep a good inventory, especially all equipment receipts for anything you still use...keep records in two different areas.

CONGRATULATIONS...to Dr. Eliot Roberts, executive director of the Lawn Institute. Roberts received the Iowa Turfgrass Institute's Meritorious Service Award. Roberts started some of the first research plots at Iowa State University.

PRUDENT PRUNING...Be careful when you prune wild cherry or black locust trees near a pasture. The branches are poisonous to animals which eat them, says John Mead, extension agent at Rutgers University's Cook College. According to Mead, the branches become more dangerous as they dry out.

REINCO CONSOLIDATES...Reinco, Inc. a New Jersey-based manufacturer of hydrograsses and power mulchers, has announced the dissolution of its 20-year-old sister company, Grass Growers, Inc. Grass Growers produced Terra Tack tackifier used to minimize erosion. Information on the availability of Terra Tack trademark can be obtained by calling 800-526-7687.

SHRINKING POOL...The labor pool for young adults is shrinking—not a good sign for service-oriented industries like lawn and tree care and landscaping. According to National Arborist Association executive director Bob Felix, there will be 24 million 18- to 24-year-olds entering the job market in 1990. This compares with 30 million who entered in 1980. Competition for these people will be intense; Felix believes that the green industry should be prepared to pay for its share of the market.

representatives.

4. Institutional—university research and extension.

The bad news, however, is that the general public doesn't realize the worth of the turf industry, Roberts says. "We need to get off our duffs and educate people," he says. "The production of seed and sod is a marketable commodity, but there's value to us in using it, not just how it's produced."

Roberts spoke at the Iowa Turf conference.

REGULATIONS

OSHA revises its trimming regulations

The Occupational Safety and Hazard Agency (OSHA) revised its regulations concerning trimming trees in the proximity to telephone, cable vision and other communication lines, including house drops.

Through the efforts of the National Arborist Association, previous requirements for extensive safety training record-keeping were dropped. The new regulation, effective Oct. 28, 1987, allow simple training certification.

Employers retain the right to provide this training exclusively on the job. The new requirements state in part: "Employers shall provide training in the various precautions and safe practices required to trim trees in proximity to telecommunications lines. Such training shall consist of on-the-job training or classroom type or both.

"The employer shall certify that employees have been trained by preparing a certification record which includes the identity of the person trained, the signature of the employer or the person who conducted the training and the date the training was completed. Such record shall be maintained on file for the duration of the employee's employment."

If verifiable training occurred before the new regulation, then further training is not necessary. Training includes the following:

"1) Recognition and avoidance of dangers relating to encounter with harmful substances and animal, insect or plant life;

"2) Procedures to be followed in emergency situations; and

"3) First aid training, including instruction in artificial respiration where appropriate."

For complete details on the new regulations, contact OSHA or the NAA at P.O. Box 1094, Amherst, NH 03031; (603) 673-3311. **LM**

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BOWL



SUPER TURF

When there are only 25 days to go from dirt to turf, how do you make a field good enough for millions of TV viewers? George Toma and his crew accomplished it at Super Bowl XXII.

by Heide Aungst, managing editor

The best story to come out of Super Bowl XXII certainly wasn't the game between the Washington Redskins and Denver Broncos. It was the one about the dead pigeons.

Haven't heard that one yet?

The *L.A. Times* carried an article about dead pigeons on the field at Jack Murphy Stadium. California environmentalists pointed to turf pesticides as the culprit.

It turns out the pigeons were dead long before they even reached the field. NFL athletic field manager George Toma got the frozen birds from a veterinarian to scare live pigeons away from eating the pre-germinated seed.

For the most part, it worked. At

least enough to let the Ph.D. ryegrass mixture from International Seeds sprout.

The January 31st game was Toma's 22nd Super Bowl. Toma normally cares for the Kansas City Royals' and Chiefs' synthetic game fields and natural practice fields.

Pre-game pressures

"Hug the wall!" Toma yells at a pre-game performer taking a shortcut across the field. Thousands of pre-game and half-time performers swarm the stadium for rehearsals two days before the game. "This is a groundskeeper's nightmare. I think we counted 600-plus wheels going over this place...2,000 performers..."

Toma covered the field with a plas-

tic tarp, under which was Warren's TerraBond to protect heavily trafficked areas.

Toma brought a crew of 12 from Kansas City. Included were the crew's business manager Chip Toma, and foremen Scott Martin, Andre Bruce and Doug Schallenberg. San Diego field manager Brian Bossard and a crew of eight also worked on the field.

The turf was a mere 25 days old for the NFL championship game. Sports-casters blamed a fall in the first quarter by Washington quarterback Doug Williams on the field conditions. "The Redskins complained because they had to use longer cleats," Toma said. "But the Broncos said they had to wear shorter cleats."

When Toma took charge of the



Jack Murphy Stadium before Toma's crew worked on it.

field, it was almost bare after the Chargers and San Diego State football seasons, a high school football tournament and the Holiday Bowl. Dormant Bermudagrass covered only the sides of the field.

"It was sodded in the spring with Santa Ana," Toma explained. "The Bermuda took a Trailways bus someplace. My men kept on talking that we maybe should sod."

Starting from scratch

Sodding would have been simpler but more expensive. Toma decided to seed.

The San Diego field has a four-foot sand base. But clay from a previous sodding error layered the top inch. The clay, in essence, saved the day. It gripped the roots of the seedling turf better than pure sand.

Toma took over New Year's Day. First, his crew removed the paint in the end zones with Jacobsen sweepers and sucked up the old paint with a Turf Vac. "We had to take the paint off the numbers because they weren't up to NFL specs," Toma said. "They have to be 12 inches from the line. I noticed it on TV. A couple of other clubs will have to be reminded of it next year."

They swept the field with a Parker sweeper about the time they began to pre-germinate the seed in barrels. "We usually change the water twice a day, but some days we'd drain it and not put the water back in. We pre-germinated at different stages."

While the seed germinated, the crew tackled the field. "I couldn't use a verticutter or there'd be nothing but dirt," Toma said. He wanted a Meeker harrow to prepare the seed bed, but had to settle for an old Rogers aero-

blade seeder.

"Then we seeded like a golf green with 2,000 pounds of seed," Toma said.

Toma's son Chip prepared the the seed concoction. His recipe is described as "a pinch of this, a dash of that—about half a shovel-full of Milorganite, a big shovel of pre-germinated Ph.D., then Turface" in Lesco and Scotts spreaders.

The next day, Toma used a Core Master aerifier with $\frac{5}{8}$ -inch solid tines set for $\frac{3}{4}$ to 1 inch depths. The tines pushed the seed into the field.

"We put 72 holes per square foot," Toma said. "Then we seeded again. If I had to do it again, I would have used $\frac{3}{4}$ -inch tines at a depth of $3\frac{1}{2}$ to 4

inches. That would have made 142 holes per square foot."

The seeding/coring/seeding process causes turf roots to grow at different levels in the field. The seed sprouting in the holes will have young roots starting at the one-inch depth.

That night it rained just the right amount— $\frac{15}{100}$ of an inch to be exact. Two days later the crew top dressed the field with two parts nitrohumus to one part sand.

The crew covered the field the next day with 24 rolls of 40 x 100 ft. six-mil plastic. Then they pulled a pinspiker with a three-gang mower over the plastic to allow the turf to "breathe."

Within six days, the ryegrass had grown to $1\frac{1}{2}$ inches. "I called up Doc Watson (agronomist Jim Watson, Ph.D., of Toro) and he said, 'George, slit that canvas from goal post to goal post and take it off from 10 to 2:30,'" Toma said.

The seventh day after seeding, the crew mowed the field. By the week before the game, they mowed every other day. They sprayed the field with Ferromec and Bovura to green-up the color. "You see a big difference with iron," Toma said.

The rest of the time was spent with details such as painting the fields and sidelines for ABC-TV's cameras, putting up goal posts, and putting about 2,000 feet of windscreen around the practice fields to block out fans and scouts.

The boss

"Off the field now!" George yells while pulling back the plastic tarp. "We have a ball game to play."

continued on page 18



LM managing editor Heide Aungst and field manager George Toma check out how well the field held up after Super Bowl XXII.



The 'recipe' of pre-germinated seed, Milorganite and Turface was put on the field by spreaders.

"Give me a half-hour more," the ABC producer yells back. "The show takes 12 minutes, you've got 12 minutes," Toma says.

By this time, it's 8:45 p.m. The crew has been at the field since 6 a.m. and they're eager to return to the hotel.

Thousands of sock-footed (Toma doesn't allow shoes on the field) Jazzercisers, piano players and Rockettes do a final half-time run-through and scurry off the field. The crew pulls the tarp back to reveal bruised turf and a field rutted from the wheels on movable stages. The crew hand-sweeps rutted areas. Around 11 p.m. they finally leave the field, having had only Oreos for dinner.

At 6 a.m. the next day, the crew is at the field again to remove the tarps. "The tires (on the stages) should have been twice as wide as they were,"

Toma says, slightly upset. "Just one of those weighs 4,000 pounds...two baby grand pianos, two people playing, six to eight girls dancing...These people never did this before. They're used to dancing in New York on a stage."

Next, the ruts are patched. "I take my hat off to the Ph.D.," Toma says. "I also take my hat off to my crew and Brian Bossard's crew. Today they're not walking, they're running."

After mowing the field at $\frac{5}{8}$ ths of an inch, they roll it with two people on the back for added weight. Next, the entire field is re-painted, using large stencils for the numbers and logos.

George's crew is slowed a bit by an insert sportscaster Frank Gifford had to tape. They can't get in the way of the cameras.

On Sunday, the crew meets in the hotel lobby before 6 a.m. They pile



George and Chip Toma discuss field strategy while Chip paints.

into a van and car and head to Denny's restaurant. "This might be the last time we eat for awhile," warns Chip. George sits by himself, reading the morning paper. The rest of the crew talks about the field, the game and the Pro Bowl (where several will head Monday morning after the game). "Can you imagine what it would be like if could sleep in and pop open a beer, watching the game from the couch?" one says.

Super day

By 7:30 a.m. they're on the field with the Parker Sweeper and paint sprayers. By 8 a.m., the crew rakes and sweeps the field.

Toma walks the field up and down, over and over again, occasionally shouting instructions to crew members.

After sweeping the field so the turf stands up, they mow it twice at $\frac{5}{8}$ inches with a John Deere greensmower.

At 12:40 p.m., the crew emerges from the maintenance area in crisp



George Toma in front of the pre-Super Bowl field.



Doug Schallenberg and Scott Martin hand-sweep the field to bring the turf upright before mowing.

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San Diego field manager Brian Bossard and George Toma oversee the workings of their combined crews.

new red-white-and-blue warm-up-suit uniforms. ABC grabs George for a pre-game interview. Proudly, he talks about the 25-day-old ryegrass before a national audience.

The pre-game show goes well. Kick-off is at 3 p.m.

The crew waits patiently with photographers by the Bronco bench. They can't really enjoy the game, because they must be ready to run onto the

field to replace divots as needed.

At the half, with the Redskins leading 35-10, the crew sweeps, rakes, replaces divots and picks up trash.

After the Redskins complete a 42-10 pounding, the crew breathes a sigh of relief. It's kind of like Christmas. All that preparation and then, in a matter of hours, it's over. But they won't have much clean-up: the field will soon be torn up by a



The entire crew is needed to roll the tarps off the field.

motocross event.

Fans clear out. Toma walks the field one last time. "I've never seen 25-day-old grass hold up this well," he says.

The crew leaves the field around nine, posing for a group picture outside the van. "I'm proud of you guys," Toma says.

The Redskins weren't the only winners at Super Bowl XXII. **LM**

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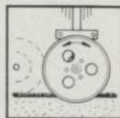
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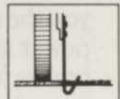
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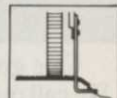
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