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BOB MACKO HAS BEEN A LAWN maintenance contractor for the better part of 20 years. He's worked the metropolitan Detroit area rather uneventfully, and believes he gives his customers an honest day's work for an honest buck.

The scene has changed, however, as Macko finds himself on the front page of a variety of local newspapers. The charge: The death of a customer's dog. The alleged culprit: Repeated applications of 2,4-D.

The Department of Agriculture has investigated the case, and reported no wrongdoing by Macko or the staff of Custom Greenery. But the customers, Bud and Margaret Clause have filed a lawsuit in Oakland County Circuit Court, and a local vet, Nicholas Szluha, reported the cause of the dog's death as repeated exposure to 2,4-D.

It'll be difficult for anyone to prove otherwise, since the vet destroyed the dog before an autopsy could be done. However, an analysis of the dog's blood profile by a vet from the Animal Diagnostic Lab at Michigan State University and two industry consultants disagreed with the vet's findings. Instead, it was suggested the dog may have died from leukemia.

Regardless, Macko said, he believes he's being used as a scapegoat. Judging by the amount the Clauses are suing Custom Greenery, a sum in excess of \$10,000, Macko thinks they're trying to get the case into court to gain publicity. And the fact that the dog was destroyed before an autopsy could be done sounds fishy to Macko.

Macko said he has nothing to hide, but remains frustrated over how poorly the matter was handled by the vet who spread inaccurate information and the media for proving him guilty before he had his day in court.

The vet reported that 2,4-D is a non-soluble chemical, meaning it doesn't break down or wash away. In addition, he said 66 percent of the chemical is still on the ground surface three weeks after application. Both are inaccurate, but the damage has already been done.

What hurts Macko the most is his feeling of isolation following the incident.

"I had nobody to lean on," Macko said, adding that Wendell Mullison of the 2,4-D hotline provided support for his company and concerned customers. "I give him credit. Without him I would have had more problems."

And while maintenance professionals in the Detroit area came to Macko's aid, he



thinks more should be done before another situation arises.

"I'm surprised more people aren't getting as bitter as I am," he said. "The sad part is that the industry hasn't done a lot to shout back. How many times can we afford to ignore it and not do something about it. We can't afford to continue losing five customers here and there."

Shortly after the lawsuit was filed, Macko held a meeting of local applicators in an effort to form a united front. Ways to communicate better with customers and the media were discussed.

As it has in similar situations, the Professional Lawn Care Association of America assisted Custom Greenery by encouraging them not to retaliate, but to form positive media control campaigns.

"The industry needs to communicate the risk properly to the people getting the product," said Tom Delaney, PLCAA director of state government affairs. "If handled properly, we could avoid lots of negative publicity."

It's time for individual operators and state and national associations to band together to create a positive voice for the lawn maintenance industry. Barry Troutman, formerly director of education for PLCAA and Jim Wilkinson, now operations manager at Lawnmark, have effectively spoken on behalf of the industry. Traditionally, however, such comments have come in reaction to an incident.

The industry can't afford these repeated attacks. Every effort must be made by everyone involved in the lawn maintenance industry to address these concerns before they begin to take their toll. —
Cindy Code

CIBA-GEIGY, BIOSYS JOIN FORCES TO ASSESS BIOLOGICAL PRODUCT

MAKING ITS FIRST MOVE INTO THE biological pest control market, Ciba-Geigy has agreed to evaluate a nematode-based product for control of insects in turf and ornamental plants.

Ciba-Geigy will conduct the study with Biosys, a California-based company currently offering similar nematode-based products to the lawn and garden market.

The product is said to control cutworms and armyworms on turf, and black vine weevils, fungus gnats and white grubs on ornamental plants.

Ciba-Geigy will gather field data regarding efficacy of the nematodes, test-market it in selected areas and conduct market research with turf managers and ornamental growers. Field research will begin immediately with test-marketing expected in 1991. The company hopes to begin commercial production in 1992.

Scott Moffitt, product manager in charge

JACOBSEN EARNS EXPORT EXCELLENCE



In White House ceremonies Jacobsen Division of Textron was honored by President George Bush for its export success. Jacobsen President Robert Reid, second from left, accepted the U.S. Commerce Department's "E Star" Award for outstanding export sales.

of turf and ornamental insecticides for the company, said the agreement gave Ciba-Geigy the opportunity to investigate all avenues for offering a broad spectrum of

chemical and biological insect control products to turf and ornamental professionals.

Nematodes are microscopic invertebrates that aggressively seek out, attack and kill a broad spectrum of soil-inhabiting insect pests. The Biosys formulation can be applied with standard spray equipment.

The product, featuring the nematode *Steinernema carpocapsae* is exempt from Environmental Protection Agency registration requirements.

RUPPERT ACQUIRES BURTON AND SONS

J.H. Burton and Sons Inc.

recently sold its commercial landscape division to Ruppert Landscape Co.

Burton, a 61-year-old Hyattsville, Md.-based company, sold the division to concentrate on its retail garden centers. Ruppert, Ashton, Md., purchased the firm's equipment, field inventory and nurseries. The agreement also includes the purchase and leasing of more than 115 acres of prime nursery stock.

"We have been considering nursery expansion for some years and this move takes much of the guesswork out of entering that field," said Craig Ruppert, president. "We now have an enviable position in a tight construction marketplace by being able to provide more to our existing customers."

PILOT PROGRAM TESTS CONTAINER DISPOSAL

DowElanco has begun a pilot program to test a convenient delivery system that will eliminate container disposal problems of lawn maintenance professionals.

Operators in Ohio and Michigan were given the opportunity to receive Turflon™ II Amine herbicide in 200-gallon, mini-bulk portable

(continued on page 8)

LAWN CARE CUSTOMER CLAIMS 2,4-D KILLED DOG

CUSTOM GREENERY LAWN Care of Farmington Hills, Mich., is being sued by a couple who claim their dog died as a result of a pesticide application to their yard.

Bud and Margaret Clause of Troy, Mich., filed the suit in Oakland County Circuit Court alleging that their seven-and-a-half-year-old dog died after he ate grass treated with 2,4-D. The Clauses had been customers of Custom Greenery for about six years.

But owner Bob Macko, who's been in business nearly 20 years, contends the situation has been blown out of proportion and that he and his company are being used as a scapegoat.

Macko said the lawn was sprayed May 3 and the dog apparently died May 11.

The veterinarian who treated the dog reported the dog died from "repeated exposure" to 2,4-D. He also said the 2,4-D solution used by Custom Greenery was 20 times the strength

of what farmers use.

The vet further explained that the dog's symptoms — extreme jaundice, extensive nose bleeding and liver damage — indicate 2,4-D was the cause.

To make matters worse, the dog was destroyed after his death, preventing an autopsy.

Macko was able to obtain a copy of the dog's blood report which was sent to various university personnel and the Professional Lawn Care Association of America. A subsequent study of the dog's blood profile suggested the dog may have died from leukemia, Macko said.

Custom Greenery generally applies 2,4-D twice a year — in the spring and fall — in a diluted form — less than one pound per acre, Macko said. He will continue to use 2,4-D.

Besides the immediate damage Custom Greenery suffered from the lawsuit — Macko said he and his competitors may have lost a couple thousand dollars of work — he expects to see

future repercussions.

"We won't know how much of an impact it will have on us until next spring," he said.

And front page stories and articles containing inaccurate information like "2,4-D is non-soluble," and "Sixty-six percent of it is still on the ground surface three weeks later," certainly don't help. While his colleagues have been supportive, Macko said he wishes he had had someone to lean on when the news broke.

"I wasn't even given a chance," he said. "I was proven guilty before I even got to trial."

Wendell Mullison, who mans the 2,4-D hotline, was the most helpful, according to Macko. Macko circulated the hotline number and the phone number of the Department of Agriculture to concerned customers.

Following Clauses' claim, the Department of Agriculture conducted a review of Custom Greenery's practices and found no problems.

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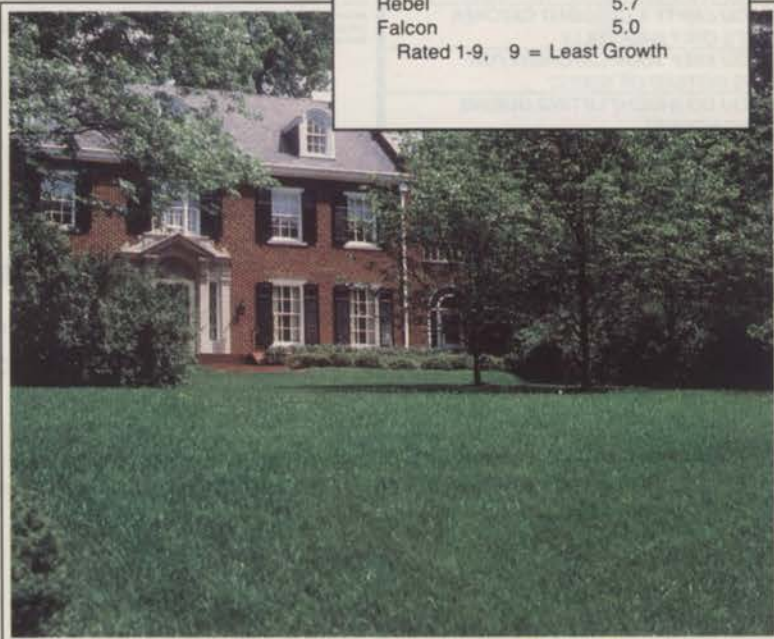
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Arid	6.2
Bonanza	5.5
Apache	5.3
Rebel	5.3
Falcon	5.3
Mustang	5.3
Jaguar	4.3
Rated 1-9,	9 = Best

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VARIETY	AVG. SCORE
Finelawn 5GL	7.0
Bonanza	6.7
Mustang	6.3
Arid	6.0
Rebel	5.7
Falcon	5.0
Rated 1-9,	9 = Least Growth



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tanks. DowElanco invested in 40 light-weight, cross-linked polyethylene containers from Snyder Industries.

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After delivery of the mini-bulk tank, it's placed on pallets so it sits 18 inches off the ground. The herbicide can then be discharged out of the bottom of the tank at a rate of five gallons per minute.

Turfion II Amine is currently the only product being tested in the mini-bulk tanks, but DowElanco hopes to expand it to other products.

DAVEY TREE CONTINUES TO MAKE ITS MOVE IN CANADIAN MARKET

The Davey Tree Expert company recently acquired The Vancouver Tree People of Vancouver, British Columbia, Canada. The Canadian company is the largest residential/commercial tree care company in the Vancouver area.

This is Davey's second expansion this year in the Canadian market. Earlier this year, it acquired Montreal based Canadian Shade Tree Service Ltd.

Neil Wilson, president of the Vancouver-based company will continue to manage operations which will be incorporated into Davey's High Tree Services' subsidiary, located in Nanaimo, British Columbia.

NEW SPECIALTY DIVISION TARGETS TURF, ORNAMENTALS

To better serve its turf, nursery and ornamental business, BASF Corp. has created a Specialty Business Group, a new team of sales, marketing and technical support specialists to serve this targeted market.

The new business group is headquartered in Raleigh, N.C.

The group will manage sales of current BASF chemicals available for turf, nursery and ornamental companies including Basagran T/O, Poast and Laddok herbicides. Four additional products are undergoing research or registration, including Impact herbicide for turf, which is being studied under an experimental use permit this year.

A complete registration of Impact is anticipated in 1991.

IRVINE CONTRACTORS GEAR UP FOR BLOWER REGULATIONS

As the enforcement date for the country's most stringent ordinance regulating the use of power blowers approached in Irvine, Calif., operators began abiding by the law and licensing each blower they use.


By early August more than 700 blowers had been licensed at \$20 each, said Robin Pendergrast, International Marketing Exchange, Northfield, Ill.

In addition, everyone who uses a blower was required to enroll in one of two training sessions covering the responsible use of power blowers. Included in these sessions are suggestions not to use blowers at full throttle and to use them only as a final clean up tool after sweeping.

The law prohibits blowers from emitting more than 70 decibels at a 50-foot horizontal distance, and sets specific daytime hours they can be used.

Well before the Sept. 6 effective date, the city hired six people to act as "blower cops" patrolling the city to ensure the standards are being met, Pendergrast said.

Several homeowner associations have canceled contracts with maintenance

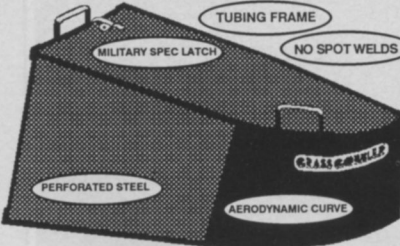


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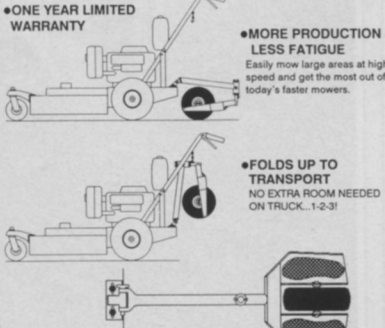


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operators and gardeners because they didn't want to be involved in the mess, Pendergrast said. Next year, more associations will probably stipulate in their contracts that they don't want blowers used at all, he added.

As an increasing number of communities eye the Irvine ordinance, some manufacturers are scrambling to develop quieter blowers while a few have been working on reducing the volume for some time.

For the 1991 model year, Echo Inc. will boast four blowers that meet the 70 decibels at 50-foot requirement that is fast becoming the standard. In addition, the company is labeling each blower with its specific decibel level, said William Peel, Echo's market development manager. This is an early compliance to standards expected to be passed by the American National Standards Institute sometime in the next 10 to 12 months.

Peel asserted that the cost to comply with a 70 decibel standard is minimal to manufacturers. If, however, a community attempts to pass a law making 60 or 65 decibels the cutoff, the equipment would most likely have to be completely redesigned.

PLCAA HIRES EXECUTIVE DIRECTOR, BROOKS RESIGNS

The Professional Lawn Care Association of America has found a new executive director in Ann McClure, who most recently held the No. 2 spot at the Irrigation Association.

McClure starts with PLCAA on Oct. 1. For the past four years she has been IA's executive administrator. Prior to that, she spent a little more than a year at the Associated Landscape Contractors of America as director of meetings and membership.

It's that background with membership and the experience of working for two other industry-related associations that she thinks will assist her most in the job.

"I'm coming to PLCAA with an understanding of the different outlooks from the other industry associations, and have a concept of what can be accomplished together," she said. "But every professional group has its own special interests. So I'll be working to keep that balance."

In a related move, Jim Brooks, former executive vice president for PLCAA, will resign from the association. Brooks had intended to stay on to manage membership recruitment and the trade show, but said it was in the best interests of all if he left entirely.

"With a new director coming in with fresh ideas and new approaches, I didn't think it's in her best interests if I stick around," Brooks said. "I've had an in-

teresting and productive tenure at PLCAA and I'm proud of my accomplishments."

Brooks has been involved with the green industry for 17 years and with PLCAA for seven and a half years. He hasn't ruled out the possibility of remaining in the industry. Brooks will remain with PLCAA until Nov. 30.

Increasing membership will be a by-product of McClure's first mission with PLCAA. She first wants to devise a clear set of policies and procedures for operating the association.

"Membership won't be a problem after there's a clear understanding of the benefits of being involved," she said.

Encouraging members to get involved in association activities is the best

way for them to see exactly what PLCAA can do for them and their business, she added.

Rick Steinau, PLCAA president, said the association received 20 applications for the position and narrowed the field down to five before choosing McClure.

"We're excited to be bringing her on," he said. "She's a strong person, strong leader and very professional." ■

CORRECTION

Nearly \$120 million of fungicides are sold annually to the specialty turf market by all suppliers, not just by Ciba-Geigy Corp., as was reported in the August issue of *Lawn and Landscape Maintenance* magazine.

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ASSOCIATION NEWS

SEN. TIM WIRTH, D-COLO., IS SCHEDULED to be the keynote speaker at the **Associated Landscape Contractors of America** Interior Plantscape Division Conference and Trade Show Oct. 21-24 in Denver, Colo. Wirth was elected to the Senate in 1986.

In the Senate, he specializes in the fields of environment, conventional arms control, budget policy and financial insti-

tutions. He is also the author of the major Senate legislation addressing global warming. As an avid outdoorsman, he has paid special attention to conservation, public health and environmental issues and is a leading spokesman for stronger federal clean air laws.

Other speakers at the conference will include: Peter Seligmann, chairman of the board, Conservation In-

ternational; Mark Plotkin, vice president, Conservation International; Ray Gilbert, manager of Applications Engineering in the Office of Commercial Programs, NASA; Nelson Hammer, senior associate and director of landscape architecture for Earl Flansburgh & Associates; and Frank Ross, co-founder, Ross-Payne & Associates Inc.

Other highlights of the conference will include a facility tour to several Denver area projects including Cherry Creek Mall, Scanticon Hotel and South Glen Mall; breakfast roundtables; a panel discussion of environmental awareness in the 1990s; several sessions covering customers' choices in the coming decade and turning problems into challenges; and a session detailing how to diagnose your operation's financial health.

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For more information, contact the registrar at ALCA.

Ask your equipment dealer for the latest **Outdoor Power Equipment Aftermarket Association** brochure on recommended maintenance and service for both new and rebuilt equipment.

This brochure has been designed as an aide to those buying power equipment. It's available to buyers through the OPEAA's dealer network. It details suggested maintenance schedules for lawn mowers — both walk-behind and riding, chainsaws, small engines, trimmers and tillers.

The easy to follow matrix will give operators a recommended schedule for self maintenance as well as dealer maintenance.

The brochure is the third in a series designed to strengthen OPEAA member's dealer network, but can also be beneficial to buyers of outdoor power equipment.

Many people realize the most effective way of controlling insect pests occurs

when spray applications are timed to coincide with the most vulnerable state in the life cycle of the pest.

A new book available through the **Illinois Nurserymen's Association** titled "COINCIDE: The Orton System of Pest Management" takes much of the guess work out of the process.

Don Orton, the book's author and a nursery inspector in Illinois, has spent the past 20 years gathering information which correlates the appearance of blooms on several selected ornamental plants to the vulnerable periods in the development cycle of insect pests.

This information was compiled into the 190-page book that offers a complete plan to protect woody ornamentals in the landscape and is applicable to the USDA Hardiness zones 3 to 7.

The book is available for \$18.95 plus \$3 shipping and handling. For a copy, write or call the INA.

A recent **American Association of Nurserymen** newsletter featured statements by Robert Denny, EPA's Environmental Fate and Effects Division, about possible future regulations for pesticide storage.

Planned minimum storage standards will likely include: coated concrete floors or equivalent, training for employees,

posting of facilities and notice to fire departments about contents of storage.

Other noted requirements include: No underground storage, availability of respirators and water for washing and security. Requirements will apply to 5,000 kilograms of product or more and more than 5,000 kilograms held by private applicators for more than 60 days.

Storage requirements will not exempt household and lawn and garden products. Denny said final regulations will be issued in December 1991 and will be effective about two years after that.

The **Pennsylvania Turfgrass Council** recently announced a record allocation of funds to the Pennsylvania State University and the Crop Reporting Service.

The faculty in the College of Agriculture has been awarded \$100,000 of grant-in-aid funding. Faculty members receiving the funding include J.M. Duich, Don Waddington, Tom Watschke, Peter Landschoot, Paul Heller, Patricia Sanders and Jennifer Johnson-Cicalese.

These faculty members are responsible for the research, teaching and extension programs in turfgrass management at Penn State. Their projects assist in the solution of an entire spectrum of problems that trouble the turfgrass industry. ■

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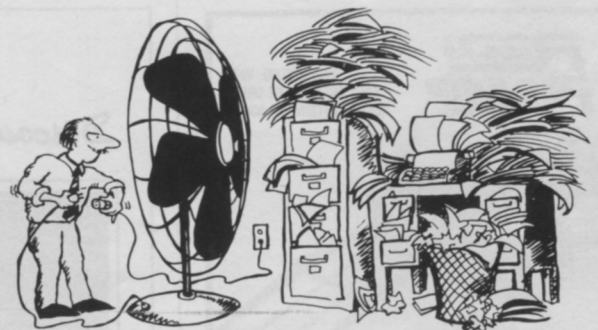
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FOCUS ON:

IRRIGATION

RAIN BIRD ENGINEER AWARDED PATENT FOR OSCILLATING DESIGN

JAMES ALLEMANN OF RAIN BIRD has been awarded a patent for his design of an adjustable oscillating wave type sprinkler. His design is incorporated into the popular "Dancing Waters" oscillator, also manufactured by Rain Bird.

This patent award marks the first major change in oscillator design and performance in more than 30 years.

Since 1981, Allemann has been principal engineer for Lyntone Engineering Inc., Rain Bird's consultants. This is the 13th patent awarded Allemann.

NEW GROUP PROMOTES BENEFITS OF WATER CONSERVATION

An organization has formed in Atlanta to promote and educate both lawn maintenance professionals and the general public

about water conservation efforts.

The Georgia Water Wise Association grew out of the Metro Atlanta Lawn and Turf Association. Atlanta's water supply is limited by a withdrawal permit from its main source of water, Lake Lanier.

At present usage rates, it's expected that growth over the next three years will create a demand exceeding the city's withdrawal allowance. One alternative is re-allocating the lake from primarily power to urban water use which would increase the withdrawal allowance.

Others think all it will take is the construction of new reservoirs. But that task will take anywhere from 15 to 40 years to complete. Construction would also be hampered by new regulations protecting wetlands.

The association believes conservation is the most feasible answer, and is trying to get the word out. A task force has been developed to make recommendations for model landscape codes, emergency water

restrictions and information networks for evapotranspiration rates.

IRRIGATION RESOURCE GUIDE AVAILABLE TO CONTRACTORS

Available through the New Jersey Irrigation Association is the hardbound book "Irrigation Manual Text."

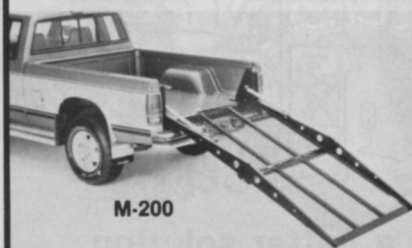
The book covers every aspect of the irrigation industry and is an excellent resource handbook and reference. Topics include sprinkler system uses, soil-water-plant relations, plant and irrigation water requirements, spacing and selection, hydraulics, pumping and many others.

The 674-page book is also an invaluable source because it is the required study guide for taking the Irrigation Association's certification exam for irrigation designers.

Cost for the book is \$30, and can be obtained by calling the New Jersey IA at 201/521-2333. ■

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FOCUS ON:

INDUSTRY VIEWPOINT

REDUCING TURFGRASS COSTS BY CONTROLLING AGRONOMIC QUALITY



Danneberger

DURING THE 1980s the turfgrass industry as a whole experienced a tremendous increase in growth and visibility. This momentum is continuing into the 1990s.

With this upsurge comes a number of benefits including new employment opportunities, greater residential aesthetics, improved recreational facilities and the potential for attractive profitability in the service area. With these benefits have also come increased competition in the service industry and greater public awareness.

The one aspect of this dynamic industry I would like to address is the plethora of products now available to turfgrass managers.

The benefits this creates to turf managers are numerous. As companies fight to gain market niches, more of their resources are being directed toward the turf area. The positive result is more products to choose from and better prices because of the competition.

The problem is that with so many products available, not much is known about how they will perform. I am routinely being asked what I know about this product or that piece of equipment. In some instances, I have not even heard of the product let alone know how it performs.

To assist in the product evaluation process, turf managers can consult peers, evaluate testimonials and study the written materials provided by the seller. However, in the end it comes down to you to evaluate the product.

What is the best way to do this? Test the product. Often, if you ask a seller for

a sample of product to test or a piece of equipment to be demonstrated, the seller will accommodate you. If not, you have good reason to wonder if the product is everything the seller says it is.

The next step is to test the product against a control.

Webster's Dictionary defines a control as "to verify (an experiment) by comparison with a standard or by other experiments." For example, if you are evaluating a new fertilizer, apply it to a portion of an area, and then at the same time apply what you would normally use (your control) next to it.

This provides you with the needed comparison to critically evaluate the product. It is best to do multiple comparisons (i.e., different locations and replications) to reduce the chance of error. With some products such as those that provide disease control, an untreated (control)

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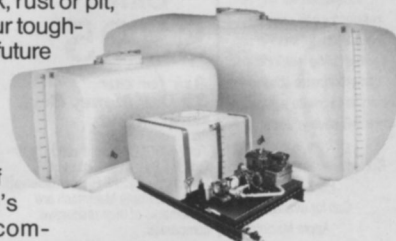
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area would be beneficial.

The definition of a control seems simple, but the concept is not always grasped. I often hear of turfgrass managers testing a product by applying it to their turf without a control and then saying, "It worked great." Without a control, how do you really know?

For example, "I used this fertilizer and my turf is greener longer than with what I used last year." Again if a control, in this case the product used last year, is not included, how do you really know?

Weather, method, time and rate of application, can influence the results, but including a control, you can more effectively minimize these factors.

If a test area had no disease present, which an untreated area would tell you, any product would work well, including no application. In this case, an untreated control works as a barometer for disease severity.

When comparing products, do so at the so-called "playing field" level. This means look at the components of the product being tested. Some products are combinations of materials, and as such should be evaluated against each component.

For example, if a new product contains a fertilizer and herbicide, test it against

each component applied separately. Be sure to apply at a comparable rate. This type of evaluation will help you determine the effectiveness of each component in a product and will signal if additive or synergism is occurring.

Setting up test "plots" with appropriate controls may seem like a considerable amount of time and work when most products perform as advertised.

Yet, if a product is chosen, or a piece of equipment purchased strictly on a sales pitch, a considerable amount of money can be wasted if the performance does not meet your expectations. Also, the risk for decline in turf quality is often a legitimate concern.

Try comparing your products for a few weeks to get an adequate evaluation. Product testing gives you an opportunity to try out a new product without first buying a truckload of stock.

It is human nature to believe what we are told, whether it is from our families, colleagues or salespersons. But in a business such as turf, where profit and quality are dependent on what you use, can one really accept anything at face value?

— Karl Danneberger

The author is a professor, agronomy, The Ohio State University, Columbus, Ohio.

COMING NEXT MONTH

Fall is the start of the national convention circuit for lawn and landscape maintenance professionals, and this month starts our pre-show coverage of the Green Industry Expo and the Irrigation Association annual conference and show.

The Expo joins three associations together for the first time — The Professional Lawn Care Association of America, the Associated Landscape Contractors of America and the Professional Grounds Management Society. The three will hold a joint trade show, but maintain two separate education tracks.

Nashville will host the Expo, while members of the Irrigation Association will travel to Phoenix.

A review of each show's educational seminars and new equipment from exhibitors will be featured.

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LANDSCAPE

ENGLAND'S LANDSCAPE CONTRACTORS BITTEN BY COMMERCIAL BUG

IN ENGLAND, THEY OFTEN DO things late but quite thoroughly. This is particularly true in the commercial sectors of the landscape and nursery industries.

The 18th Century was the high point of the classic English landscape design for parks and gardens, during which time the movement of large mature trees for landscape purposes were familiar to garden architects and designers.

That passion for the landscape appeared to have been lost, until recently, when furious commercial and industrial development have once again put the emphasis — this time backed by planning controls — on the surroundings as well as the function and appearance of new buildings.

Many of the new office buildings in the vast London docklands development proudly boast an atrium. Even the *Observer* newspaper, engaged in a business not noted for the quality of its office design and decor, made an atrium the centerpiece of its new headquarters.

These open spaces not only have to be designed, they have to be stocked with plants and installed with plumbing to permit running water in streams and pools. The atmosphere must be carefully controlled either by hand or by electronic devices, and when the work is complete, someone must come in at regular intervals to care for plants and tidy fallen leaves.

FASTEST GROWING SECTOR. Almost every British city, and many small towns, now has a covered shopping mall filled with colorful flower beds and shrubs. Much of the maintenance in these areas is now done by locally authorized labor, but recent legislation dictates that 20 percent of such work must be put out for competitive tender for each of the next five years.

That could bring much of the municipal landscape and maintenance work, estimated by some observers to be worth \$1.5 billion a year, within the scope of the private sector.

But the growth doesn't stop there. Interior landscape gardening is the fastest growing sector of the British landscape industry. Companies such as Rochford's, based near the outskirts of London, already count their interior business in six figures.

Britain generally is becoming a greener land. There is a climate of thought among politicians, planners, civil servants, devel-



Property designed and installed by Notcutts Landscapes, Woodbridge, Suffolk.

opers and industrialists in which environmental issues are becoming a growing concern.

As the British government, in line with European Community policy, seeks to cut back on farm production, land is being released for a variety of leisure purposes. The designers of golf courses can boast order books full for months ahead.

Bill Hickey, chief executive of the British Association of Landscape Industries said, "Any firm that is any good at all is now very, very busy."

Britain saw a commercial and industrial boom throughout the 1980s. Local authorities have been encouraged to develop factory estates on the edges of towns, while large commercial organizations such as insurance companies and legal businesses have relocated to rural areas.

All have needed new office and production facilities; many are on green field sites. It is unlikely any would have received planning consent without submission of a detailed landscaping scheme.

Owners and managers of older factories, particularly those involved with chemical or heavy industrial processes, are now positively anxious to present a more attractive face to the public. That means the neighbors down the road as well as the tourists passing through.

BREAKING UP RAW OUTLINES. Tourism has become important, but the British have also learned to complain when irritated by environmentally insensitive behavior.

ICI, the biggest and most complex manu-

facturing business, has a policy that permits local managers to spend a part of their budgets on landscaping and tree planting to break up the raw outlines of new plants and camouflage stained walls, smoke stacks and waste tips of older ones.

Some of this work will be done with staff labor while larger jobs are contracted out to specialist companies. BALI, currently with 680 member companies and another 30 undergoing the rigorous process required for membership, represents forms ranging up to and beyond turnover levels of

close to \$2 million a year.

Most firms operate on a small scale and over a fairly close radius. Operators like Len Cutchey are fairly typical. Trained landscaper, he runs a landscape and nursery business in tandem at Welney in Cambridgeshire, eastern England.

Six people are employed for eight months of the year on landscape construction and maintenance projects; for the rest of the year they join the three full-timers in the nursery.

For Cutchey, domestic and commercial landscaping are inextricably linked. He has for some time had a contract to look after a big leisure park in a coastal town. Now he is about to take on the landscape design for a marina, for whose owners he has already created a private garden.

His order book is full for the rest of the year and is likely to remain that way at least until 1992, when the single European market comes into force.

Notcutts, one of the older and highly respected names in the nursery business, also works over much of eastern England.

Mark Rumary, its landscape director, said that while residential work is still the main part of the business, commercial work has grown rapidly. "It went into the doldrums when oil prices went up. It is an area tied entirely to development and when the brakes came off again, the demand increased once more." — Roger Turff

The author regularly contributes green industry reports that air on the British Broadcasting Co. network.

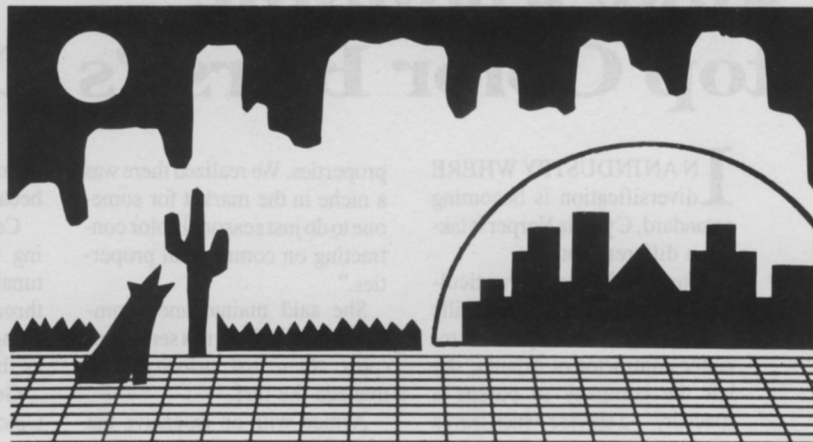


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Even a Slow Economy Can't Stop Color Burst's Colors

IN AN INDUSTRY WHERE diversification is becoming a standard, Cynthia Harper is taking a different route.

After developing her horticultural and turf management skills with a large landscape maintenance contractor in Atlanta, she left the company to pursue a specialty—a service which leaves a lasting impression not only on her customers, but on her customers' customers.

That specialty is seasonal color for commercial settings. Together, with her partner Joe Burns, their three-year-old company Color Burst gained immediate acceptance.

The year-round business designs, installs and maintains properties in Atlanta, Nashville, Birmingham and Huntsville, Ala. One expansion market under consideration is Washington, D.C.

"Both my partner and I were working for a maintenance firm when we realized that the commercial real estate market was becoming so competitive," Harper said. "Customers were starting to use more flowers to draw attention to their

properties. We realized there was a niche in the market for someone to do just seasonal color contracting on commercial properties."

She said maintenance companies are limited, in a sense, because their first priority is to manage the turf.

Armed with an extensive list of commercial contacts, Harper and Burns began calling on commercial property managers.

"It was difficult at first. It was scary to think that we could do enough in flowers to support ourselves," Harper said. "To our amazement, it really took off. People realized they were investing a lot of money in their flowers and it was important for them to have someone knowledgeable to give them the greatest return on their investment."

First year sales for the company totaled \$80,000, quickly growing to \$1.2 million by its third year. Sales this year are expected to increase by 20 percent.

Color Burst planted and maintained about 30,000 flowers for five accounts in the fall of 1987. The firm now has more than 100 accounts and this spring planted about 200,000 four-inch potted flowers. By the end of the year, Color Burst will have planted 600,000 annuals.

In addition to seven full-time people, the company hires 20 to 25 seasonal workers during key seasons—six weeks in the spring, two weeks in the fall and a stretch from October to December, when pansies and bulbs are installed.

Many part-time employees are termed full-time by Harper since they return from season to season.

"At first I wasn't sure how they (part-timers) were going to work out because I thought we'd have to go through hiring and training each season," she said. "To our

amazement, it's worked out great because people return to us."

Color Burst doesn't mind hustling for its customers, but fortunately most of the work comes through referrals or people catching an eyeful of vivid flowers as they drive by.

Generally around mid-April, Color Burst begins a six-week planting period with a goal of getting plants in the ground by Memorial Day. One crew pulls up flowers and rakes off the old mulch followed by a tilling crew to till and prepare the beds. The planting, mulching and watering crew comes last.

While the first two crews can work on a same day or one day after the other schedule, it's critical for the plants to be installed and watered on the same day, particularly on warm spring days.

After planting is complete, Color Burst puts its properties on a maintenance schedule. Three full-time maintenance technicians visit the jobs on a monthly basis unless something out of the ordinary comes up calling for an adjustment during the month.

Management generally inspects the properties every 10 days.

"Certain flowers like marigolds and geraniums require more maintenance because of dead-heading. So they have to be seen or maintained on a more frequent basis," she said.

During the busy planting season, the firm generally installs about 5,000 plants a day on as many as 10 small jobs or up to one job of 5,000 flowers. One account requiring about 10,000 flowers can be accomplished in one day with 15 people—sunup to sundown.

Crews generally work six days a week, but it can turn into seven when the weather doesn't co-

Despite a downward turn in the economy, flowers are still a popular attraction to lure people to particular properties.



COLOR BURST

Headquarters: Atlanta, Ga.

Satellite Office: Nashville, Tenn.

Founded: 1987

Owners: Cynthia Harper and Joe Burns

Primary Services: Seasonal color of commercial settings.

Employees: Seven full time, 20 to 25 part-time.

1989 Sales: \$1.2 million

operate.

One person is generally responsible for maintenance season fertilization using mainly liquid products. A general purpose fertilizer is used in initial planting and three weeks later a second application is applied. A fertilizer is then applied on an as-needed basis.

THRIVING INDUSTRY. Seasonal color has become a competitive business in the last few years. Previously, the specialty was something a landscape maintenance contractor sold in addition to mowing, pruning and spraying services. No one was calling on their competitors' customers; it was simply an add-on service.

Today, while still a specialty service, many maintenance companies can claim a separate color or flower division.

"We're still about the only (full-time) seasonal color contractor in this area," Harper said. "I know of others who have started, but they're primarily doing residential work. We haven't felt much competition from them, not as much as we have from the landscape maintenance contractor. They've become a little bit more aggressive."

And many of today's color divisions only address the needs of residential customers, whereas Color Burst specializes in corporate situations. Harper said the residential market is more demanding, requiring 50 to 75 residential accounts to equal one good commercial account.

An average sized commercial job runs between 1,800 and 2,000 square feet and averages about \$6,000 to maintain. On the low end, a property may be serviced for \$500; at the opposite end, it may cost \$20,000.

Most properties are irrigated, but for those that aren't, the com-

pany uses super-absorbents to help decrease water requirements.

A plant that didn't have a super-absorbent in it, for example, might be watered about three times a week. An absorbent can decrease watering to once every two weeks, according to Harper.

"There's a lot of controversy on how long they stay active in the soil, but we've had planters that we've put a super-absorbent in two years ago and it's still effective," she said.

This summer's drought made water an important topic in Atlanta. Nearly eight weeks passed without any rainfall. Watering was subsequently added to the contracts of many customers as some properties needed full-time watering for almost three weeks.



By year-end, Color Burst will plant about 600,000 annuals.

In the following interview, Cynthia Harper shares her views on the market niche she serves with seasonal color.

Q: What techniques do you use in site design?

A: When we go out to look at a job, we generally price on a per square foot basis. We also take into consideration the number of beds on the property because they can make a difference in terms of labor. It takes a lot longer to do 20 beds totaling 400 square feet than it does to do one bed totaling 400 square feet.

Some property managers know exactly what they want. They might know exactly what plants they want, as well as how and

where they want them installed. But most of the time we're free to come up with a plan and take it to them for approval.

Most of the properties we manage already have established beds, areas which were included in the company's initial landscape plan. Less frequently, we design new beds from scratch.

In addition to the bed itself, the background must be considered. If there's a sign or other plant materials that should remain visible once the flowers have matured, then take that into account.

Coordinating the flowers' colors with colored foliage is important so the flowers will blend in and contrast with them in some way. When one project has several beds throughout the property, we try to pick a color scheme to show unity throughout the project. It makes a property look more finished than if you throw something different in every bed.

Additionally, it's not wise to plant something like marigolds in a bed surrounded by juniper because juniper is more susceptible to fire mites and that's going to harm the marigolds too. Or if you have low areas that remain wet, avoid flowers that don't do well in moist conditions.

Q: Describe your start-up materials and costs.

A: As far as equipment, there wasn't a great deal of cost. Basically you need a tiller and you have to be able to get out to the job site and do the work. The tiller is your major piece of equipment because it's going to get your flower beds prepared.

From there, it's just a matter

of buying the materials like fertilizers, pesticides and your plants, as well as the cost of getting those installed and, of course, mulch for the beds.

Basically that was it. Of course we came up with the name Color Burst; we wanted something catchy, something that would describe exactly what we do. We also decided to spend the money to make our logo three-color.

A lot of money was initially spent on direct mail advertising.

Our costs haven't risen substantially over three years, just in accordance with an increase in the cost of materials and labor.

Q: How many branches do you intend to open and how else will Color Burst expand in the near future?

A: I'd like to say as many as we can afford. We want to be in two other cities within three to five years. We already have a separate office in Nashville, but we work out of Atlanta for services performed in Huntsville and Birmingham.

The possibility of franchising is one idea we have for the future. While we've only discussed it briefly, I've been contemplating our options and it's only natural that some markets may be real competitive making it hard to get into with just a branch office.

It's an interesting possibility; to sell our contract, to sell a franchise maybe to an established contractor. He would already have the contacts and everything else, then buy a Color Burst franchise and incorporate our concept. I just think it might be an easier way to break into a market.

We realized there was a niche in the market for someone to do just seasonal color contracting on commercial properties.

We have also been considering getting involved in the retail market, but we are not yet sure how.

Q: Are you vying with landscape maintenance contractors for the same employees?

A: Not really, I would say that the majority of their employees are male, whereas I think the majority of our employees, our seasonal employees, are female.

Generally, women are more interested in flowers. They take more care with them and have an eye for detail. Even half of the property managers and vice presidents we deal with are female.

Q: Describe the Atlanta economy.

A: It's been good. Commercial development has started moving downward, but it's been relatively good for our business because we haven't felt the effects like a landscape contractor who is doing new installation.

Property managers, on the other hand, are still interested in leasing space. In order to do that, they still need that curb appeal. They want attention brought to their property and flowers is the

way to do it. As a result, a building slowdown really hasn't affected us.

Q: What kind of timetable do you follow for placing your orders?

A: We generally start about three months before the planting season begins by approaching our clients. We show them our portfolio with flower varieties, design ideas and color schemes; they convey their ideas to us and we present them a proposal.

When that's approved, we start compiling the orders for placement with our grower. We have about 10 growers, mostly in the Atlanta area and a few in Alabama, Tennessee and West Virginia. We grow about 10 percent of our flowers ourselves.

Q: What prompted you to start growing your own flowers?

A: We wanted to find out if what the growers were telling us was really true — how hard it is to grow this one variety or why this flower didn't do well or why that flower wasn't available to us. So we thought we'd just try it ourselves. It's worked well for us, and we can't understand why they all complained so much about certain things.

Q: How many varieties are you growing?

A: Generally, we'll grow things that might be hard to find on the market; varieties we know the growers have trouble with. We'll grow them ourselves and generally have good luck.

We've also come up with some different mixes of flowers.

We'll buy certain varieties in plugs and transplant them to the 4-inch pots. We'll go ahead and mix them here rather than mix

(continued on page 24)



Coordinating flowers with background foliage and signs gives the bed a complete look.

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Color Burst (continued from page 22)

ing them by hand when you get to the job site. It saves a lot of time, and we like to do it ourselves.

Q: Will you eventually expand that part of your business?

A: We're discovering more and more new growers. It's amazing to think that someone in West Virginia can grow a better quality plant than most of the growers in this area, and can ship it down here for less money.

We're weighing that option right now. Growing takes a lot of time. Do we want to start concentrating more on that, or do we want to look at expanding into other markets.

Q: What can Color Burst offer property managers that a landscape maintenance contractor can't?

A: Most of it is the knowledge. We stay abreast of what's available in the market and try to do research on various varieties ourselves. It's not just a red begonia or a white geranium to us; the varieties make a big difference as far as how they perform in the field.

We train our people well. We're not sending a crew out to cut our customers' grass and then maintain their flowers, when many of the guys who are doing the cutting don't know anything about flowers.

This is really a service business and I think that people tend to forget how important service is.

Providing a service is something we're always working on. Through customer service surveys we can find out what they want us to do to make their jobs easier. We photograph all of our jobs and give copies to our clients. We're always trying to think of something to do, whether it be handing out pens, T-shirts or calendars.

Q: How do your prices compare to those of a landscape contractor?

A: We bid against a landscape contractor about 50 percent of the time and we're not always competitive pricewise. A lot of times, customers have told

us that we're higher, but they would rather pay the higher price because they know they're going to get a better job.

Q: In a bid situation, would you ever drop your prices to out bid your competitor?

A: We don't drop our prices when we know we're going to have to bid against someone. We stick to what we feel it will take to do the job, and to do a good job. We aren't going to try and lowball someone just to get the job.

You might be able to get a job like that one time, but it won't last. If you get the job, you then do all the bed preparation, install and maintain the flowers and next season someone else comes in lower than you, and they'll end up benefitting from all your hard work.

It's not worth it in the long run. If you lowball one season and try and get market price the next season, the customer isn't going to pay the price.

Q: What advice can you give someone just breaking into the industry?

A: Develop a sales strategy: How you are going to sell your product and how you are going to promote your business.

You have to convince customers and potential customers that they really need you. It's extremely important because you won't have anything to do if you don't get the sale.

Once you get the job, provide top quality service — the best service you can muster — and then draw the customer's attention to it. Be there to serve them and do whatever it takes to make their job easier as well as making them look good.

We give our clients guarantee cards. Our work is guaranteed unconditionally.

If they're not satisfied in the least way, we'll do whatever they want us to to make them happy. We'll even go so far as giving them their money back if that's what they want, although we've never had to do that. — Cindy Code

The author is Editor of Lawn and Landscape Maintenance magazine.

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Soft Turfseed Market Results From Strong Seed Yields

FOF THE FIRST TIME in a number of years, there's plenty of seed for the taking.

Unlike the damage caused to the 1989 turf-type tall fescue crop by abnormally cold temperatures, and the devastating loss of Kentucky 31 tall fescue in 1988, the weather was particularly kind to the 1990 turfseed harvest.

Striving to meet industry demand, suppliers contracted for more acres in anticipation of fill

ing market niches. When the seed was planted, however, no one could predict the harvest would produce so well. The end result: high yields magnified by increased acreage.

Production areas received timely rainfalls and relatively dry weather during pollination leading to the generally good harvest. The hot, dry harvest weather is also useful in getting fields in better shape for next year's crops.

Most seasoned varieties yielded average to above average crops. Younger varieties did well, but most will only see limited availability this year.

Currently, overall availability of proprietaries looks good, with above average to excellent yields.

With carry-over from 1989 and the first seed surplus in nearly five years, buyers will see a soft market and one they can sink their teeth into. And at these prices, it was suggested that contractors buy now to carry them through the winter and spring.

"Supply has finally caught up with demand. At least that's the appearance anyway," said Brad Dozler, director of distribution and production for International Seeds Inc., Tangent, Ore.

Not all varieties had above average yields as a string of hot temperatures in mid-June took its toll on some plants.

Nevertheless, some manufacturers are bracing for a potential glut in the turfseed market, as early as next season and as far as four to five years away. How frequently acres are rotated, strongly influenced by field burning restrictions, can affect glut possibilities.

"We have to define the problem. Is it weather related or has supply finally caught up with demand?" Dozler said. "On the other hand, if we have a crop failure a year from now, it will

turn itself around. Mother Nature holds the upper hand."

PRICES & YIELDS. This year the market will see an adequate amount of tall fescue with selected shortages on some of the newer, elite dwarf types. Yields are looking excellent and increase in demand continues to grow, according to Gayle Jacklin, marketing representative for Jacklin Seed Co., Post Falls, Idaho.

The hot weather early this spring didn't affect the 1990 tall fescue crop which appears average to above average, according to Art Wick, LESCO's vice president of research and development, Rocky River, Ohio.

Tall fescue prices will remain stable, but the less known varieties face the possibility of oversupply in 1991; similar to what the industry is experiencing this year with perennial ryegrass varieties, Dozler said.

Tall fescues, specifically the turf-types, have been in short supply in recent years; known varieties were virtually sold out last year. As growers get more experience with proprietary varieties, however, there has and will be a tremendous increase in the number of acres producing turf-type tall fescue, leading to greater yields.

Prices of common bluegrasses are soft, reflecting excellent yields, Jacklin said. Proprietary bluegrass prices, on the other hand, are relatively stable on the wholesale market, but will strengthen if there is a short crop this fall.

The fall in bluegrass prices was inevitable, according to Joe Churchill, Northrup King's product manager, Medalist turf products, Minneapolis, Minn.

"Bluegrass prices have been artificially high the last three to four years; we're now where we real-



Uncleaned seed prior to dumping. Each truck holds about 35,000 to 45,000 pounds. Photo: Jacklin Seed.

AVERAGE WHOLESALE SEED PRICES*

Turf-type Tall Fescue \$1.10 to \$1.30 per lb.

Perennial Ryegrass 66¢ to 85¢ per lb.

Common

Kentucky Bluegrass 35¢ per lb.

Proprietary

Kentucky Bluegrass \$1.35 to \$1.85 per lb.

Fine Fescue 45¢ per lb.

Common Bermudagrass \$1.50 to \$2 per lb.

Proprietary Bermudagrass . . \$6 to \$9 per lb.

Bentgrass \$6 per lb.

*Prices vary according to variety and availability.

ly should be," he said. "I hope it never falls to \$1.35 again, but we may see it fall some more in the next few years."

Northrup King's Rugby, for example, sold for \$1.35 a pound in the early 1980s, rose to \$2.25 a pound in the mid-1980s before falling back to \$1.70 a pound.

Although demand hasn't diminished, better supplies of turf-type perennial ryegrasses will result in a somewhat softer position from 1989. Prices on almost all ryegrasses will drop about 5 cents.

The turf-type perennial ryegrass production looks good following the favorable moisture, and in spite of hot spring temperatures. Newer varieties are expected to be somewhat limited in supply, but the 1990 crop looks good with yields average to above average.

The same is true of the creeping bentgrasses. Quality and yields are excellent and an adequate amount of seed is expected on most improved varieties.

The 1989 fine fescue crop was rather light in yield, reducing overall availability.

This year's crop doesn't hold much more promise with Oregon crops looking thin, Wick said.

Many of the fields are four years or older. That, coupled with hot weather stress early this spring, points to a "short" crop.

GROWING OLD? The popularity of endophyte hasn't worn out its welcome despite being bred into most of the new turf-types on the market, Churchill said.

"Most breeders still put a high level of importance on it. It's an important trait," he said. "And if they have an option, most end-users will take endophyte when they can get it."



Fine-texture will continue to be an important breeding characteristic. Photo: Jacklin Seed.

The same holds true for dwarf varieties which, despite a number of "dwarfs" on the market, are just now coming into their own.

"There's definitely a movement in that direction. In five years, we'll see lots of varieties that will tolerate closer mowings," Churchill said. "At one time they had more sizzle than steak; now they're steak."

ALTERNATIVE SOURCES. Although the number of acres grown overseas hasn't grown dramatically to date, reduced burning of fields in Oregon and a general

desire to plant more acres is sending suppliers to New Zealand and Australia for needed acreage.

Seed growing is progressing slowly in foreign countries, as there's a significant learning curve that must be overcome before quality seed can be grown, said John Zajac, president of Zajac Performance Seed, N. Haledon, N.J.

"The climate's a little different and it's a learning process for the people," he said. "Taking this into consideration, production is going as we planned, but it's not necessarily where we'd like it to be."

Bill Junk, president of Fine Lawn Research, Columbus, Ohio, added that New Zealand growers are anxious to learn the U.S. turfseed market. "They're educated and eagerly looking for export markets."

Following is a compilation of reports from seed suppliers across the country.

FARMERS MARKETING CORP.

Unlike the tall fescues and perennial ryegrasses, bermudagrasses generally experienced below average yields, according to Helen Lucas, marketing representative. The company has offices in Phoenix and Yuma, Ariz.

"I can't pinpoint it, but we had a real hot spell and many acres were taken out for hay instead of seed," she said. "We had less carry-over and yields are down, but the market should hold."

Production of the company's proprietary bermudagrass, Sahara, was up in its second year, but yields came in lower than anticipated.

Common bermudagrasses are priced at \$1.50 to \$2 per pound while Sahara runs about \$6 to \$8



The ryegrass harvest in the Willamette Valley, Oregon.

per pound. Prices have held for the past two years.

FINE LAWN RESEARCH. Pebble Beach, a perennial ryegrass mixture of Citation II and Manhattan II, is available in good supplies and, for the first time, the industry will see a good supply of Chateau Kentucky bluegrass, Junk said.

Supplies of Flyer creeping red fescue will be tight this year because of high demand. The red fescue was first available in 1989 on a limited basis.

A marked increase in quality between proprietary and common varieties is spurring interest for

the improved seeds, Junk said.

Fine Lawn produces some turf-type tall fescues in New Zealand and is investigating growing creeping red fescue in Canada.

New zoysiagrasses and a drought tolerant bermudagrass are in store for next season.

GREEN SEED. This Gallatin, Tenn.-based company expects yields of Astro, its turf-type tall fescue, to be slightly below normal this year because of a lack of rain in early spring, said Mike Cline, executive vice president.

Still, Astro is expected to be in good supply.

Astro, one of the first turf-types commercially available, is well suited to the South because of its deep root system, good drought tolerance and quick green up.

The company expects to market a semi-dwarf variety for the South in 1991.

INTERNATIONAL SEEDS INC.

Two new semi-dwarf tall fescues, Era and Gala, will be in limited supply this year. Longfellow and Enjoy, the company's chewing fescues, will show an adequate supply.

Both in their second year, Cindy creeping red fescue and Cobra bentgrass will see only limited availability.

Acres of these limited varieties are expected to be increased in the coming years.

Looking to the future, Dozler expects "dwarfs" to remain closely linked with the turf-type tall fescues and perennial ryegrasses.

Although still hotly debated, most dwarf tall fescues fall under 100 centimeters; ryegrasses are even shorter.

"Any time you can reduce one cutting on an athletic field, you're going to save a lot in labor," Dozler said.

J&L ADIKES. Adelphi Kentucky bluegrass and All-Star perennial ryegrass are available in good, but not abundant supplies this year, said Bob Russell, president of this Jamaica, N.Y.-based company.

The best harvest in five years, high carry-over and a tremendous Canadian creeper crop places too much seed on the market for Russell's tastes. But he's optimistic the market can straighten itself out.

A variety requiring less water, fewer nutrients and one that will grow well in the shade will evolve in the future, Russell said.

JACKLIN SEED. The crop of Cheyenne seeded bermudagrass, Jacklin's newest release through Pennington Seed, is yielding above early field estimates. Demand has been exceptional and commercial seed is available this fall.

New bermudagrasses include Sundevil marketed by Northrup King and CE-23, marketed by Turf Merchants. These two will be limited in supply and used primarily for seed increase and testing, Jacklin said.

Overall, the crop of proprietary Kentucky bluegrass is approximately 20 percent above original field estimates and is on line for a slightly above average crop. Selected shortages on some varieties of proprietary bluegrasses are expected.

Most proprietaries this spring are in reasonably good supply. Many acres of common Kentucky bluegrass were plowed in the fall of 1989 and spring of 1990. Some proprietary varieties also fell victim to the plow, and as a result the expected crop for 1990 may be somewhat lower, she said.

LESCO INC. Legacy dwarf perennial ryegrass is a new "elite" variety selected for its dwarf growth habit and fine texture, according to Wick. It contains a 94 percent endophyte level.

Released in 1986 as the first commercial dwarf tall fescue, Trailblazer has performed well over the last four years.

LESCO has been working for three years on significant improvements in disease resistance and density in the Trailblazer germplasm. With the release of Trailblazer II, these objectives have been met resulting in a dark

NEW MEXICO BREEDER SEARCHES FOR TOUGHER BERMUDAGRASS

BETTER SEEDED BERMUDAGRASSES FOR ATHLETIC fields and parks are being developed by researchers at the New Mexico State University Agricultural Experiment Station.

Researchers want a grass that makes efficient use of water, nitrogen and iron fertilization. And, while it should be tough enough to withstand kids and athletes, the grass should also have a fine texture and look good.

According to Arden Baltensperger, NMSU turfgrass researcher, most of the world supply of bermudagrass seed, about 10 million pounds of mostly common bermudagrass, are produced each year in western Arizona and the Imperial Valley of California.

"Although common is a tough, drought-tolerant turfgrass it has some disadvantages. Our breeding program is addressing many of these," Baltensperger said.

The university has made a lot of progress and feels that it might have a new variety of bermudagrass coming on line. With the help of several graduate students, Baltensperger has screened thousands of plants for use in making selections and crosses for a new bermudagrass variety.

In addition to iron and nitrogen efficiency, the researchers looked for tolerance to bermudagrass stunt mite and shade tolerance. They analyzed how well traits are transmitted to the next generation, a particularly difficult and tedious study, he said.

With a selection base behind him, the scientist is now looking at advanced generations of bermudagrass.

TURF-TYPE TALL FESCUES GAINING RAPID ACCEPTANCE

AFTER 20 YEARS OF PROMOTION and improvement, the revolution in the turf industry has spread all over the country. This revolution has been caused by the introduction of turf-type tall fescue plants propagated by seed.

Tall fescue, as the name implies, was originally a variant of the "Festuca" genus that grew to mature heights of well over six feet. What was useful and beneficial for forage, however, was less enticing to homeowners.

But the invention of turf-types from this same tall fescue plant has opened a whole new market for turf in the last 10 years.

Production of turf-type fescue seed has expanded rapidly in the United States, mostly in Oregon. Production of tall fescue seed there was about 16 million pounds as recently as 1983. Production from 75,000 acres harvested in 1989 was expected to reach 100 million pounds.

Even so, companies still sell seed of other species of grass such as perennial ryegrass and bluegrass seed in abundance. Most of this new seed is for new

markets.

Tall fescue plants have their strengths and limits. Even the most improved turf-type tall fescues are much more coarse than the broadest fine fescue. Yet in many Southern lawns where St. Augustinegrass is the standard of quality, turf-type tall fescue is finding rapid acceptance.

It's much finer-bladed than this coarse grass which can only be established vegetatively.

The turf-type tall fescues aren't known for their density, but some new and experimental varieties are approaching the thickness of Kentucky bluegrass. Where tall fescue thrives, a more open leaf canopy may help plants fight disease.

The color of newer varieties is rapidly approaching that of the best perennial ryegrasses and Kentucky bluegrasses. Turf-type tall fescue holds its color better in dense shade.

Turf-type tall fescue shines in drought tolerance. The water saving ability of the natural plants hasn't been lost with new refinements.

The drought tolerance of the tall fescue is due to a combination of virtues. The plant can go dormant during periods of heat stress, much like fine fescues, and the roots penetrate deep below the surface. By creating large reservoirs for water use, tall fescue plants act as water savers.

Few grasses offer the versatility of these turf-types which are well adapted to a wide variety of soil types from sand and gravel to clay.

Under high maintenance and low use, perennial ryegrass and Kentucky bluegrass are better choices in cool climates. But in high traffic areas, under moderate maintenance and where any other limiting factor exists such as low pH, poor soil or restricted water use, turf-type tall fescues are the logical choice. Turf-type tall fescue is a natural for sports fields especially in areas with hot summer temperatures.

The newer varieties have lower crowns and are thus protected from heavy foot traffic and light vehicle traffic. — *Normarc Inc.*

green dwarf turf-type tall fescue with premium turf quality. LESCO is placing emphasis on evaluating new experimental tall fescues for regional adaptations. Several experimental especially targeted for the Southeast are in their final stages of evaluation and release of two varieties from this program is expected in 1990.

In addition, LESCO will be releasing a new significantly "darker green" perennial ryegrass initially targeted toward winter overseeding of dormant bermudagrass. This new variety is expected to require less nitrogen fertilization and/or less supplemental iron applications to maintain the desired color.

Work is under way to incorporate endophytic fungi into several turf-type tall fescues, ryegrasses and creeping red fescue varieties to increase insect resistance and stress tolerance.

LOFTS SEED INC. Rebel II and Tribute tall fescues are available in good quantities, but it will be 1991 before Rebel Jr. is available in significant amounts, said Gary Parker, product manager for Lofts' Great Western facility in Oregon.

Repeal perennial ryegrass will

see limited availability because supply hasn't been able to meet industry demands. "That's the difficult part of production — we don't yet know what level demand will reach for perennial ryegrass."

Making supply equal demand is a guessing game, he added.

NORMARC INC. Three new dwarf turf-type varieties — Phoenix, Vegas and Sierra — yielded adequate supply. All three contain endophyte.

Two varieties facing limited supply include Regent creeping bentgrass and Bridgeport chewing fescue. Regent is darker than a typical bentgrass and was developed to resist brown patch and pythium.

Pinnacle fine leaf perennial ryegrass, an interim dwarf — is in adequate supply, as is Premier.

Turf-type tall fescues are generally in adequate supply with shortages in some varieties. Elaine Kentucky bluegrass is in good supply.

NORTHRUP KING. Dandy and Target perennial ryegrasses will be in relatively good supply. Both have been major components in the company's winter overseeding program for the West and the South. Dandy is seeing its first

national exposure and Target may be included in Northeast formulas depending on supply, Churchill said.

Amigo turf-type tall fescue will be in good supply, while Arriba turf-type tall fescue is in short supply and will only be sold in blends in 1991.

O.M. SCOTT & SON. Proprietary ryegrasses including Accolade, Loretta and Caravelle reached predicted yields, while proprietary bluegrasses such as Coventry, Abbey and Bristol had mixed results depending on where they were grown, according to Jerry Boroff, purchasing manager/seed.

Tall fescues, such as Aquara and Chesapeake, came in slightly below expected yields.

TURF-SEED INC. Yields of Manhattan II turf-type perennial ryegrass have increased this year and supplies should generally be adequate, according to Tom Stanley, marketing manager.

Citation II had a good harvest as did components for Alliance blend and Charger. Birdie II has limited availability.

All tall fescue varieties had average to good yields — Monarch is already well-booked for

the year, Apache and Olympic are in good supplies as is Triathalawn blend.

Most bluegrass varieties did well including proprietaries Columbia and Challenger. Midnight will be in tight supply.

Early reports indicated the fine fescue crops in Oregon were not producing as well as expected.

ZAJAC PERFORMANCE SEED. Jaguar II tall fescue, an intermediate growing turf, is in good supply, but it's expected to be sold out by spring, according to John Zajac, president.

The lower growing Emperor tall fescue will also be in good supply, but quantities will be sold out before a new crop is available. Saturn perennial ryegrass yields are higher, but are still having trouble keeping pace with demand.

Limited quantities will be available of Envy perennial ryegrass, a cold tolerant variety in its first year of production, and Vista spreading red fescue, a low maintenance variety.

Wear tolerant Liberty Kentucky bluegrass is available in good supplies. — *Cindy Code*

The author is Editor of Lawn and Landscape Maintenance magazine.

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Scientific Data Opens The Door for Interior Plants

IMAGINE! ONE WOMAN planned to ask the interior plantscaper to remove the plant from her desk because it took up too much space. Little did she know how hard that plant was working for her.

But Lydia Paneri, Associated Plantscapers Inc., Irvine, Calif., certainly knew that the plants her company placed and maintained in the office did more than make the place look pretty. So she told the woman how plants clean pollutants out of the air and make the office a healthier place to be on a day-in and day-out basis.

As a backup, Paneri cited find-

ings from a NASA-commissioned study that originally discovered the air cleaning benefits plants possess.

The result? The woman asked Paneri for a second plant in her office and requested more be placed around the rest of the company.

With the activities and messages from Earth Day still fresh in many people's minds, and some scientific data for credibility, this seems the perfect opportunity to make people aware of ways to improve their indoor environments.

It's estimated that Americans spend at least 90 percent of their time indoors, and that the cost to

businesses for sick leave and lost productivity and earnings approaches \$60 billion a year.

The recently completed NASA study confirms what many people in the green industry already knew — plants are good both for humans and the environment around them. But the study went a step beyond generalities and came up with specifics: Indoor plants can significantly reduce the amount of pollutants in the air.

Long viewed as an afterthought or frivolous luxury item to commercial developers, the interior plantscape industry has much to gain from these findings. Already,

the Foliage For Clean Air Council has been organized by the Associated Landscape Contractors of America as a clearing house of information on the topic for the general public and industry professionals as well.

Earlier this year the council conducted a five-city tour with the study's main researcher, Bill Wolverton, senior research scientist at NASA's John C. Stennis Space Center in Mississippi. According to Jan Roy, FCAC managing director, the tour was successful in spreading the word about the benefits of indoor plants.

Press coverage of the tour included an interview with Wolverton on NBC's "Today Show."

CLEANING THE AIR WITH PLANTS

Practically every tropical indoor plant and many flowering plants are potent in removing indoor air pollutants. Below is a chart of the plants in the NASA study that most effectively cleaned the air. For more information, contact the Foliage for Clean Air Council, 405 N. Washington St., Falls Church, Va. 22046; 703/534-5268.

Pollutant	Sources	Solutions
Formaldehyde	foam insulation plywood clothes carpeting palm furniture paper goods household cleaners	Philodendron Spider plant Golden Pothos Bamboo Corn plant Chrysanthemum Mother-in-law's tongue
Benzene	tobacco smoke gasoline synthetic fibers plastics inks oils detergents, rubber	English ivy Marginata Janet Craig Chrysanthemum Gerbera daisy Warnecki Peace lily
Trichloroethylene	dry cleaning inks paints varnishes lacquers, adhesives	Gerbera daisy Chrysanthemum Peace lily Warnecki Marginata

DETAILS OF THE STUDY. Wolverton focused on three of the most common indoor air pollutants: formaldehyde, benzene and trichloroethylene. These and other common indoor air pollutants, such as asbestos, radon, lead and carbon monoxide are often emitted from furnishings, office equipment and building materials.

In the study, philodendron, spider plants and golden pothos most effectively removed formaldehyde from the air while Gerbera daisies and chrysanthemums best removed benzene. Many other plants, including bamboo palm, peace lily, corn plant, mother-in-law's tongue and English ivy, were successful in removing pollutants from the air.

The connection between plants and space exploration are probably not immediately apparent to most people. But the agency has been studying plants for about 20 years to find ways to reduce pollutants inside future space habitats.

To spend long periods of time in outer space, humans need en-



Interior plants are becoming more accepted in office settings.

vironments in which they can live and breathe safely. In a sealed environment, humans quickly pollute the air with the gases from breathing. In addition, small amounts of gases are given off by chemicals in the furnishings and equipment in a space structure. As a result, the air becomes toxic.

While space rockets and office buildings don't physically resemble one another, they actually are alike in many ways, Roy said.

Many of the newer buildings constructed in the last 15 years do not circulate air through the conventional opening of windows, but through controlled heating, ventilating and air conditioning systems. These buildings have been found to retain many more of the indoor air pollutants.

In 1989, the U.S. Environmental Protection Agency submitted a report to Congress about indoor air pollution. The report concluded that indoor air pollution represents a major part of the public's exposure to air pollution and can pose serious health risks. It was this report that also calculated the

economic impact of indoor air pollution at \$1 billion a year for medical care and \$60 billion for sick leave, lost productivity and lost earnings.

The most common ailments people who are exposed to a "sick building" complain of are fatigue, headaches, respiratory problems, dizziness and burning eyes, Roy said. But enough prolonged exposure to indoor air pollution can lead to diseases of the blood system and some forms of cancer.

For the study, Wolverton placed potted plants inside sealed plexiglass chambers. The roots of each plant were growing in a carbon filter that absorbed pollutants. A fan was used to move polluted air through the filter.

One of the three commonly found indoor toxins was injected into the chamber. Air samples from the chamber were then measured 24 hours later.

The plants removed as much as 87 percent of the toxic indoor pollutants within 24 hours. These results indicate that pollutants are absorbed through the plants' leaves, roots and the bacteria that

live on them. The pollutants are then converted to food.

Outside of the laboratory, Wolverton suggests one potted plant per 100 square feet can sufficiently clean the air in an average home or office.

INDUSTRY RAMIFICATIONS. While the Foliage for Clean Air Council has developed fliers and other literature referring to plants as "clean air machines," some plantscape operators are aggressively using the information to positively affect their business.

Others are taking a less aggressive approach that is intended for a person's benefit, but not specifically to sell more plants or enlarge current contracts.

With 1,500 clients and 12 offices nationwide, David McKee, president, Interior Plant Specialists, Westlake, Ohio, is using the information in a soft-sell manner.

"It's not crucial to our survival to drum up a lot of new business," he said. "What we need to be concerned about is being too hard sell with the information and taking the risk of turning some people off to our service in general."

Pamphlets about the benefits of plants and the NASA findings are included with all contracts. The line of thinking here is that the client will peruse the flier and remember it when newspapers or TV do stories about it, or when it comes up in casual conversation.

"We have to remember that this industry is still in its infancy, and there are going to be several developments that help it grow and mature," he said. "These findings are definitely a part of that process, but change comes slowly.

We're interested in the long-term stability of the industry and think it's better to present this information in a 'By the way' or 'For your information' type manner."

The real effects of the current campaign and other selling tactics will be seen in the next two to three years, McKee added.

But Paneri said she thinks some of that progress has already been made, and that the proverbial ball is rolling. Including expansive, multilevel atriums in new office buildings and hotels, she said, is a definite sign.

"Less than 10 years ago developers would have balked at the idea of having such a large common space; they saw it as a waste of space," she said. "Tenants would have to pay higher rent because there'd be fewer in the building. Back then, a building with an atrium was definitely exclusive and upscale."

That attitude has certainly been dumped along the wayside in the last several years.

"Now it's expected of every building that goes up," Paneri said. "Even here in Southern California where office space is at a premium, they're everywhere."

This trend has already been a boost to the industry. Developers and management firms are now calling on interiorscapers to "fill the space" whereas it used to be the other way around.

"Our services are in demand," Paneri said. "People know they spend too much time inside; they want to bring some of the outdoors indoors. They're not calling us saying 'Put plants in my building. I want to be healthy.' But when you tell them that, it's just confirming they had a good idea."

Now that having plants and trees in a central, common area

(continued on page 62)

Green Industry Women Are Taking on Leadership Roles

BACK IN THE EARLY 1970s, Sally Kujawa was the first woman to attend functions of the Associated Landscape Contractors of America as a business professional and not just a spouse.

"For a couple years after we joined the association I was the only woman member," she said. "I think all the men looked at me as a novelty, but I don't think they ever treated me differently. As soon as I started attending meetings, I got involved in conversations and asked questions. I'm not the type to sit quietly with my mouth shut. I think from the beginning I've been treated like any other member."

But after considering the situation, she added with a chuckle: "But I can't exactly be sure what they said when I wasn't around."

Now, 20 years later, Kujawa said, she's lost her novelty status and women are not only getting jobs in the green industry, but are also moving up into management positions and becoming a regular part of the industry.

Today, she runs the financial end of Kujawa Enterprises Inc., a full service lawn and landscape maintenance firm based in Cudahy, Wis.; recognized by many as an industry leader. Her husband and the company president, Ron, is past president of ALCA.

While she said she was never discriminated against as a woman in a male-oriented industry, she does understand how women can have problems.

"I say I never had any problems," she said. "But that may be because in the early days, Ron and I were so driven that maybe I just didn't stop and notice what people were saying. My only interest was in making the company a success."



Women hold various jobs in the maintenance field. Photo: Albin P. Dearing V and Davey Tree.

When asked if she thought her company attracted more women because she — a woman — is in a prominent management position, she initially answered no. But after pondering the question, she realized the company may, in fact, attract women without actually going out and recruiting them.

"The more I think about it, I realize that we've never said, 'No. A woman cannot do that job,'" she said. "If a woman was interested in a job and qualified, she was considered equal to her male counterparts. That just seems like common business sense to me — give the jobs to those who can perform them best whether they're man, woman, white, black, whatever."

"But I imagine there are probably companies out there — in all industries — that don't operate the same way and hire only specific types of people for specific jobs."

GETTING MORE JOBS. Within Kujawa Enterprises, women have various jobs that not too long ago the entire industry strictly considered "guy" jobs: residential and commercial sales, branch manager, crew leaders and crew members.

Lori Larson has been selling both residential and commercial accounts at the company for just about a year. When she started, being a woman was almost an advantage when prospecting new residential accounts.

"I compare it to service garages," she said. "Almost every woman has a story to tell about how a mechanic has treated her horribly and as though she doesn't know a thing. I wouldn't say landscapers are as bad as mechanics, but women homeowners certainly enjoy seeing me arrive at their door. They feel more comfortable and relaxed when they're not immediately on the defensive trying to prove they know what a blade of grass looks like."

Larson's main reason for pursuing an associate's degree in horticulture was her enjoyment of being outdoors and knowing she was "too hyper to sit at a desk all day."

While she's experienced no problems with customers, the story isn't exactly the same with others in the industry. "The industry does have its share of 'Good Old Boys' who try to test you, but once you show them you can carry your own they become receptive and accepting," she said. "It's almost like an initiation."

But some people take longer and some may never come around to accepting women in the industry, she said.

"That's not going to keep me building a career in the industry," she said. "Working at KEI has been a real benefit because there are a good number of women in the company and you know the fact that you're a woman is really an afterthought. I know my employer has confidence in me; that's most important."

Although she's gained confidence in her selling abilities while working in residential markets, she's also been able to take on some commercial work which she's found somewhat more enjoyable.

"I like commercial work because you're dealing with a professional who isn't denying your need for a profit," she said. "That makes the whole selling experience more enjoyable; it leaves the level of haggling over every expense."

The best approach for a woman wanting to enter the industry, as Larson sees it, is to not be too picky about the first job.

"Most of the women enrolled in the horticulture program had jobs before the men because they were willing to take a job that didn't pay as much as they wanted or expected," she said. "From there, you just have to work hard and show everybody what you are capable of doing."

An added piece of advice for a woman entering the field is to be willing to work hard and expect some of the men to "test" her before admitting to themselves that she does know the job. An antagonistic attitude will cer-

(continued on page 36)

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Women in Business

(continued from page 34)

tainly lead to unnecessary problems, and maybe force the woman out of the field, Larson said.

A ONE-WOMAN SHOW. Making a go of it on your own is always tougher than working for somebody else, and that certainly holds true for a one-woman operation in the green industry, said Betty Sharpless, owner, Good Help Landscaping, Asheville, N.C.

Sharpless started her business seven years ago like so many others — with a pick-up and a lawn mower. She operated that way for several years before deciding she really didn't enjoy taking care of lawns, and wanted to get involved in an aspect of the industry that was more creative and challenging, she said.

That new area was working exclusively with flowers and ornamentals.

"I was tired of mowing and edging," she said. "Most lawns look the same and that's the goal: To

That seems like common business sense; hire those who can perform the jobs best whether they're men, women, white, black, whatever.

make it look as good as the neighbor's. I wanted to do something that was more challenging and captured the client's personality."

OFFERING SOMETHING DIFFERENT. Armed with a psychology degree, Sharpless thinks she's able to offer some insights into what clients would like in a garden based upon their persona and how they view the world around them.

One example of how she injected a personality into a landscape was for a client who had relocated to North Carolina from Arizona. She created a cottage garden similar to what he had before. After having the garden installed, the man's attitude changed dramatically, accord-

ing to Sharpless

"He had a part of what he left behind with him again," she said. "In landscaping we often talk about plants going through transplant shock. People experience the same thing."

Sharpless is content keeping her company at its current size rather than having it grow larger. She has, in fact, in the past hired full-time employees to assist in meeting the demands of her growing client list.

The year she had four employees, she found too much of her time was spent with detailed paper work and training and managing them. She wasn't doing what she enjoys most — working with plants — and ended up losing money when the year was

through.

"Having employees is a huge responsibility and took up too much of my time and took me away from my clients," she said. "Growth was difficult to deal with. If I had a partner who basically liked staying in the office to manage schedules and all the paper work, I think it might have worked."

She's had some problems being a one-person operation run by a woman. She claims she gets much more business mail from associations and suppliers since changing her telephone directory listing to her first initial rather than her full name. But that doesn't put an end to people asking to speak to Mr. Sharpless when she answers the phone.

"Then I have to ask if they're calling about landscaping and when they say yes, I tell them the B is for Betty," she said. "It's usually the suppliers, wholesalers, that type who do that. I've never had a customer question my competence just because I'm a woman. But then most of them

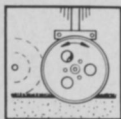
(continued on page 38)

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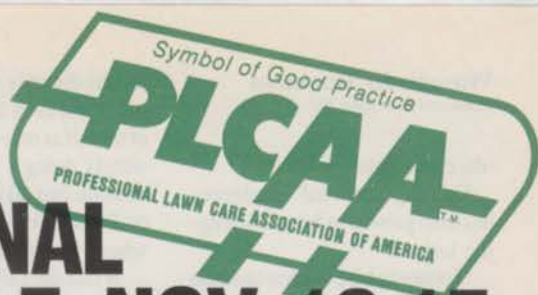
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Michael LeBoeuf, internationally known author, business consultant, and recognized expert on the topic of customer service will keynote the 11th Annual PLCAA/Nashville '90 Conference on Monday, November 12.

His topic, **'How to Win Customers and Keep Them For Life'**, outlines a practical strategy that's based on a simple but often overlooked message: the rewarded customer buys, tells others, and comes back.

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Women in Business

(continued from page 36)

do come from referrals."

Keeping seasonal employees has also proved to be a challenging task.

"I prefer to hire women because they're willing to give me respect from the start and I like to give them a chance in a male-dominated industry," she said. "The men I've hired haven't worked out because they expected me to prove myself before they were willing to listen to me. I don't need that. I'm the boss and I should be able to tell them what to do without them second guessing my every move."

IT'S ALL IN THE ATTITUDE.

Susan Hanley, manager operations administration, Evergreen Services Corp, Bellevue, Wash., knows what working in a man's world is all about. Before entering the green industry, she was a machinist working in the aeronautics field.

"I know what it's like to be the only woman around," she said.

"I was the only woman in a shop of 60. But even then I didn't think of myself as non-traditional. I was simply doing a job. I think your attitude can take you a long way or hinder you from going anywhere in a position like that."

While she's always known there was a certain attitude toward women in what she refers to as non-traditional jobs, Hanley said, she's always surprised when she runs across it.

"I don't know why I'm surprised by it," she said. "After being in these two industries, you'd think I wouldn't be. It's that 'If you want a strong back, hire a guy' attitude that amazes me. Some people really subscribe to that theory."

In her latest position, Hanley likes to say she has moved from dealing with plants to dealing with people. Her favorite aspect of her job now is recruiting people.

"I like recruiting women, but enrollment in horticulture programs is declining," she said. "In addition, many women coming out of those programs have the sights set on starting their own

business, so that makes them even more of a rare commodity."

HARD WORK PAYS OFF. Making inroads and changing certain discriminating, prejudiced attitudes takes time. The number of women working in the industry is a positive change. But even though she considers Evergreen Services to have progressive attitudes, a recent incident reminded her that much still needs to be accomplished.

"This was a direct quote from a field foreman: 'Give me a woman over a man anytime. They kick in 120 percent while guys kick in about 80 percent. That makes my job a lot easier,'" she said.

One unfortunate aspect of having a biased boss is that they will overemphasize a woman's mistakes while under-emphasizing men's mistakes in an attempt to prove their theory correct, Hanley said.

The Association for Women in Landscaping is one vehicle women in the Pacific Northwest have for accelerating their acceptance in the green industry. Member-

ship in the group stands at about 150, and, Hanley said, benefits abound.

"As women in the field, we have a lot to offer one another as far as networking and sharing ideas and stories of how we have dealt with the non-traditional issue," she said. "But more important are the issues that affect the whole industry from labor shortages to low-priced, fly-by-night competition."

Several green industry state organizations in Washington and Oregon have women directors or presidents as does ALCA and the American Society of Landscape Architects.

"We already see several women in leadership roles in the industry," she said. "And it's involvement in state and local associations that will help women hone their leadership and management skills so they do progress up rather than staying in entry-level positions." — David Westrick ■

The author is Assistant Editor of *Lawn and Landscape Maintenance magazine*.

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Avoiding the Pitfalls Of Yellow Pages Advertising

EACH YEAR AMERICAN businesses spend millions of dollars to advertise in the Yellow Pages. It's not surprising. The Yellow Pages have a reputation for working. Millions of consumers who are "ready to buy" refer to the directory everyday.

Everywhere you go you'll find Yellow Pages directories full of ads representing all kinds of businesses. Advertisers can expect to get more mileage out of their advertising dollars than in any other medium.

Yet casualties of this billion-dollar industry are all too common. In most cases, the bulk of the dollars invested by advertisers in the Yellow Pages might better be spent at the crap tables — the gamble wouldn't be any bigger, and at least they'd have some fun.

As it is, most businesses take the hit-and-miss approach, guessing at which directories to advertise in, what heading to list under, what ad sizes to buy and what should go in the ads.

Or worse, those decisions are left to the Yellow Pages sales representative. The result is the advertiser's hopes and expectations of profiting often aren't met.

The Yellow Pages are indeed rich in gold, but few know how to mine it.

WHY THE YELLOW PAGES? The average business loses approximately 10 percent of its customers each year, usually through no fault of its own. Carrying a nearly 10 percent loss to its logical conclusion, the average business can ex-

pect to experience a complete turnover every 10 years.

Customers move. Sometimes they don't pay their bills and you decide to drop them. Other customers are perpetually dissatisfied and move from company to company.

A business must attract new customers regularly to maintain a healthy customer base, not to mention experience growth. Where do these customers come from?

Some of your potential new customers start out looking specifically for you. This includes referrals and new accounts solicited by salespeople in the field. If your location is attractive, passers-by are bound to account for a share of your new customers. Advertising will also generate new business.

Of the buyers who start out looking specifically for you, almost one-half may end up doing business with another firm because they cannot find you, or they succumb to a competitor's advertising that is more visible or persuasive.

Other potential customers don't have someone they are in the habit of doing business with. This group includes comparison shoppers who may want to check the price of a particular service with several different suppliers. It also includes buyers of a service purchased infrequently.

New residents or people buying a service for the first time, also belong to this group. Your competitor's dissatisfied customers may now be looking for a new company.

Three out of four new customers will continue to do business with you once they've started. This underlines the importance of being the first to do business with people who make

up this group.

Of course, buyers who already know you and who are looking specifically for you will also use the Yellow Pages to obtain additional facts about your business. They may know your name, but need your address or telephone number.

They may have only partial recall of your name and need a memory jogger. But if you're not there, they'll call your competitor who is advertising under the same or a similar heading. Thus, the Yellow Pages fulfills a crucial function.

HOW CRITICAL ARE THE YELLOW PAGES? If you're not asking new customers how they heard about you, start doing it now. Customers rarely volunteer this information. How many referrals are you getting? How often do you advertise your services in the newspaper, on the radio or by direct mail? How many customers does that bring you?

Take a long look at your current customer base and assess its strength. This will tell you how much you must depend upon advertising in the Yellow Pages to reach potential customers who will not come to you through other means.

WHERE TO ADVERTISE? The biggest problem facing Yellow Pages advertisers today is figuring out in which directories to place ads. Gigantic profits have caused intense competition in the Yellow Pages industry.

Consumers are delivered a number of different Yellow Pages books that look remarkably alike. The effect of the explosion of directories is frustration and confusion. When only one Yellow Pages directory covered your market, the job was easier.

If you're not asking new customers how they heard about you, start doing it now. Customers rarely volunteer this information.

Since the split up of AT&T and the appearance of competing directories, that task has become formidable.

Competing directory companies vie for your advertising dollars by trying to offer you something different or "better." Sometimes they break up the local directory into smaller areas, resulting in "neighborhood" directories.

Other times the reverse strategy is employed — publishing overlays, combinations of two or more telephone company areas into one large directory. This increases the circulation of your ad and theoretically introduces you to more potential customers. Sometimes a competing directory covers the identical area, but at a greatly reduced rate.

Directories can be specialized, geared to minority and special interest groups such as women, children, blacks or even senior citizens.

Before the forced split of AT&T in January 1984, the telephone conglomerate was the largest publishing company in the United States, bringing in \$3.5 billion in advertising revenues in 1982 alone.

By 1985 the dollars spent by businesses to advertise in the Yellow Pages doubled. The after-tax margins of the Yellow Pages industry are estimated at anywhere from 15 percent to 35 percent. And everyone wants to grab a piece of the pie.

This attractive profit potential has caused fierce jockeying for markets by competing independent and telephone-affiliated directory companies. All this punching and counter-punching is mild, however, compared to the bouts shaping up today in which the former Bell subsidiaries created by the break-up are fight-

ing one another — jumping across state boundaries to market all sorts of new directories.

Competition existed even in the 1960s when AT&T had a virtual monopoly in Yellow Pages directories, but it was in the form of neighborhood or specialty directories that took too small a portion of the market to concern the telephone giant.

In the 1970s, large independent telephone companies, such as GTE Corp., began to follow in the footsteps of small, private entrepreneurs and sell ads and distribute their directories in AT&T territory.

There's obvious confusion about which directories to advertise in. Then, there is the frustration of trying to spread your advertising dollars around effectively. There is also the headache of dealing with numerous Yellow Pages salespeople. But the biggest headache caused by the increased number of directories in a marketplace is paying more to reach the same number of customers.

This, in effect, is what the profusion of directories has done — to reach the same number of customers, you must do more advertising at far greater expense.

Most advertisers have no idea how their ads are working. Once a contract for advertising is signed, business owners often don't give it another thought until a salesperson walks through the

door the following year to renew the program.

It is inconceivable that an auto parts business or a plumbing supply outlet would purchase thousands of dollars worth of parts and then not pay the slightest attention to how they were selling and which were most profitable.

Yet this is precisely how most business people treat their investment in the Yellow Pages.

If an advertiser happens to conduct a customer survey, it is usually done in such a haphazard fashion that the results are unreliable. For example, an advertiser might compare how many customers he pulls from a large ad in one directory with how many he generates from a small ad in another directory, totally ignoring the role that different ad sizes play in the picture.

Or he will depend on his customers to tell him which directory they used to find him. Consumers don't usually discriminate between telephone directories. All directories carry the walking fingers logo and look very much alike. Independent directories are often purposefully designed to



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grabbing the reader's
attention. Display ads
are seen first.***

resemble the telephone company directories to make the consumer think he is using the telephone company publication.

A recent study by an independent market research firm found that anywhere from 25 percent to 47 percent of people who use the Yellow Pages rely primarily on independently published books. Even though consumers remain ignorant of this, it makes independent publications as potentially profitable for you as the telephone company directories.

The public's lack of knowledge about the many directory companies, coupled with the look-alike directories, make it hard to find out which directories consumers are really using. Customers don't usually discriminate between the books and can't clearly communicate to you which one they use. Consequently, you must learn how to get the right information from them.

While the vast majority of Yellow Pages advertisers know little about how their advertising is

working, some do keep careful and reliable records of their Yellow Pages customers and the dollars these customers spend. On the basis of their surveys, the bottom line about Yellow Pages usage is this: All directories are used. This should provide ample motivation for you to learn how to advertise in a way that lets you capitalize on that usage.

WHICH ADS WORK BEST?

Phone books contain three primary types of ads: Listing ads,

in-column space ads and display ads.

In-column space ads pull twice the number of customers as a bold listing. A listing gives the consumer your name, address and telephone number, but it does not begin to tell a story about your business.

Customers generally want answers to questions before they buy. Space ads usually provide them with more of what they are seeking, increasing the chances they

(continued on page 44)

POSITION: HOW IMPORTANT IS IT?

THE STORY GOES IN THE REAL ESTATE BUSINESS that people buying property need only consider three things: location, location and location. In the Yellow Pages industry, there is parallel advice for display advertisers: position, position and position.

Consumers typically start reading at the beginning of a heading and work their way back. For this reason, where your ad is placed in relation to where the heading starts is important.

When consumers pick up the Yellow Pages without a particular business in mind, they usually turn to the heading and begin to read. The closer your ad is to the front of the heading, the sooner it is read. The farther back your ad is, the greater chance that the consumer will find what he needs without ever seeing your ad.

Consumers might read the smaller ads, thinking they represent smaller businesses with lower prices. Sometimes they shop all ads under a particular heading, looking for a nearby location. But the evidence suggests that the larger ads, because of their prime positioning, reap most of the business that comes from a heading.

The more ads under a heading, the more critical positioning becomes. Being visible quickly is important since half of the people using the Yellow Pages will be persuaded by another business's advertising if they have any difficulty finding you.

The dilemma facing a new display advertiser at an active heading is immediately apparent. It is not surprising that they often buy established businesses at outrageous prices. Since ad position generally is tied to a telephone number, the new business inherits the former business's ad position.

Some advertisers believe that people shop from the end of a heading and move forward, and they insist on being the last ad at a heading. But the facts do not support this theory.

Research on how ad size affects the number of customers produced suggests that the largest ads produce the best results. Further, even though ad rate increases arithmetically (twice the space costs twice as much), effectiveness increases geometrically. In other words, an ad twice the size of another will produce five, not two times the response. An ad four times the size will produce 15, not four, times the result.

The major difference between display ads and incolumn ads is that incolumn ads are positioned alphabetically while display ads are grouped by size and seniority.

The largest display ads are positioned first. If you are a display advertiser, particularly at an active heading, you must be concerned with the position of your ad.

In addition to the large ads being placed closer to the start of a heading, display ads are ordered on the basis of seniority

within each size grouping.

Preferential positioning is sometimes given to local businesses during the early stages of a sales campaign, with advertisers outside the area being sorted in later. Many non-local advertisers overcome this obstacle to good positioning by installing a local telephone number, which qualifies them as a local business.

Buying the largest display ad available is the only way to guarantee your position. Any size other than the largest means that someone buying an ad larger than yours at any time in the future is positioned ahead of you. If an ad larger than any previously offered is introduced later, you must buy it or lose your favored position.

With the largest ad, your position can only improve. As other advertisers close their doors, move out of the area, elect not to renew their advertising, or reduce their ad size, you move ahead.

One way to improve the position of your display ad is, of course, to buy a bigger one. If there are already many large display ads under your heading, even buying the largest ad will not automatically give you an attractive position. You may just have to buy your place in line and wait for the years to take their toll on better positioned businesses.


There is, however, one little known way to gain a position advantage without putting more money out of pocket when purchasing an incolumn ad.

Some advertisers have caught on to a method of appearing close to the start of a heading in the column and gaining a competitive edge, regardless of the name of their business.

If you look up the active heading "Landscaping" you will notice a number of listings for companies with names like AAA Landscaping or A-1 Lawn Maintenance. Not all these companies had the foresight when starting in business to keep Yellow Pages positioning in mind.

Instead, they fabricate a business name that begins with the letter "A," which gives them an alphabetical advantage. For consumers who have no firm in mind when they open the Yellow Pages, the name of the business is of little importance. Businesses that use this strategy should also list their true business name so that regular and referral customers can find them.

Some directory companies are on to this ruse and now require you to produce a legal DBA for any business name under which you list in the Yellow Pages. Depending on how active your heading, it may be worthwhile to acquire a DBA to get a more forward position in the column. Again, don't forget to list under your legitimate business name as well for the benefit of regular customers and referrals.



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Circle 28 on reader service card

will call you over a competitor who only has a listing.

Because in-column space ads have twice the pulling power of listings, how much is doubling your potential business worth to you?

The primary advantage of display advertising over advertising in the column is that it offers greater flexibility in layout and an opportunity to use impact headlines, distinctive borders and eye-catching illustrations.

Because a picture is more eye-commanding, it does a better job of grabbing the reader's attention. "Where the eye stops, the sales begin." is a fundamental of Yellow Pages advertising. When shoppers open the Yellow Pages, display ads draw their attention first. This generally means more business for a display advertiser than for an in-column advertiser.

In checking, advertisers have sometimes been surprised to find that their in-column ads draw more customers for them than

An auto parts business wouldn't purchase thousands of dollars of parts and then not track which ones were selling better or were more profitable. Nor should you ignore your directory ad.

their display ads. While this is unusual, there are situations in which an in-column ad will out-produce a display ad. Here are some of them:

- **Active heading.** If the name of your business is Action Landscaping or Carlson Landscaping, advertising in the column where ads are placed alphabetically will put you close to the start of a heading. At an active heading, this will serve you better than a small display ad which will have relatively poor position because there are so many ads there.

- **Flat display ad.** A display ad that packs no punch can pull less effectively than a well designed

and carefully planned in-column ad.

- **Single display ad.** A lone display ad at a heading may end up placed on the page far from the heading it belongs to and can be overlooked as a result. You are much better off here with a more easily seen listing or in-column space ad that falls closer to the heading.

- **Gutter ad.** Since the response to an ad can be affected by where on a page it appears — unknown until the publisher has completely paginated the directory — a display ad that falls in the gutter (along the fold) can be overlooked in favor of a better placed in-

column ad.

- **Bargain hunters.** Consumers sometimes respond to smaller in-column ads because they think they represent smaller companies who will do a better job or offer a product at a lower price.

Despite these occasional exceptions, display ads generally get the best response. The following study illustrates just how much better.

In a study of the effectiveness of directory advertising, a business was given a display ad, an in-column ad, and a bold listing in a Yellow Pages directory. A different telephone number was placed in each ad, and the telephones were metered to count the calls.

During that year, the display ad generated about 70 percent of calls, the in-column ad produced 20 percent and the bold listing only 10 percent. — *W.G. Wagner*

The author is a former Yellow Pages salesman. This article has been reprinted with permission from the book Advertising in the Yellow Pages: How to Boost Profits and Avoid Pitfalls.

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Attaining Uniform Patterns: A Constant Challenge

TWO GENERAL TYPES of fertilizer spreaders have traditionally been used for most professional turf applications.

Small, drop-type spreaders have been used for compact areas and locations requiring great precision, while rotary-type broadcast spreaders have customarily been used in larger areas.

Most rotary spreaders used on turf are relatively small units with single impellers, while agricultural rotary spreaders generally have two impellers. Turf rotary spreaders with a single impeller tend to have some pattern skewing — the left side of the pattern is not shaped the same as the right side — or there is more total material on one side than on the other.

In the past decade, pendulum-action broadcast spreaders have become more common for professional application to larger turf areas. A pendulum-action spreader uses a horizontal spout linked to the tractor power take off so the spout is waved back and forth in a horizontal plane.

The fertilizer particles are flung out from the spout in a fan-shaped pattern. The spout action is the same on both sides of the spreader so, theoretically, there should be no skewing. The left side of the pattern should be the same as the right side of the pattern.

Material is metered into the spout through several adjustable ports in the bottom of the hopper.

Since a pendulum-action spreader generally has no pattern skewing, it should be easier to obtain uniform application with this type of spreader. It must be noted, however, that eliminating skewing does not necessarily guarantee a good pattern. It may simply mean that the left side of the pattern is as bad as the right side. In most cases, eliminating skew-

ing should provide a pattern that will give acceptable results if the proper swath width is selected.

While fertilizer spreader pattern tests are regularly run on smooth surfaces the turf surfaces on which you apply your fertilizer won't be quite so smooth.

If you are working on a golf green or a fine lawn, your operating conditions may be similar to laboratory test conditions. On the other hand, many turf areas have tree roots, stones, debris, ruts or just plain rough turf that can cause the spreader to bounce. Rough terrain can give an operator as many difficulties as skewing.

Recent university test results regarding uniform broadcast patterns and rough turf conditions are the subjects of this article.

UNIFORM PATTERNS. The Louisiana Agricultural Experiment Station recently contracted with the Italian Trade Commission to evaluate a pendulum-action spreader made in Italy by Bezzecchi. The goal was to see whether the pendulum-action spreader was effective at delivering a uniform pattern.

A Bezzecchi model SPTO 400 pendulum-action broadcast spreader was evaluated. Basic pattern tests were conducted with four materials. In addition, a fifth material was used for a sensitivity analysis in which the effects of small changes in operating variables were examined.

The materials used for the pattern tests and their bulk densities were as follows:

Material	Bulk Density, lb/ft ³
Fertilome Winterizer	53.4
Sierra Osmocote 25-0-17	59.4
Sierra Osmocote 0-0-46	72.7
Powdered Lime	101.2
Sierra Osmocote 0-0-39	49.3

The first four materials were used for the basic pattern tests, conducted according to ASAE Standard S341.2, Procedure for Measuring Distribution Uniformity and Calibrating Granular Broadcast Spreaders.

The swath widths delivered by this spreader were too great to allow indoor testing, so the pattern tests were all conducted outside. Although an effort was made to avoid testing when there was a significant side wind, some of the runs had to be made with side winds of five to 10 mph.

The pattern test with each fertilizer was replicated three times. The spreader was operated at four mph with the PTO running at 540 rpm. The spreader was level and the center of the spout was 27.5 inches high for all basic runs. These settings were varied for sensitivity runs.

A sensitivity analysis was then run using Sierra Osmocote 39-0-0. The standard spout and deflector were first run in the standard configuration, then individual runs were made with the spout lowered four inches, the PTO speed dropped to 450 rpm (which dropped the ground speed to 3.3 mph) and the spout was angled first up then down by four to five degrees.

This procedure allowed an evaluation of the sensitivity of the spreader to small operational errors.

A laboratory test was run to determine whether there is a significant difference in calibrating with the PTO on vs. with it off. All rate settings from R-1 to T-6 were checked both ways with Sierra Osmocote 25-0-17.

For each setting, the spreader was opened for 30 seconds while the material was caught in a bucket. No spout was used. When the PTO was operating, it was

.....

The fertilizer particles are flung out from the spout in a fan-shaped pattern. The spout action is the same on both sides, so there's no skewing.

FERTILOME FERTILIZER



necessary to hold a second bucket with a hole in the bottom over the oscillating spout flange.

The spreader was also used extensively in the field for applications to turf and to farmland so that ease of operation could be observed.

RESULTS. Collected data shows that the patterns were fairly uniform from side to side with all products. The small amount of skewing present can probably be attributed to wind effects.

Figure 1 shows a sample pattern from the test using fertilome fertilizer. It's obvious from the data that the patterns were not perfectly shaped, but that decent overlap patterns could be obtained in most cases with judicious selection of swath width.

A coefficient of variation less than 20 percent is generally considered acceptable for fertilizer. All test patterns could achieve this if the proper swath width was used. It's also desirable to hold the minimum point in the overlapped pattern to at least 80 percent of the mean, and the maximum to not more than 120 percent of the mean.

Most of the test patterns did not meet this criteria, so some striping could be expected with some products.

A sensitivity analysis shows the spreader was not sensitive to minor changes in spout height. Angling the spout down had little effect, but angling the spout up

did affect the pattern.

A change in PTO speed had a major impact on pattern. If the same width was used at the lower PTO speed, the pattern was poor. If the width was reduced significantly at the same time the PTO speed was reduced, a good pattern could be obtained at the lower speed. Results indicate that the pendulum-action spreader has about the same sensitivity to operational variables as a rotary spreader.

Calibration must be performed with the PTO operating at rated speed. It would be easier and somewhat safer to calibrate with the PTO off, but the error is excessive. The rate increments from one setting to the next are too large at the lower end of the scale, but are adequate from rate setting S-4 on up. Ideally, the increments should not exceed 20 percent.

ALTERNATIVE USES. In addition to broadcast applications, a pendulum-action spreader can be used for several other types of application. If a spout without a deflector is used, the spreader will throw fertilizer in two bands rather than in a broadcast band. This type of application is useful for fertilizing rows of trees or shrubs, as in a nursery.

The spacing between the bands varied from 10 to 20 feet depending on the spout height, PTO speed and type of material being applied.

Special banding attachments

are available to allow dropping two or four narrow bands of fertilizer. The spreader can also be equipped with knives to inject the fertilizer under the soil surface.

A pendulum-action spreader can eliminate most pattern skewing. With proper selection of swath width, a generally acceptable overlapped pattern can be obtained. Since no pattern adjustments are necessary, only one pattern test run is needed to calibrate the spreader.

The spreader is versatile. Full service landscape contractors and those with nursery operations will find that the ability to throw or drop bands of fertilizer makes the spreader more valuable.

TERRAIN OBSTACLES. Once skewing is sufficiently reduced, rough operating conditions must be addressed. A test was conducted at the Louisiana Agricultural Experiment Station to study the effect these conditions may have on the pattern your spreader delivers.

A commercial turf rotary spreader was pattern-tested on a smooth concrete surface and again with four different types of surface roughness to determine whether any pattern differences occurred.

Four different granular materials were evaluated under each test condition. The granular materials used include: material A, ryegrass seed; material B, Fertilome winterizer, a high-density, small particle fertilizer; material C,

A sample pattern from using fertilome fertilizers. Decent overlap patterns can be obtained in most cases with judicious selection of swath width.

.....
Once skewing is sufficiently reduced, rough operating conditions must be addressed.

It's Tee Time® with DIAZINON

Sierra 40-0-0, a high-density, medium particle, resin-coated fertilizer; and material D — Sierra 34-0-7, a high-density, large particle, resin-coated fertilizer.

Materials A and B were small and irregularly shaped. Materials C and D were generally spherical.

The four rough surface conditions were provided by steel rods 1/4-inch in diameter welded to steel side rails in the following configurations: condition one, rods every 12 inches; condition two, rods every 12 inches with rods for the two wheels staggered so that the wheels of the spreader hit the rods out of phase; condition three, rods every 6 inches; and condition four — rods every 6 inches with rods for the two wheels staggered so that the wheels of the spreader hit the rods out of phase.

Although a steel rod 1/4-inch in diameter may not seem like much of a bump compared to some of the roots and rocks encountered in turf, the rods provided a fairly violent bounce when placed on a concrete floor and hit at 3 mph.

The pattern tests were conducted according to American Society of Agricultural Engineers Standard S341.2, Procedure for Measuring Distribution Uniformity and Calibrating Granular Broadcast Spreaders. The spreader was operated at 3 mph and the impeller was held level for all tests. Three replications were made with each material and track condition, for a total of 60 test runs.

After the data was collected from the pattern tests in the laboratory, a computer program, SPREADER.EZ, was used to analyze the results. The computer program first calculated the amount of skewing for each pattern (percentage of material on the left side of the pattern compared to the percentage on the right side).

Next, the program generated overlapped patterns (assuming a back and forth mode of operation) for a range of possible swath widths. For each swath width, the program calculated the coefficient of variation, and the minimum and maximum points in the overlapped pattern.

For each material, an optimum swath width was selected based on the standard pattern tests on a smooth surface. The pattern uniformity of the patterns from the rough-surface tests was then compared at that swath width.

RESULTS. Surface roughness had a considerably greater effect on pattern uniformity than had been anticipated. The lower the CV, the better the pattern. A CV of 0 means the pattern is completely uniform.

With all materials, the pattern deteriorated with the rough test surfaces. Materials A and B, which have smaller, irregular particles, showed the most increase in CV, but materials C and D also showed a statistically significant change.

With rough surface conditions, the patterns tended to skew to the right. The skewed basic patterns result in non-uniform overlapped patterns. There seemed to be little difference among the different types of surface roughness; they all resulted in skewing and pattern deterioration.

Since the patterns all skewed consistently in the same direction, one phenomenon should be responsible for the problem. The best hypothesis at present is that the bouncing of the spreader caused the particles to bounce and vibrate on the impeller, thus allowing them to move off the impeller faster. This theory is consistent with the counterclockwise rotation of the impeller.

CONCLUSIONS. A rough surface will have an effect on the pattern performance of your spreader. If the spreader pattern is centered based on a standard test on a smooth surface, it will probably skew badly when the spreader is used on a rough surface.

It might be worthwhile to compensate for the anticipated pattern skewing by adjusting the initial pattern setting in the opposite direction. — Richard Parish ■

The author is a professor in the Agricultural Engineering Department at the Louisiana Agricultural Experiment Station, Baton Rouge, La.

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Circle 37 on reader service card

Late Fall Fertilization Can Promote Early Spring Growth

THE DEBATE CONCERNING the benefits or detriments of late-fall fertilization continues with more evidence being collected for both positions.

In addition to considering the agronomic effects of a fall application, operators need to consider the business feasibility of keeping seasonal employees on the job longer to get the work done.

Those advocating fall applications point to increased color, growth, root development and tiller initiation — all of which contribute to the turf's density. Even nitrogen applied in the winter can increase turf density and root growth of cool-season grasses. If you cut back on fertilization the following spring, the grass will require less mowing and have fewer disease problems.

Among university agronomists who favor late fall applications are John Steet, The Ohio State University and Richard Schmidt, Virginia Tech.

They point out that these applications help turf accumulate the carbohydrates it needs for winter survival and early spring green up. Applying nitrogen in the fall allows the grass to store what is not immediately needed for later use.

In the transition zone, cool-season grasses should receive at least 75 percent of its yearly nitrogen requirements between August and December, according to Schmidt. The shorter days and lower temperatures of this period encourages the increased nitrogen use that leads to root growth and the formation of food reserves that will carry it through the winter months.

WHAT IS TOO MUCH? Everybody has certainly heard that saying about too much of a good thing. Well, other researchers



An application of fertilizer in the fall can strengthen spring growth. Photo: O.M. Scott & Son.

point out that excessive fall fertilization can be far more detrimental than applying none at all.

A study conducted at Iowa State University determined that root development and stress tolerance were enhanced when only 25 percent of the total nitrogen was applied in late fall.

Too much nitrogen in the fall can predispose ryegrass to snow mold and winterkill. It can also be a waste and lead to leaching problems, denitrification or mineralization.

The Iowa study also pointed out the importance of spreading out nitrogen applications throughout the year. Findings showed that when 60 percent was applied in the spring, grass plants produced more leaf tissue at the expense of the root system developing. This type of undesirable growth could lead to the plant's injury through environmental stresses.

BUSINESS CONSIDERATIONS. For operators who are not currently offering fall applications to their customers, starting takes

some serious business planning. It may already be too late to offer the service this year.

Making sure you have enough equipment is paramount before starting to offer the service. Most fall fertilizations are granular because they provide a better response than liquids in this type of application. With liquids, problems of frost burn or frozen pumping units caused from early frosts may occur.

Because many customers have wrongly believed that most lawn care is only needed in the spring and summer, Robert Sims, Lawn Medic, Godfrey, Ill., sells five applications — including one in the late fall — as his basic program. Before initiating this program several years ago, he sold late fall fertilization as an option.

"It was easier all around to convert everybody to a five application schedule," he said. "This way

.....
Late fall applications increase color, growth, root development and tiller initiation — all of which contribute to turf's density.

crews were simply going to every house on the route, but before they had to be concerned with which ones they had to skip."

Initially, Sims said, he lost about 12 percent to 15 percent of his customers when he changed to the current program. Calls to those who dropped the service showed the main reason they dropped was price. Within two seasons many of those customers came back and he gained others too.

"I'm not competing with the 'spray and pray' operators," he said. "We're offering an intensive, year-round turf fertilization program. There will always be guys offering a service for less money and less quality, but customers don't understand the less quality part until they see the difference in their lawn."

With all applications, Sims is attempting to find alternatives to nitrogen. He typically spreads nitrogen in the fall to strengthen root development and provide the rich spring green up. In the spring, however, he is starting to use chelated irons in place of another nitrogen application.

In July a ban on landscape wastes in landfills became effective in Illinois. Putting down nitrogen in the spring leads to quicker growth, which obviously is not as desirable as it used to be.

"Whether the customer is mowing the lawn or he has a mowing maintenance firm doing it, the message is the same," he said. "They don't want the lawn to be growing as fast because they're not sure what to do with the clippings."

He's found that customers typically only react to what they can see. When he explained the root development and richer spring color that come from fall applications, those who didn't get upset about the increased price didn't really have much of a reaction. But that has been quite different with the current growth concerns.

"Many don't really care how you do it, they don't want to be bogged down with technical details," he said. "They basically want the results and let me worry how to achieve them. For now, I'm going with the chelated irons and also looking for other ways to keep the green color while avoiding lush growth."



If you're looking for an add-on services, fall fertilization may be the key. Photo: LESCO.

LONGTERM NEEDS. At A Pro-lawn Service in Winchester, Va., about two-thirds of all fertilizer is applied in the fall, according to owner Allen Rogers. The main reason is to develop strong roots systems that will be better equipped to handle any weather extremes that may occur in the following growing season.

"As professionals concerned with the turf's long-term good health, we're actually more concerned with what's going on below ground than with how it looks up top," he said. "When you explain it that way to customers, they seem to be pretty impressed."

This program is relatively close to the guidelines Virginia Tech publishes. Having university research as a backup helps sell the service to customers.

"Now that we're in our fifth year of doing it this way, our past results speak for themselves and most new customers come from referrals. But trying to convince people about the benefits of fall applications was tough," he said. "Somewhere along the line, people just pick up the belief that spring and summer is when you take care of the lawn. That's not their fault; you can't expect cus-

tomers to know that much about agronomy. It's up to us to make them aware."

In addition, Rogers has begun using chelated irons and biostimulants to encourage root growth. The irons are intended to supplant some of the nitrogen use while the biostimulants help make roots stronger and less susceptible to stresses.

"It's to our benefit to keep customers up to date on current research and theories of turf maintenance," he said. "It shows them that we are working for them. If they look around to other companies, they'll quickly discover that most are not as informed as we are."

While the program has been labor-intensive, the company hasn't experienced many problems with keeping workers through the fall and winter months.

Rather than depending on seasonal help, Rogers prefers to keep all full-time employees because of the increased training and certification costs.

"We are out doing applications up until Christmas; then during January and February applicators aren't overburdened as during

the rest of the year," he said. "It's less costly than training a new crop of people every spring and having them leave to return to school or whatever before the season is over."

While the agronomic concerns are reason enough to use late-fall fertilization, an added operational benefit is a decreased chance of burn, Rogers said. The same amounts could not be applied at any other time during the year without leaving a burn pattern. This means applicators have some margin for error.

STILL AN OPTION. One company still offering late fall fertilization as an option is Atkins Lawn Care, Columbia, Mo., said Vern Pauley, the company's vice president.

Currently about 40 percent of customers take advantage of the option.

"Those people who are using the service really are the best advertisers we have," Pauley said. "Ever since starting eight years ago, the number of customers wanting the service has increased every year."

Plans call for extending the basic service to include a fall application, but that remains at least a year or two away, Pauley said. The main reason is finding and keeping qualified workers. He doesn't want to depend on seasonal labor because it's almost useless to go through the hassle of having them certified.

As an incentive to choose the service early in the season, Atkins offers it at a discounted rate through most of the year. If someone calls in late summer or early fall, they're charged the full rate.

The time of year seems to be a major deterrent to more customers signing up for the service because other more winter-related concerns seem more pressing then, he said.

"Sure we tell them that it will help how the lawn will look in the spring, but many people don't look that far in advance," he said. "They often are more concerned about making sure their cars are prepared for the winter or that their homes are properly weatherized. It's a struggle to sell sometimes." — David Westrick

The author is Assistant Editor of Lawn and Landscape Maintenance magazine.

PEOPLE



Hackett



Murphy

AT NORTHRUP KING, **FRED BOSCH** has been appointed turf specialist in the Medalist Turf Division. He is responsible for sales of the Medalist line in Michigan, Ohio, western New York and western Pennsylvania.

Most recently he was a technical sales representative for W.A. Cleary Chemical Corp. He's also been a golf course superintendent.

Charles Bloom and **Bruce Meunier** were recently promoted to general sales managers for the outdoor power equip-

ment division of Briggs & Stratton.

Bloom, a 25-year veteran of the industry, joined the company in 1979 and moved into the outdoor power equipment division in 1986 as district sales manager.

Meunier has spent 28 years at Briggs & Stratton. Most recently he was field test engineer and district sales manager for the outdoor power equipment division.

Both men are responsible for original equipment manufacturer sales, short- and long-term sales plans and managing the company's outdoor power equipment division sales force.

Elsewhere in the company, **Michael Hackett** has been promoted to national sales manager for the industrial division. His responsibilities include inside and outside sales for the division. Other duties include liaison work with central service distributors and original equipment manufacturers.

With the company since 1969, Hackett's last position was manager of sales admin-

istration in the same division.

Jacobsen Division of Textron has named **Howard Murphy** its new national sales manager.

His duties for the Racine, Wis.-based company include managing the sales staff, domestic distributor relations and national accounts.

Rain Bird Sales Inc. has restructured its turf products division creating two new sales and marketing divisions.

Kenneth Mills Jr. will head the commercial division which has duties including the design, manufacturing and marketing of the company's products to landscape architects, irrigation consultants and designers.

Mills has more than 25 years' experience in the irrigation industry.

Michael Baron is director of the contractor division. He joined Rain Bird in 1980 and most recently served as director of residential marketing for the turf division.



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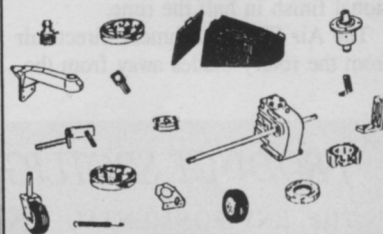
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Circle 19 on reader service card

PRODUCTS

HARDIE IRRIGATION HAS EXPANDED the limits of irrigation control with Touch Command LX and Touch Command, two fully transistorized analog irrigation controllers.

With large, easy-to-read liquid crystal display and simple touch controls, Touch Command makes irrigation programming almost as easy as setting the digital controls on your clock radio. Every function appears on the display with a beep, confirming that a command has been received.

Run times can be set from 1 second to 15 hours, giving the operator more control. Eight start times per program are offered in the LX model, with four start times in the standard model.

Choose from a 14-day schedule or skip day schedule with a skip interval from 1 to 31 days for each program.

The water budget can provide additional control. Increase or decrease run times from 0 percent to 250 percent. When the budget is increased beyond 150 percent, the cycle is split in two parts to avoid overwatering or runoff.

Circle 127 on reader service card

WHEN USED WITH THE HI-LIFT Bac-Vac,TM the Hustler Air Flow DeckTM attachment allows operators to vacuum leaves and clippings for a professional finish in half the time.

The Air Flow attachment directs air from the rotary blades away from the



leading edge of the deck so leaves are drawn underneath for superior vacuuming performance. Operators are protected from dust, which provides better vision.

The attachments are compatible with 60- or 72-inch three-way decks on Hustler models 275 through 440. The Bac Vac mounts behind the operator, to keep from hindering maneuverability.

Circle 128 on reader service card

A NEW CHAIN SAW FEATURING A powerful air cleaning and injection system is now available from Husqvarna Forest & Garden Co.

Powered by a 3.8-cubic inch engine,

Model 262XP is part of an expanding line of chain saws built for use by landscape contractors and others.

The key to the saw's power is the company's new air injection system. Where conventional saws rely solely on a filter to clean air before it enters the engine, this system uses centrifugal force to first purify, then force feed air to the carburetor through a multilayer, accordian-style air filter.

The result is a faster engine acceleration, more consistent power and a power-to-weight ratio unmatched by any saw in the 60 cc category. The saw weighs 13.5 pounds and generates a no load engine speed of 13,500 rpm and an engine speed at maximum power of 9,000 rpm.

129 on reader service card

PRODUCT SPOTLIGHT

THE ENVIRONMENTAL Protection Agency has approved an expanded federal label of Ciba-Geigy's Pennant[®] herbicide. The product can now be used on southern grasses in addition to nursery and landscape plants.

Pennant has been used effectively by nursery managers to control yellow nutsedge, crabgrass, goosegrass and other broadleaf grassy weeds. Turf species included on the new label are bermudagrass, bahiagrass, St. Augustinegrass and centipedegrass.

The new label will allow the



Ciba-Geigy's Pennant

herbicide to be used on commercial lawns as well as golf courses and sod farms.

Earlier this year, the preemergent product received a 24 (c) special local need turf label in Florida for control of Mexican sprangletop on St. Augustinegrass.

The new federal label replaces the 24 (c).

Additional benefits of the expanded label are that it can be impregnated on dry bulk fertilizers, and can be applied through irrigation systems and by air.

126 on reader service card

A NEW MODEL OF THE King Drain[®] designed to operate at low pressures, is available from King Irrigation Products. The GF 25-190 is specifically designed for use with porous pipe installations.

This drain functions similarly to other King drains, opening and closing automatically in response to water pressure changes in the line. However, the GF 25-190 works at lower pressures, closing at just ½ to 2 psi. Working pressure is 150 psi, while the bursting pressure is 400 psi.

When the system shuts down, the drains open to re-

lease standing water from the pipe, helping prevent mineral buildup that clogs the "pores" of the pipe.

Water is released at root level, enhancing the effectiveness of the porous pipe and eliminating evaporation. Each time water flows into the empty pipe, the surge effectively flushes the system.

Circle 130 on reader service card

BILLY GOAT INDUSTRIES HAS doubled the CFM and performance of conventional blowers with its new 16-h.p. blower designed to accomplish the work of two or three 8-h.p. blowers.



Powered by a fuel efficient, overhead-valve twin-cylinder engine, the QB 1600's hydrostatic rear wheel drive transmission allows variable speed in both forward and reverse.

Larger front and rear wheels add to smoother operation in even the roughest or most uneven terrain, and the unit's powerful 14-blade fan can often be used efficiently at a decreased rpm reducing noise even more.

Circle 131 on reader service card

AN ADDITION TO AN EXISTING computer software package is now available from **CompuScapes**.

The Job Services addition to the Landscape Contractor Software Version 2.0 allows for the creation of schedules for maintenance, chemical applications or other available services.

Specifically, it includes: Automatic job scheduling, standard service programs, job route sheets and automatic invoicing on a per service or fixed contract basis.

The CompuScapes package will run on single-user IBM compatible systems, multi-user networks or multi-user UNIX/XENIX systems.

Circle 132 on reader service card.

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INCREASE TRANSMISSION LIFE with Exmark's precision engineered low-torque gear drive system which takes stress off the transmission, reducing torque by 75 percent compared to traditional systems.

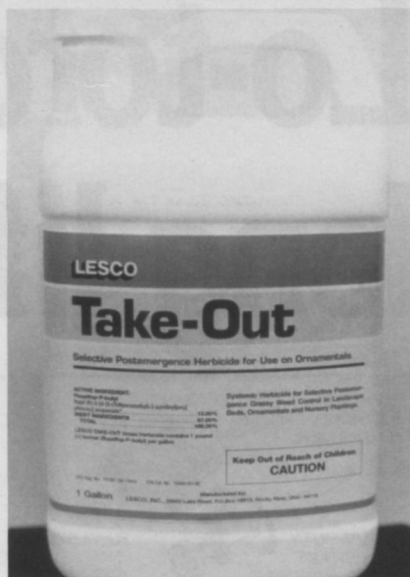
Designed for the company's five-speed mowers, the system reduces downtime and simplifies maintenance, increasing productivity and profitability.

Other advantages on the five-speed mowers include Exmark's patented posi-track pulley system for sure-traction wheel-drive performance in adverse conditions. Double idlers on wheel drive belts prevent dangerous downhill runaway, and produce a positive reverse drive system — providing important safety benefits as well as maximum maneuverability.

Circle 133 on reader service card

LESCO INTRODUCES TAKE-OUT, A selective systemic postemergent herbicide that controls more than 30 problem annual and perennial grassy weeds. An economical alternative to hand weeding, it's labeled for use on more than 300 species of ornamental plants.

It controls tough perennial grasses such as johnsongrass, bermudagrass, kikuyu-grass, quackgrass, guineagrass and torpedograss. It moves quickly from treated foliage to all growing points of the grass



plant — shoots, roots, rhizomes and stolons.

Growth of treated grass virtually ceases within 48 hours of application with elimination occurring within one to three weeks, depending on the species.

Circle 134 on reader service card

ARROWHEAD PLASTIC ENGINEERING has introduced a product to protect dry bags of fertilizer on a truck.

The Dri-Box is molded from a durable, corrosion resistant polyolifin material and features a continuous seal for weather resistance. The hinge, latch and hardware are all constructed from stainless steel.

The clam shell design and gas cylinders allow for easy access for loading and unloading dry bags of fertilizer. In addition to storing tools and fertilizer, the Dri-Box is also a convenient way to store empty bags until they can be disposed of properly.

Circle 135 on reader service card

AN ALL-NATURAL ORGANIC TURF fertilizer — Nature's Best — has been introduced by **Koos Inc.**

Produced as a homogenous mix, it's composed of all natural organic nitrogen, phosphoric acid and potash. It's available as a 10-1-4 combination.

The fertilizer contains 80 percent water insoluble nitrogen that slowly releases nutrients into the soil. Because of this slow release process, the granular fertilizers are non-burning and do not need to be watered in.

A 25-pound bag will cover 2,500 square feet. Two applications per year are standard, though as many as six may be needed depending on the specific lawn. ■

Circle 136 on reader service card



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Circle 25 on reader service card

FOCUS ON: PRODUCT PROFILE

POWER EQUIPMENT EASES STRAIN OF SHRINKING WORK FORCE

AS THE COMMERCIAL LANDSCAPE industry continues to mature and customer demands heighten, professionals nationwide agree that today's landscaping requires quality outdoor power equipment.

Now more than ever, it's essential to have power equipment that will allow individual lawn maintenance companies to be as productive, reliable and profitable as they can and should be.

In recent years, customers have become more aggressive in their demands on the landscaping industry. They now want improved services, lower prices and environmental safety.

Lawn and landscape maintenance operators grapple with labor shortages, high employee turnover rates and increased competitiveness.

But by selecting outdoor power equipment that is durable and dependable, efficient and effective, operators are able to



Today's power equipment is better meeting needs of contractors.

ease the internal strain of market pressures and industry trends and, at the same time, remain competitive.

MARKET PRESSURES. The landscape maintenance professional must take

measures to accommodate market demands. When customers want more for less — with an extra dose of quality — they must be conscious of their own costs.

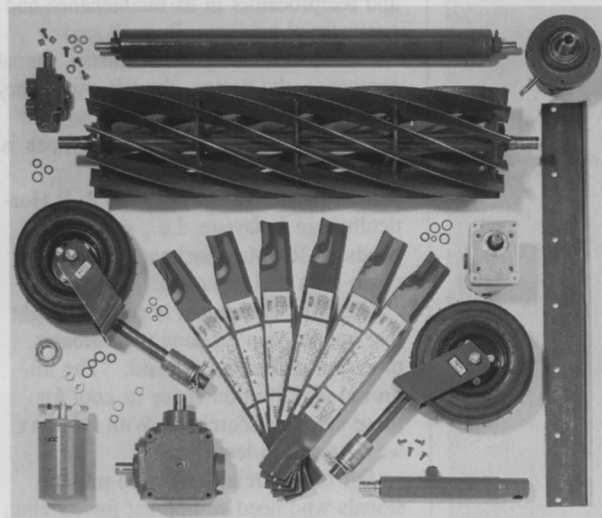
As one industry professional aptly put it, "Customers want more service, but they don't want to pay for it."

To remain competitive in price, however, is not enough; maintenance companies must also remain competitive in quality. This requires efficient use of time, personnel and

equipment.

As the warehouse manager, purchasing agent and safety inspector at Pampered Lawns in Houston, Texas, David Bennett can attest to the importance of superior outdoor power equipment in his industry.

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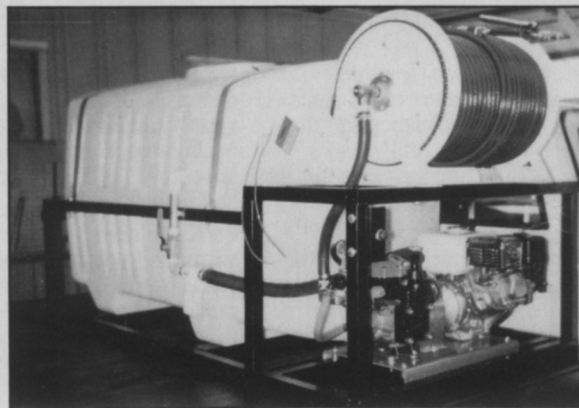
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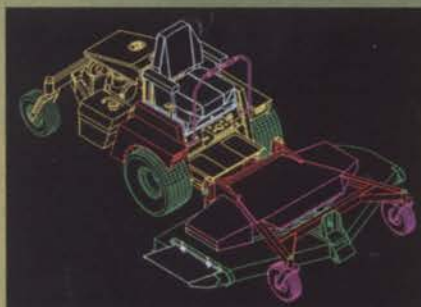
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tively natural control by putting total command of the mower in the palm of your hand. Zero-turning-radius and outfront deck design combined, deliver superior visibility, trim capability and maneuverability.

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"We make service, cost and quality commitments to our customers. We need equipment that will allow us to meet those commitments," he said.

A company's tools must be tough enough to withstand a 40-hour-plus work week, maneuverable enough to minimize employee fatigue and dependable enough to always get the job done right.

For those times when equipment service or repair is inevitable, it is imperative that parts and services are delivered promptly.

INDUSTRY TRENDS. Since much of their work is seasonal, firms such as Oyler Brothers in Orlando, Fla., must often rehire and train new crews each season. Being the largest commercial maintenance firm in the area doesn't shelter the company from feeling the impact of the labor problem, said Bill Richmond, equipment/maintenance manager and safety officer.

"It is a real problem to find and keep quality personnel," he said. "Most of them are younger, and there just aren't enough to go around anymore."

As a result, the equipment used to train new, often inexperienced, employees must be engineered to endure misuse and ensure an optimal level of safety.

RELYING ON REDMAX. According to operators across the country, RedMax equipment has provided them with the quality they need to face many of the market pressures and labor problems.

Pampered Lawns incorporates RedMax auto-start power blowers, hedge trimmers and reciprocators in its maintenance and commercial business, Bennett said.

"There is nothing like Komatsu Zenoah engines — the design, the life expectancy and the durability," he said. "They are just good machines." Komatsu Zenoah is the parent firm of RedMax.

John Broderick, owner of B & B Horticulture in Lafayette, La., said he depends on RedMax backpack blowers, chain saws and trimmers.

"RedMax equipment is so lightweight that our job can be done with greater precision and ease," he said. "The improved air filtration keeps us cool for those summer scorches. With RedMax, we do more in less time."

For commercial landscape professionals who need equipment for training, RedMax fills the need.

"We use trimmers and backpack blowers for training and on-the-job application," Richmond said. "They stand up extremely well, considering what we put them through. This makes it easier to train new employees and quickly get them out in the field."

Circle 150 on reader service card

CALENDAR

SEPT. 27-30

The Central Horticultural Association of Bonn's First International Trade Fair for Horticulture, Frankfurt Fairgrounds, W. Germany. Contact: Messe Frankfurt GmbH, Dept. 1202, P.O. Box 970126, D-6000 Frankfurt 1; 069/7575-6297.

SEPT. 30-OCT. 3

Florida Turfgrass Association Annual Conference and Show, Orange County Convention Center, Orlando, Fla. Contact: FTA, 302 S. Graham Ave., Orlando, Fla., 32803-6332; 407/898-6721.

OCT. 3-4

The 30th Annual Southern California Turfgrass Expo, Orange County Fairgrounds, Costa Mesa, Calif. Contact: Chuck Wilson, 714/951-8547.

OCT. 9-11

Kentucky Turfgrass Council Conference and Field Day, Ben Hawes State Park, Owensboro, Ky. Contact: Dwight Barkley, KTC, Eastern Kentucky University, Richmond, Ky. 40475.

OCT. 10-12

Interstate Professional Applicators Association Annual Convention and Trade Show, Coeur D' Alene Resort, Coeur D' Alene, Idaho. Contact: IPPA, P.O. Box 1377, Milton, Wash. 98354.

OCT. 12-13

New Mexico Association of Nursery Industries Annual Trade Show, Albuquerque Convention Center, Albuquerque, N.M. Contact: Linda McLain, NMANI, P.O. Box 667, Estancia, N.M. 87016; 505/384-2726.

OCT. 21-24

Interior Plantscape Division of the Associated Landscape Contractors of America Annual Conference and Trade Show, Radisson Hotel, Denver, Colo. Contact: ALCA, 405 N. Washington St., Falls Church, Va. 22046; 703/241-4004.

OCT. 21-24

National Institute on Parks and Grounds Management Annual Educational Conference, Reno, Nev. Contact: National Institute, P.O. Box 1936, Appleton, Wis. 54913; 414/733-2301.

OCT. 24

New York State Turfgrass Association

Safety and Preventive Maintenance Seminar, Oyster Bay, N.Y. Contact: NYSTA, 800/873-8873.

OCT. 24-27

The American Society of Consulting Arborists Annual Meeting, Innisbrook Re-

sort, Tarpon Springs, Fla. Contact: ASCA, 700 Canterbury Road, Clearwater, Fla. 34624; 813/446-3356.

OCT. 25-26

Xeriscape 90, The San Diego Convention Center, San Diego, Calif. Contact: Jan

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Tubiolo, Cuyamaca College Botanical Society, 2950 Jamacha Rd., El Cajon, Calif. 92019; 619/443-1756.

OCT. 28-NOV. 1

Irrigation Association Annual Conference and Show, Convention Center, Phoenix, Ariz. Contact: R.C. Sears, 1911 N. Fort Myer Dr., Suite 1009, Arlington, Va. 22209-1630; 703/524-1200.

OCT. 29-31

Tree Care Industry Exposition, Richmond Convention Centre, Richmond, Va., sponsored by the National Arborist Association and the International Society of Arboriculture. Contact: NAA, The Meeting Place Mall Route 101, P.O. Box 1094, Amherst, N.H. 03031-9967; 603/673-3311.

NOV. 6-7

Indiana State Lawn Care Association Conference and Show, Agricultural Building, Indiana State Fairgrounds, Indianapolis, Ind. Contact: Robert Andrews, P.O. Box 481, Carmel, Ind. 46032; 317/575-9010.

NOV. 12-15

The Green Industry Expo, Nashville Convention Center, Nashville, Tenn. Contact: ALCA, 405 N. Washington St., Falls

Church, Va. 22046, 703/241-4004; PGMS, 10402 Ridgland Rd., Suite 4, Cockeysville, Md. 21030, 301/667-1833; or PLCAA, 1000 Johnson Ferry Rd. NE, Suite C135, Marietta, Ga. 30068-2112, 404/977-5222.

NOV. 13-16

New York State Turfgrass Association's Turf and Grounds Exposition, Rochester, N.Y. Contact: NYSTA, P.O. Box 612 Latham, N.Y. 12110; 800/873-8873.

DEC. 4-5

Southern Grounds and Turf Maintenance Exposition, Myrtle Beach Convention Center, Myrtle Beach, S.C. Contact: South Carolina State Board for Technical and Comprehensive Education, III Executive Center Dr., Columbia, S.C. 29210; 800/553-7702.

DEC. 4-6

15th Annual Grounds Maintenance Conference and Trade Show, Greenville-Spartanburg Airport Marriott, Greenville, S.C. Contact: S.C. Landscape and Turfgrass Association, P.O. Box 325, Clemson, S.C. 29633.

DEC. 10-12

The 21st Annual Turfgrass Conference &

Trade Show, Atlanta, Ga. Contact: The University of Georgia Cooperative Extension Service, College of Agriculture, Athens, Ga. 30602; 404/542-5350.

DEC. 10-13

Ohio Turfgrass Conference and Regional Show, Cincinnati Convention/Exposition Center, Cincinnati, Ohio. Contact: John Street, OTF, 2021 Coffey Road, Columbus, Ohio 43210; 614/292-2601.

DEC. 13-15

Desert Turfgrass and Landscape Conference and Show, Caesars Palace Hotel and Casino, Las Vegas, Nev. Contact: Desert Conference and Show, 953 E. Sahara — S.T.&P. #207, Las Vegas, Nev. 89104; 702/731-3130.

JAN. 9

Sacramento Valley's Landscape and Nursery Expo, Sacramento, Calif. Contact: Patti Adkins, P.O. Box 7527, Citrus Heights, Calif. 95621; 916/729-2606.

JAN. 14-17

31st Virginia Turf and Landscape Conference and Trade Show, Richmond Centre and Richmond Marriott Hotel, Richmond, Va. Contact: Randeon Tharp, 804/340-3473. ■

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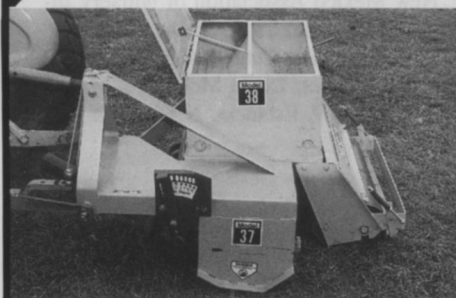
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Interiorscaping

(continued from page 33)

is entrenched in the public's mind, it's time to forge ahead and get people interested in having plants in individual offices, Paneri said.

The use of plants can go far beyond simply placing them in a building and letting them do their own thing, she said. For those that have been diagnosed as having "sick building syndrome," steps can be taken to increase the plant's air purifying capabilities. Plant containers equipped with a fan and carbon filter pull the contaminated air through the soil.

"This process increases the plants' cleaning ability," Paneri said. "Think of it as a turbocharger; it makes the plant more efficient."

On the opposite side of the country in Richmond, Va., Twilla Mieczkowski, The Great Big Green House and Nursery, said client response has been quite favorable. In fact, she's had several people mention the NASA study before she had the chance to.

"I think most people are interested in anything different and new," she said. "They're also fascinated by its simplicity. People are increasingly environmentally conscious, but even stronger, I think, is a desire to return to the basics. Rather than

the technically advanced, state of the art, forced air ventilation systems, get some plants. I think they view it as more personal."

There is one situation where she'll adopt the hard sell: When someone is considering silk vs. live plants.

"We're in business to sell and nurture live plants," she said, "not to be walking around with a feather duster."

Future plans for the FCAC include a three-day seminar headed by Wolverton on Oct. 25-27 in Toronto, Canada, and organizing a steering committee with representatives from all major green industry associations as well as growers, suppliers, interiorscapers and retailers.

While informing people, the council's efforts will also help increase the level of professionalism in the interiorscaping business, Paneri said.

"We've already reached a point where plant services are computed into the bottom line," she said. "We used to be considered only after the coffee service was chosen. This should help us take plants out of the realm of just being a pretty addition to being a necessary part of furnishing buildings." — David Westrick

The author is Assistant Editor of *Lawn and Landscape Maintenance* magazine.

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Classic	5.9
Challenger	5.8
Ram I	5.7
Julia	5.7
Eclipse	5.6
Rated 1-9; 9 = Best	

Turf Color

LINCOLN NEB.-2 YR. MEAN

VARIETY	AVG. SCORE
Midnight	7.9
Chateau	7.0
Baron	6.9
Fylking	6.8
A34	6.5
Rated 1-9; 9 = Dark Green	

Summer Density

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EVALUATION PROGRAM 1987

VARIETY	AVG. SCORE
Chateau	7.3
Challenger	7.2
Bristol	7.1
Julia	7.0
Liberty	6.8
Nassau	6.6
Rated 1-9; 9 = Maximum Density	

Shade Performance

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VARIETY	AVG. SCORE
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Eclipse	2.20
Birka	2.01
Glade	1.65
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