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LM 100: models of growth, guts and 'go get 'em'!



Terry McIver

TERRY McIVER
Editor-in-Chief

The LM 100 class of 1997 is comprised of "great" green industry people and organizations that deserve some recognition due to their ongoing standard of quality and service.

We don't concern ourselves too much with sales figures here—frankly, not everyone wants to report them. In the golf category, we don't look

at prestige as a deciding factor, or total rounds played or who designed the course. We looked at reputation, uniqueness and initiative. Has this or that green industry organization kept up a standard of quality or tradition that is worth mention, or a special way of getting the job done?

Barnes Nursery has a model composting program in place that provides high quality materials for use in landscapes. It saves money, recycles yard waste, and generates profit for the company.

Some companies, such as Bozzuto Landscaping Company or Blondie's Treehouse, have received awards from their communities or from an association for the work they do to beautify their corners of the world.

Internal company programs to train and stretch employee potential are worthy of note. Coronis does it in Nashua, New Hampshire, and so does Dennis' Seven Dees, Orlando. With the continuing challenge to find good, long-haul workers—workers who want careers beyond June-July-August—more companies have realized the need to treat people as more than a recyclable commodity.

Some companies began in the '60s, and are still solid, such as the Hermes Company of Lenexa, Kan. They quietly went about their work, did what they needed to do, established their niche, and kept customers happy. That photo we have of

John Hermes kind of sums it up: a happy man who's spent his life in a business he loves, in a company that's well run and efficient.

John Swingle started his company with one Jeep and one helper. Laurence Coronis was also a one-man shop. Marty Grunder started with a \$25 mower and a crazy dream that's become a \$1.6 million reality.

Golf course supers who made it into this year's class have monumental tasks. Thousands of acres of turf and trees need daily care, often on a limited budget. Same for athletic field managers and parks and recreation directors. What a bag of challenges. Green speed; bunkers; golfers; fairways. Little League; soccer; players; coaches.

Tradition really enters the picture when you talk about a golf course. Baltusrol's certainly got it. So does Cog Hill. The father-son team of Clyde and Kevin Nettles at the Dallas Athletic Club counts for much, and so does Frank Ekas' 40 years at Saxon Golf Club.

Each green industry segment has a solid core of dedicated professionals who give the industry its good name and make it run. This year's LM 100 are off and running each and every day.

Phil Christian, a popular green industry consultant who founded, and for a time led ChemLawn's Commercial Services Division, died of a heart attack on September 1. He was 56.

Christian was born and raised in Atlanta. He graduated from Auburn University in 1963 with a degree in Building Technology. For 11 years he worked in his family's construction business, which he bought in 1970 and sold in 1974. He then joined ChemLawn, where he pioneered the commercial pricing system for lawn care applications, and began to develop what is known today as "Practical Site and Landscape Management," a computer-assisted landscape management system.

Christian formed PDC Consultants in 1982. "Phil's family has lost a father, husband and grandfather, I have lost a good friend and the industry has lost a giant," said John Allin, The Allin Companies, Erie, Pa., who had worked with Christian on various projects. LM

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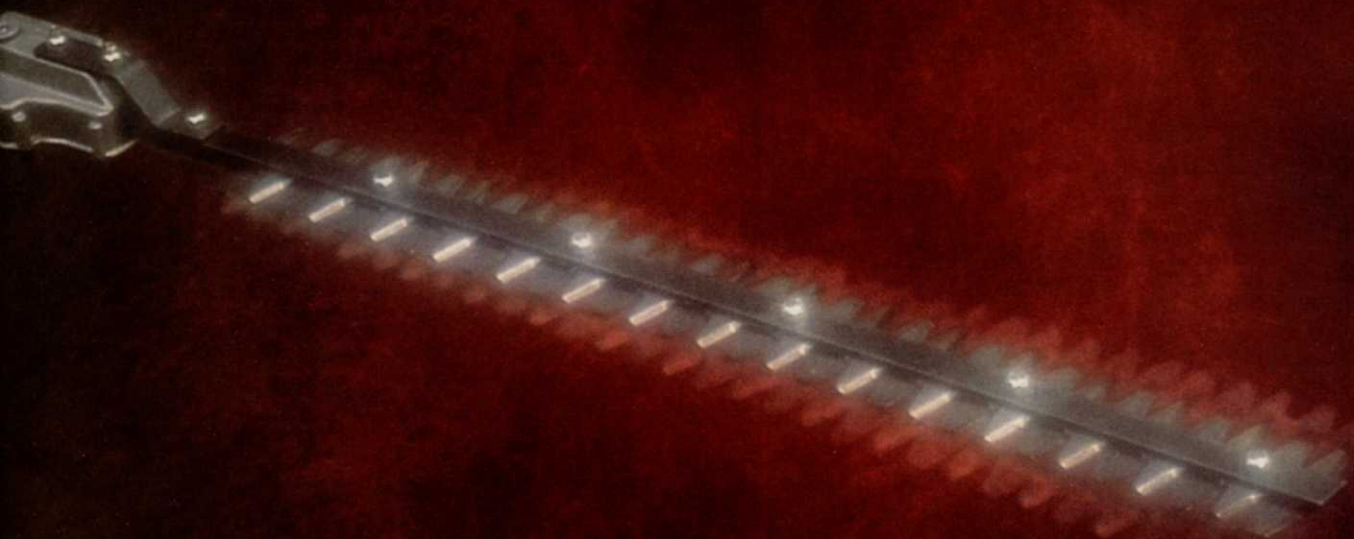


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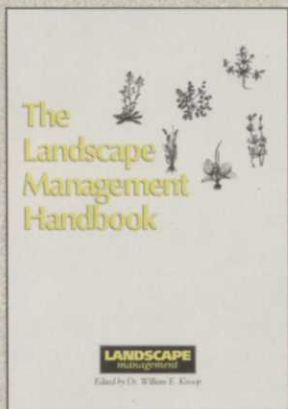
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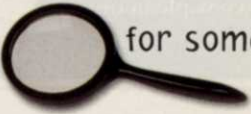
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by John L. Mower

Thanks to my very loud , I got up. It was a sunny morning and I had planned to spend some time on the lake catching , but I had a major problem in the yard. The  trees were growing nicely, but the bermudagrass was not. It looked as if we had been watering with a very small ! Summer was slipping () away and the stress was mounting. Obviously, it was a growing problem so I began to  for some in-depth clues.

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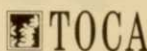
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LM

Scales on magnolias

We see large, white bumps which look like scale insects on magnolias. When mashed, they make a mess. The leaves are coated with a black substance. How do we get rid of this insect and the black stuff on the leaves?

—MICHIGAN

Magnolia scale is large, for a scale, that is— $\frac{1}{4}$ to $\frac{1}{2}$ inch long. Females are dull grayish-brown to dark brown. The over-wintering scale begins feeding in late spring or early summer and matures by early August. Magnolia scale insects cause injury by sucking the nutrients from the tree. They have mosquito-like mouth parts and tap into a tree's vascular pipeline to siphon liquid and nutrients, which starve the tree. This causes twigs and branches to shrivel and die.

Magnolia scales excrete the excess fluids that they imbibe. For some reason this bug excretion is called "honeydew" or "ghost rain." You might notice it accumulating on your car windshield if you park under trees. A black, sooty mold soon colonizes the honeydew that has accumulated on leaves or rooftops.

The adults of these rather odd-looking insects resemble a cowry shell or a plant bud. This is one reason they build up in such large numbers without being noticed. They're noticed when the honeydew starts dripping. There is only one generation per year, but each female can produce 500 to 1000 eggs in late August to early Septem-

ber. The crawlers settle on leaves. Some of the population develop into second instars before cold weather and move to branches to overwinter.

Horticultural oil treatments may be made in March or April prior to bud opening. Treatments for crawlers would be provided in late August and repeated at 10-14 day intervals. You may need two applications per year, for two to three years, to manage this pest. If just one female survives, the tree can be repopulated quickly due to the large number of eggs that are produced. Horticultural oil will help preserve the natural predators and parasites that can help clean up the scales that might be missed.

Consider fertilizing the affected trees with a slow release nitrogen source to supplement nutrient loss.

The black stuff you refer to is called "sooty mold" fungal growth. This is a fungus growing on honeydew. The fungus does not harm the plant directly. However, if severe enough, it can block sunlight to leaves. The combination of insect feeding and sooty mold can weaken the plants.

Managing the scales will take care of the sooty mold. You can remove the fungus by spraying the leaves with the horticultural oil. However, new infestation of scale or other pests like aphids can encourage sooty mold growth. Continue monitoring for these sucking pests.

License needed to treat pastureland

One of our customers has several acres which he wants us to maintain for grazing dairy and beef cattle. He is interested in hiring us to control broadleaf weeds. Can we use Trimec 899 herbicide to control the weeds? After treating, how long does he have to keep the cattle from grazing? Are there any other chemicals we can use?

—WISCONSIN

Trimec 899 is not labeled for use on pastures used for grazing. A PBI Co. representative said that another product, brand name of Hi-Dep herbicide, is labeled for pasture use for broadleaf weeds. This is a mixture of two 2,4-D amine-containing herbicides. It contains Dimethyl amine plus Di-ethyl amine formulations of 2,4-D. This will help manage annual and perennial broadleaf weeds.

One thing to know is that Hi-Dep is only labeled for agricultural use. If you only have a turf and ornamental spraying license, you will not be able to purchase or apply this product. You must have a special license to purchase and/or apply this product. Contact your pesticide licensing agency to verify the things you need to do if you are still interested in providing this service. Also be aware that while using Hi-Dep the applicator must wear the proper personal protective equipment. It's on the label, as is the warning to keep animals from grazing on the treated property for 24 to 48 hours. **LM**



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MEANS BUSINESS

PLCAA considers giving new life to the 42-year-old Lawn Institute

Marietta, Ga.— On June 30, the executive committee of The Lawn Institute suspended operations of the 40-year old turfgrass trade association. The Professional Lawn Care Association is looking at ways to revive it.

Lawn Institute President Scott Patterson said the decision was made "due to insufficient interest and financial support from the turfgrass seed industry" over the last several years.

"A number of sticks are in the fire," said Patterson. "There's been a number of proposals, including the possibility of The Lawn Institute being united with an industry organization such as the Professional Lawn Care Association of America (PLCAA). We're trying to make some decisions now."

PLCAA's Thomas Delaney acknowledged: "We're working with them to see how we can either make them a division [of PLCAA] or keep it going. . . We're trying to put a proposal together to see what we can do."

Open up membership

Delaney said PLCAA wants to open the Lawn Institute's membership to all supplier categories, an idea whose time has perhaps finally come.

Dr. Eliot Roberts, a past executive director of The In-

stitute, is one observer who believes the Institute's narrow membership has limited the Institute's success.

"I thought it should be open to equipment manufacturers and chemical [companies] as well," Roberts said. "The educational effort would have been a benefit for



Roberts: non-profits need money.



Jacklin: low membership a problem.



Brooks: don't yank plug on Institute.

the whole of lawn care industry. We never got beyond a one-person, half-time executive director. If staff had increased at the same time our base of support increased, it might have made a difference," suggested Roberts.

"Our top budget each year was just over \$100,000," recalled Roberts. "You need at least a quarter million for a non-profit [association] to make an impact."

Roberts believes politics was one cause of lack of support for the Institute.

"The seedsmen have had their agenda," said Roberts.

"One of the key points that has benefitted the landscape and lawn care industries has been the way it has matured over time. I don't think the lawn seed trade has matured over time. They're still fighting over non-green industry issues. Instead of worrying about whether one

and financial support from a wider base of turf industry suppliers and professionals."

About 75 firms belong to the Institute, but "without financial support, no organization is going to make it," emphasized Patterson.

Institute began in '55

The Institute began in 1955 as The Better Lawn & Turf Institute, to promote research and education on the benefits of lawn/sports turf.

"We felt the program had value, but when crunch time came, we were all busy," said Tom Stanley, marketing director for Turf-Seed. "We just didn't want to put those stickers on the bag, because it's another step before it gets out the door."

"We educate people," said James Brooks, most recent director of the Institute.

"The Lawn Institute has never sold a bag of seed and I don't think it ever will. Our role is to raise the consciousness of the homeowner and consumer to where they'll say, 'I want some of the good stuff,'" when planting a new lawn.

"Let's not yank the plug on this thing," added Brooks. "We're going to see if we can come up with another plan." □

company has an advantage over another they should be promoting the lawn garden and turf industry as a whole, not worry about their individual benefits."

"Though the Lawn Institute has been very successful in its consumer education and public relations efforts on behalf of the turfgrass industry, the current membership level cannot financially sustain its growing number of worthwhile activities," said Doyle Jacklin, Jacklin Seed Co..

"We certainly hope a viable plan can be developed to expand the interest, participation



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Heat, drought and wear tolerant, new and improved Mustang II produces an attractive, dark green turf that is resistant to many diseases common to traditional tall fescue areas. Now endophyte enhanced, Mustang II is a long-time favorite with many sod professionals.



Dominating the recent National Turf Trials, Crossfire has demonstrated reduced growth with excellent vigor, superior dark green color and excellent disease resistance. An unexcelled performer, great for any sod application.



Pickseed's newest variety can take even more heat with an enhanced endophyte formulation of over 80%. Crossfire II also

features a darker green color, improved turf quality and better heat tolerance than its award-winning predecessor, making Crossfire II ideal for hotter areas of the country.



The lowest and slowest growing variety in the Pickseed stable, Mic-18 is also well adapted to summer stresses. Mic-18 is a

dark green, dense turf-type tall fescue with excellent turf quality. Blended with Shortstop II and Mini-Mustang into the Team Jr. blend, Mic-18 makes an excellent elite quality slower growing turf.



Shortstop II takes the best of Shortstop — excellent wear tolerance, exceptional turf

quality, a fine-textured, dark green turf resistant to disease, heat and drought — and throws in better quality, color, leaf texture and a slower growth rate. It can be mowed more closely and will grow more slowly than any other variety in its class.



Very low and slow growing, Mini-Mustang forms a dense, deep-rooted, dark green, high quality turf. Destined to be a favorite among tall fescue sod producers, Mini-Mustang can be used alone or blended with Mic 18 and Shortstop II into the "Team Jr." formulation.

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Race track surface with a 'bounce'

COURTESY SKYCAM, USED BY PERMISSION



Moisture levels are monitored at The Lone Star Park racing track.

Grand Prairie, Texas—

When the horses run the turf track at the \$96 million Lone Star Park here, there's more going on below the 48,000 square yards of bermudagrass than meets the eye. To make certain Lone Star installed what they believed to be the

best surface possible, they went to Dennis Moore, a world renowned consultant and owner of Track Tek, Fallbrook, Calif.

Moore designed a state-of-the-art course, one that uses the "Stabilizer" system, a growing medium made from

Lofts acquires big distributor in South

Lofts Seed, Inc., acquired Sunbelt Seeds, a wholesale grass seed and fertilizer distributor in Norcross, Ga., on June 18. Sunbelt Seeds is one of the largest golf course distributors in the South. It will be a subsidiary of Lofts Seed. It will sell seed to golf courses, sod farms, retail stores, landscapers, lawn care operators, sports facilities and municipalities.

Richard Budd, chief executive officer of Lofts Seed, Inc., said the acquisition

"opens new market opportunities while maintaining the philosophies which both businesses were founded on—customer relationships built on trust, confidence and professionalism."

Lofts Seed is based in Winston-Salem, NC, and markets turfgrass seed. It owns patents on more than 25 seed varieties. The 74-year-old company has more than 100 employees. □

80 percent sand and 20 percent organic material.

▶ The bottom layer of the course begins with a cement-stabilized subgrade.

▶ Above that layer is six inches of choker sand that acts as a drainage system.

▶ Ten inches of Stabilizer mix goes on top of the choker layer.

▶ The top four inches of the growing medium incorporates TurfGrids, fibrillated polypropylene fibers, to strengthen the root system and provide better footing for the horses. Stabilizer, Inc. of Phoenix, makes TurfGrids.

The improved design is all meant to make for better footing for the horses, and to reduce the beating to the turf.

Sand alone simply does not provide enough support for racing, according to Moore. TurfGrids bind the sand and water together to produce an equestrian surface that is resilient and has a good water bearing capacity.

"When the Stabilizer organic material is combined with the TurfGrids, the result is much like the feel of a trampoline," says Moore.

"To maintain the effectiveness of this system, we maintain a damp soil consistency," says Dennis' brother Ron Moore, director of track maintenance for Lone Star Park.

Ron Moore keeps a close eye on soil moisture. A Toro irrigation system provides the needed irrigation.

"The results have been tremendous with our equestrian surface," says Moore.

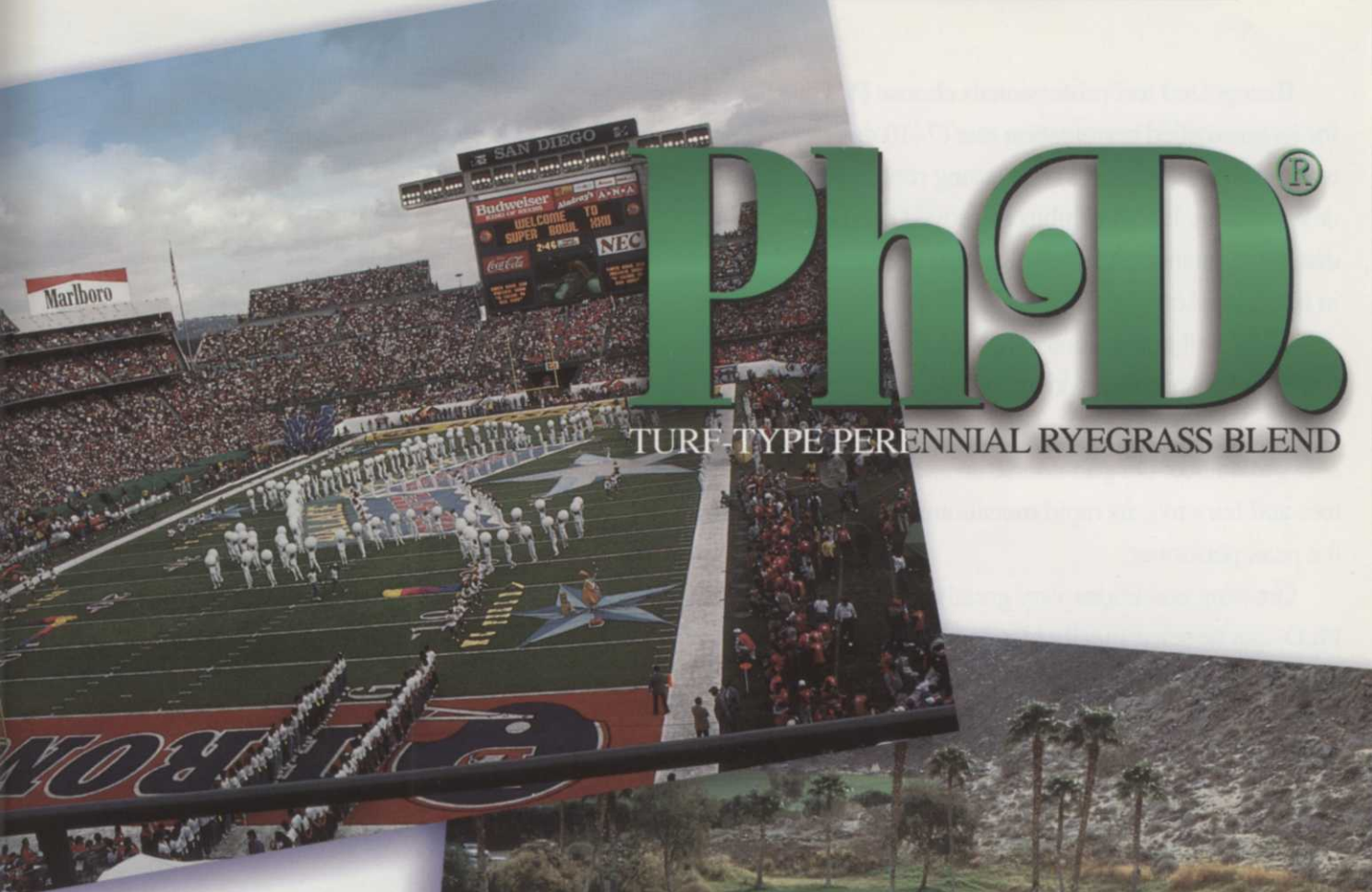
"Any needed repair is done after each race, though with this type of grass, there are very few repairs. We tamp it in and get water on it right away. That's basically all you have to do."

The rail can also be moved in or out to relieve turf wear during the races. □

—Robert Reaves



TurfGrids, fibrillated poly fibers, blended into this 80/20 planting medium provide stability to the bermudagrass racing surface.



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TURF-TYPE PERENNIAL RYEGRASS BLEND

A super choice for creating premium turf



Ph.D. was originally formulated to meet the demanding needs of the southern winter overseeding market and quickly became an industry leader. Coupled with its ability for creating premium permanent turf in northern areas, it has become the nation's most widely used and recognized turfgrass blend.

Ph.D. is custom blended from three top-rated perennial ryegrass varieties. Genetically diverse varieties

such as Top Hat, R.2, Essence[®], Gator II, Derby Supreme and Regal are utilized to provide a dark, dense turf that is both resilient and durable.

A mainstay for years on the practice and playing fields for the NFL's Super Bowl, Ph.D. is also featured on award-winning golf courses and sports complexes throughout the world. Its unique components can also be expected to perform equally well on home lawns and parks.

Recognized turf professionals choose Ph.D. for its unexcelled germination rate (7–10 days under normal conditions) and strong root development. It also exhibits improved horizontal disease resistance and above average performance in hot, humid conditions.

Ph.D. will hold its color through the season, thrives when cut close (down to $\frac{3}{16}$ inch for specialized uses) and maintains outstanding wear and stress tolerance. On golf course areas such as greens, tees and fairways, its rapid transitioning qualities make it a peak performer.

Growing conditions vary greatly, but Ph.D. can be scientifically blended for proper regional adaptation, reduced mowing management, full endophyte enhancement and other factors important to overall turf quality.

It combines well with permanent polypspecies turfgrass blends and mixtures containing improved perennial ryegrass; Kentucky bluegrass; chewings, slender creeping and strong creeping red fescues; colonial bentgrass and turf-type tall fescue.

All these exceptional qualities explain why satisfied turf managers have helped make Ph.D. the super choice for premium turf.

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Ph.D.[®] Turf-type Perennial Ryegrass

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Growth Habit	Estab. Rate Days	LHC Tol. 1/2"	Mowing Freq.	Traffic Tol. (Brinkman)	Thatch Prod.	Comp. Mix	N Req.	Shade Tol.	Cold Tol.	Drought Tol.	ET Rate mm/day	Endophyte	Salinity Tol. mmhos
Bunch	Fast 7-10	Very Good	2x week	Very good	None	Fair-good	Med-high	Fair-Good	Fair-Good	Fair	High 9-10	TBD	TBD

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Circle No. 109 on Reader Inquiry Card

NY again in legislative tussle

Members of the NY State Green Council are looking with interest at S-3889-B, "the adjacent notification bill," which they say could cripple many pesticide applications in New York State.

The Council has begun to lobby Senator Carl Marcellino and other lawmakers to let them know why the proposed bill would be a mistake.

As has happened before with pesticide legislation, the NY staters say prior bills have got it covered.

"Any concern about neighbors coming onto treated property is already covered by ECL Article 33, Title 10, which requires sign posting for commercial lawn applications to warn persons coming onto treated property from adjoining properties. The purpose of this notification appears to presume that there will be off-premises contamination," wrote attorney Thomas West in a letter to Marcellino, on behalf of the Council.

"Requiring off-premises notification in the manner prescribed by this bill will be cost-prohibitive, precluding many people from treating their property," wrote West. Many of the application techniques utilized would trigger the off-premises notification requirements of this legislation. Very often, it is difficult to determine who owns adjoining property or how many properties actually abut the premises being treated."

West also noted technical flaws in the proposed legislation, flaws which he said would force a return to outdated, cover spray techniques of treating an entire property to avoid having to notify neighbors if a spot treatment is required later.

"I remain committed to seeing legislation requiring notification of certain pesticide applications become a law," responded Marcellino in disagreement.

"Many hours have been spent working with interested parties on all sides of the issue to craft a workable program to provide for neighbor notification."

For more information on the bill, or to help the Council in its legislative battle, call the Council at 518/783-1322. □

Toro alleges trade secret theft

The Toro Company's case against irrigation company Grizzle and Hunter will be heard by a jury trial this fall.

Toro is seeking to have the court remove the company's sprinkler products from the market. The products are marketed under the trade name "Bear Irrigation".

Toro claims that the company, owned by Glen Grizzle and several key former Toro employees, misappropriated several Toro secrets related to the golf course sprinkler market.

Toro also alleges that Grizzle and Hunter has committed unfair competition and deceptive trade practices.

Killmer leads Environmental Earthscapes

Kevin Killmer has been named president and chief executive officer of Environmental

Earthscapes, Inc., dba The Groundskeeper, Tucson, Ariz.

Killmer has been with The

Groundskeeper

for more than 20

years, first as a

landscape crew

leader, then as

an area supervi-

sor, and in 1985,

as senior vp and

general manager. The

Groundskeeper is an em-

ployee-owned landscape

contracting firm, with seven branch offices,

in Tucson, Phoenix, Las Vegas and Palm

Desert, Calif.

[CLIPPINGS]



Killmer

Troutman with ECI on east coast

Dr. Barry Troutman is manager of technical support for Environmental Care's east coast operations, reports ECI, Calabasas, Calif. He is charged with management of technical programs for fertility, weed control and insect control. "Our industry faces the challenge of providing the environmentally important benefits of landscapes in a world of limited resources," says Troutman. "I see ECI's people and their leadership in total landscape maintenance business perfectly positioned to meet this challenge." Many know Troutman from his tenure as director of training for PLCAA. He was also technical director and research weed scientist for ChemLawn and past president of the Georgia Turfgrass Association. □

THE LM 1000



Golf course/grounds facility selections based on design features, reputation and accessibility.

Landscape/lawn care selections chosen for regional and/or national reputation, longevity, accessibility and uniqueness.

We could have included at least another hundred professionals in this feature. Nonetheless, we hope you find this special feature to be informative, entertaining and useful. —The editors

Shown clockwise from top right: Dallas Athletic Club; Dennis' Seven Dees employees; Beatrice CC; Lambeau Field.



GOLF COURSES

Arrowhead Country Club North Canton, Ohio

Superintendent Daryl Decker helps his employees, particularly seasonal workers, balance work with their personal lives at this excellently maintained course. Improvements to Arrowhead include terraced tees, a wildflower garden that also provides some flood control, and several ornamental ponds.

Baltusrol Golf Club Springfield, NJ

A.W. Tillinghast designed and built the course on land once



owned by a farmer named Baltus Rol. The U.S. Open was here in 1993. Superintendents in charge are Joseph Flaherty, CGCS and Steven Wirth.

Beatrice Country Club Beatrice, NB

Shown at left, Beatrice was the state's first Audubon Cooperative Sanctuary course. It's managed by Casey Crittenden, CGCS, who is assisted by Darrin Fuser. This summer the course hosted The Nebraska Cup, The Prairie Golf Tour, a U.S. Open qualifier, men's and women's state amateur tournaments, and the State Senior Golf Tournament. "We do a variety of native grasslands seedings, but for the most part we let nature do what it needs to do," says Crittenden. He thanks Bill Love, the golf course architect and H&H Golf, the course contractors, for establishing areas around the course for wildlife.

Cog Hill Golf Club Lemont, IL

Site of the 1996 "Beat the Nun" contest (a popular publicity stunt), Cog Hill this year hosts the U.S. Amateur and Western Open. Superintendent Kenneth Lapp has man-



aged the four courses there for 25 years, and oversees 70-75 crewmen. Distinctive features of the No. 4 course—designed by Dick Wilson and Joe Lee—are 109 traps that surround the moderately contoured Pennncross/*poa annua* greens. One green is guarded by six bunkers (shown above). "When the tournament comes around, everybody swings in," says Lapp.

The Country Club Pepper Pike, OH

William Flynn designed and built the golf course, which was com-



pleted in 1926. Lately, Mike Hurdzan has helped relocate some tees, re-contour some fairways and rebuild bunkers. Superintendent Matt Shaffer, (shown) likes to

have really fast fairways (seven feet on the stimp) and short, close-cut tees. "And we keep our roughs real close," adds Shaffer. New irrigation is planned for 1999, and the driving range is to be redone.

The Country Club of Colorado Colorado Springs, CO

Designed by Pete Dye in 1972, the course is managed by superintendent/author Stan Metsker, CGCS, author of *On the Course: The Life and Times of a Golf Course Superintendent*. The club features mostly native plants: cottonwood, willow, hawthorn, American plum, chokecherry and currents in the valley. "To be successful in this business, a superintendent needs to surround himself with good people and listen to what they say," Metsker says.

cont. on page 24

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compiled by Ron Hall, Terry McIver and Jim Guyette

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THE LM 100

The Country Club of Mobile Mobile, AL

Ron Wright, CGCS, manages this Donald Ross/Willard Byrd-designed course. He has a staff of 18



full time employees. Summer's been tough: 24-inches of rain from Hurricane Danny. "You do the best you can with it," says Wright. The club was first located on Mobile bay in 1899. After hurricanes in 1906 and 1910, a new site was found. "It's a somewhat tight course," says Wright, "and pin placement can make a hole play completely different." The course turns 100 in 1998.

Coyote Hills Golf Course Fullerton, CA

Cal Olson designed this course to co-exist with a functioning 250-acre Unocal oil field. Thirty-five operating oil wells are disguised and the pipelines are hidden below the turf. Even so, coyotes wander alongside rare birds such as the cactus wren and California gnatcatcher. Says superintendent Scott Bourgeois (shown), "Unocal's been pumping oil out of here for many years, and we just have to work around them." The course opened for play in 1996.



Dallas Athletic Club Dallas, TX

The father-son team of Clyde and Kevin Nettles have managed this course for a combined 39 years. Designed by Ralph Plummer and revised by Jack Nicklaus, the course has 419 bermudagrass tees, fairways and roughs, and Penncross greens. To prepare for the U.S. Mid-

Amateur tourney here in October, the Nettles and 44 employees redid a practice facility and spiffed up water features. How does Kevin like working with his dad? "We're all out here for the same purpose, to make the best golf course we can. We love the outdoors and the agronomics," says Kevin

Deer Track Golf Club Crawfordsville, IN

Scott Gobel (shown) manages 8 to 9 fulltimers in summer. New cart paths are going in during September. Deer Track is seven years old, and was designed by Dave Sheets. Features include hilly, wooded terrain and an island green for the par 4 18th. "I know whether I'm doing something right or wrong by how everything looks," says Gobel.



Grand Traverse Resort Acme, MI

The Grand Traverse Resort features golf at The Bear Course, designed by Jack Nicklaus; Spruce Run, the original course, and will soon feature courses by Gary Player and Lee Trevino. Mike Meindertsma (shown) is director of golf. John Meyer manages the grounds. Doug Kendzierski is superintendent at The Bear course, James Bluck II is superintendent at Spruce Run. GTR is a Certified Audubon Cooperative Sanctuary.



Indian River Club Vero Beach, FL

This 300-acre club located on Florida's east coast opened in February 1995, and earned Audubon Signature Sanctuary in 1996. Just 85 acres of turfgrass cover the golf course which also contains 50 acres of lakes, marshes and wetlands. The golf course retains much of its na-

tive Florida personality while providing club members and guests with excellent playing conditions. Florid-



ian Robert Ellis is superintendent. He's assisted by Jeff Rennert and a staff of 13.

The Links at Spanish Bay Pebble Beach, CA

This course turned 10 this year. More than 500,000 cubic yards of sand was brought on site to create bunkers, bumps and acres of towering dunes on a worked out quarry. Known for its punchbowl greens. Golfers can see the Pacific Ocean on almost every hole. A new irrigation system is in the works. Fescue fairways could return.

The Lodge at Koele The Experience at Koele Lana'i, HI

Voted the best golf resort for the second year in a row by *Condé Nast Traveler*. Towering pines and eucalyptus line the Experience at



Koele, designed by Greg Norman and Ted Robinson. The signature #8

hole drops more than 250 feet to the fairway.

Photo by Jeffrey Asher

Maroon Creek Club Aspen, CO

Third place for "Best Course in Colorado" competition went to this Audubon Sanctuary course, and Golf Digest called it third "Best New Private Course" in the state. Superintendent Bill Hamilton is in charge. The course was designed by Tom Fazio to amplify the natural surroundings that are very much a part of the game.

New Albany Country Club New Albany, OH

The 5,000 acres that encompass this country club outside of Columbus include 600 homes and complete sports and fitness facilities. "It's a very well planned development," says superintendent Tony Mancuso. The 27-hole golf course has been



open for five years. "After a round of golf you can come over and get a massage, get a haircut and get your nails done." The entire complex shows a lot of polish, especially the croquet court. "It's basically built like a putting green," he says. "It's not the croquet that we play in our backyards."

Olde Florida Golf Club Naples, FL

Olde Florida is a 1995 winner in the GCSAA Environmental Steward Awards. Darren J. Davis is its progressive superintendent. The course opened for play in 1994. Initiatives include lightning protection for many key trees, nesting boxes and wildlife corridors between all golf holes. Davis—with Dr. Wayne Hanna of USDA—is also testing of 'ultradwarf' bermudagrasses on a

test green at Olde Florida. Davis runs a great intern program, and hires fulltime help only from the intern ranks.

**Olympia Fields Country Club
Olympia Fields, IL**

This private course hosted The Senior Open in June. Despite a cool spring, the North Course was ready for play. "As a superintendent, you spend several years agonizing about all the things that could go wrong," says David Ward. "We worked really hard leading up to it, and during the tournament, everything that could possibly go right, went right!" Ward (below left) and part-



ner Kevin West, (right) have worked at the 36-hole course for eight years. An Audubon Cooperative Sanctuary course, Olympia Fields features Penncross/*poa annua* greens; and many trees and ornamental grasses; numerous perennial beds and prairie restoration projects. Designed by the legendary Willie Park, Jr., it was the biggest golf facility in the world prior to WWII.

**Prestonwood Country Club
Cary, NC**

Golf director Ron Gilmore and veteran superintendent John Hinkle head an exceptional team that cares for 54 holes of golf, two practice



greens and a one-acre practice tee. This club has really taken off since being bought by software magnate James Goodnight Ph.D. (SAS Corporation), and its three golf courses get better and better. Prestonwood CC hosts a Nike Tour event annually. This staff helped design its own maintenance building two years ago, one of the best in golf.

**Portland Country Club
Portland, ME**

The Portland Country Club is the first in The Bay State to be recognized as a Certified Audubon Cooperative Sanctuary. Superintendent J.B. Christie praises former super Patrick Lewis for charting "the right course for the future." The club's membership, community volunteers and crew members worked hard for the honor. Christie urges other supers to get involved: "This program will work for you."



Sanctuary, Sedalia, CO

This course was carved out of the foothills south of Denver. It's surrounded by thousands of acres of parkland and open space. No homes surround this course—and never will, say its developer.

Jim Engh designed the course, and David Hare is superintendent. A golfer is just as likely to see a black bear or a golden eagle as another golfer at Sanctuary.

**Saxon Golf Course
Saxonburg, PA**

Frank Ekas founded this course in 1958. It has 27 holes. In 1985 neighbors and players helped clean up after a tornado twisted and smashed more than 150 trees at the 260-acre facility. The tornado, as it turned out, cleared enough land to build another nine holes. A war-hero bomber pilot (36 missions over Germany) and machinist, Ekas used his skills to redesign and invent equipment such as a riding greens mower, a greens spiker and top-dressing brushes. He operates this privately owned public course with

his son, Frank Ekas, Jr.

**The Summit Country Club
Owensboro, KY**

This 400-acre semi-private golf course and housing development is Kentucky's first certified Audubon Cooperative Sanctuary course. "It took a couple of years, but it wasn't as difficult as I thought it would be—I assigned it to my assistant," quips superintendent John Delker, referring to Kevin Glover, who prepared the rolling countryside setting



Bourne is director of parks and rec for the county.

**GROUNDS &
ATHLETIC FIELDS**

**Brooks Army Medical
Hospital, San Antonio, TX**

A lot of attention is required when working for the military, and the crews from GreenGrass in San Antonio stand tall when policing this world-famous 110-acre facility. "This is an exciting project," says Frank Suarez, president of GreenGrass. "The hospital has multiple open-air atriums, and there are a lot of logistics involved with this." Because Brooks is a hospital, GreenGrass has to take special care. And it does, while keeping the grounds exceptional

**Cedarville College
Cedarville, OH**

Paul Ware is the head groundskeeper at this Baptist school of 2,500 students in southwest Ohio. "Most of our crew is made up of students," says Ware, now in his 20th year at Cedarville. "The students are smart and they do a good job. Landscaping at the college is excellent, along with its maintenance."



**City of Litchfield Park,
Arizona**

This Phoenix suburb stands out among others in the desert because

(shown above) for the certification procedure. "The bonus to this diligent work is that it has enhanced the natural beauty that is so prevalent at The Summit," says Delker.

**Sunset Hills Country Club
Edwardsville, IL**

Challenges abound here. Superintendent Bob Ajemian deals with the transitional zone—cool-season fairways and warm-season greens. Members of this 18-hole private club also must be at the top of their skills. "We've got a lot of blind holes here," says Ajemian, "and it's a tough course to play because of the slope." Ajemian is overseeing seven holes of reconstruction.

**The Timbers at Troy
Howard County, MD**

This year-old golf course is built on 206 acres of land granted to the Dorsey family by Lord Baltimore in 1664. The property later became known as Troy Hill. The course features undulating fairways, mature trees, meandering streams, and finely-raked bunkers. Greg Rosenthal is the super. Rainmaker Golf Development developed the course, Ken Killian designed it, it's operated by Kemper Sports Management and owned by Howard County. Jeff

THE LM 100

of its greenery. Public Works Director Bob Gaunt's horticultural background shows in this city that was founded by Goodyear Tire and Rubber in 1916. Orange and palm trees, plus 23 acres of turf, grace this city of 38,000. The city devotes eight employees to its landscaping operation, and each employee is sure to receive extensive landscape training.

College of Wooster Wooster, Ohio

About 1,500 students enjoy a jewel of a campus thanks to grounds superintendent Phil Williams and his fine staff. Williams gives his nine-member staff the green light to add special touches to the campus. For example, several years ago staffers ringed the outside of the college baseball field outfield fence with a display of flowers, ornamental grasses and small trees. By mid-summer the ball field is a showcase. The department also maintains the college golf course.

The Del Coronado Hotel and Resort, Coronado Island, CA

The grand red and white clapboard expanse of "The Del" inspired the writing of the *Wizard of Oz*. The immaculate seaside grounds are tended by Pack West Land Care Inc., Vista, Calif., the first outside contractor to tend these grounds near San Diego. "We change 3,000 flats of color a year," says Dan Hays, vp, Pack West Land Care. "There's a lot worse places to work in the landscape industry than on the beach at Coronado."

Dyche Stadium Evanston, IL

The Northwestern Wildcats are playing on a new Kentucky bluegrass field at revamped Dyche Stadium, the team's first season on real grass since 1972. S.W. Franks, Cleveland, Ohio, installed the sand-based field in July. Randy Stoneberg (shown) tends the new field,



but like many of you, he has lots of other responsibilities. A native of nearby Skokie, Ill., he's been at Northwestern for 13 years.

Gideon Ridge Inn Blowing Rock, NC

Staff and guests at the charming Gideon Ridge Inn believe in justice—that's Graeme Justice, head gardener and groundskeeper at this 10-room hotel, built on five acres atop a spectacular ridge. At an elevation of 4,000 feet, keeping the plant materials in shape is a tough hill to climb. "We can go down to 25 below (0 degrees F) and a few days later we'll be up to 45," says Justice.

Goodyear Tire and Rubber Akron, OH

Tom Riccardi started tending this showplace corporate campus 17 years ago with 62 people for 100 acres. Now, nine fulltime and six seasonal employees maintain over 600 acres, which includes mowing 325 acres. Riccardi stresses efficiency, but not at the expense of the grounds. One challenge is preventing salt damage to turfgrass. He and his crew must remove snow and ice from eight miles of sidewalks during winter storms. The Goodyear site is also home to 100-acre wildflower garden.



Grounds Maintenance Services, Orlando, FL

Floyd Perry runs GMS and conducts hands-on seminars for field managers. He's authored three books on groundskeeping, and publishes *The Progressive Groundskeeper* newsletter. For five years he was the director of baseball at Boardwalk & Baseball theme park, and was head



grounds keeper for the 1996 Olympics' softball field in Columbus, Ga. Perry sees a need for a change in attitude towards field management on the municipal and high school levels. "If the coaches and field personnel work together to create quality turf by moving their workouts around and shifting their heavy work to the end zones or sidelines they would have a better chance of keeping a strong biomass of turf for their big ball games," says Perry.

Iowa State University Ames, IA

Mike Andresen has been athletic turf manager for the Cyclones since April of last year. He previously managed the turf for the Iowa Cubs in AAA baseball. He's a sharp manager, who knows the importance of micronutrients to turf health. He makes no preemergent weed control applications, and is happy to pull a few weeds here and there, to stay away from possible root stunting. "I take the philosophy that we're all paying dues," says Andresen, "and part of that is getting in and doing it and learning the day-to-day."



Jefferson National Expansion Memorial, St. Louis, MO

For more than a decade Jim Ja-



cobs has been the man under "The Arch." As gardener/foreman with the U.S. National Parks Service, he cares for the grounds at the Gateway Arch landmark along the waterfront in St. Louis. The huge structure salutes the Louisiana Purchase made by President Thomas Jefferson. All 47 acres of the park are irrigated, and numerous plant beds, compliment over 2,600 trees.

Howard J. Lamade Stadium South Williamsport, PA

If you watched any of the Little League World Series on television in late August you saw a great looking—and great playing—baseball field. James Scott is coordinator of Little League fields, and does a fine job. The Keystone Athletic Field Managers Organization (KAFMO) helped rebuild the field late in 1995, and helps out during the Series.

Lambeau Field Green Bay, WI

Todd Edlebeck had two weeks to install new turf at Lambeau Field (shown page 20), in time for the NFC Championship game in January. He and a lot of friends got the job done with 420 rolls of sod, installed in 10 degree weather. Edlebeck—with the team since 1980—manages 30 people during football season. The field's been replaced again for 1997-98. Edlebeck's top priority: "To make Lambeau Field one of the best."

Mill Race Park Columbus, IN

The restoration of this 98-acre park included the planting of 686 trees. Kris Medic, city arborist and landscape manager, stresses putting the proper tree in the proper location. "They (trees) should be hand picked for the site no matter what it is. No matter if it's a modern building designed by a world class architect, or a lift station that serves a sewer plant," she says.

Milwaukee County Stadium Milwaukee, WI

Gary Vandenburg, shown below right, and David Mellor, left, keep this facility up and running for baseball, concerts and corporate events. The crew of 35 is seasonal.



"If we have a 15-game home stand, it adds up to easily 200 hours," says Mellor. "I can't imagine having a better relationship than what David and I have, says Vandenberg. "We both think alike, look at things the same way and have a lot of respect for detail," says Gary. A new, natural grass, retractable dome field, Miller Park, is due to open on opening day, 2000.

Minot Park District Minot, ND

Horticulturist Steve Wharton makes the most of North Dakota's short growing season. More than 600 acres of parks include a zoo. "We try to create a botanical wonderland," he explains, "but we use plants that will grow in North Dakota." Tropical plants in planters are used as annuals. The park district includes eight soccer fields and a Kentucky bluegrass Minor League ballfield, home to the Minot Mallards of the Northern Prairie League.

Natural Athletic Turf Mequon, WI

Roy Zehren started his landscape company in 1954. Natural Athletic Turf followed in 1974. He builds or renovates 20 to 30 athletic fields a year and is a green and tee specialist for golf courses. "The most significant change I've seen," he says, "is the progress in athletic field construction using the sand-based systems and washed sod."

New Territory Development Sugar Land, TX

The Spencer Company tends the 3,100-acre "New Territory" devel-

opment. Gregory Spencer's company takes care of more than 50 acres of lakes, 10 acres of athletic fields, 30 acres of parks, 10 acres of shrubs and groundcovers, more than 8,000 trees and 53 miles of edging. The Spencer Company was founded in 1959 by Gregory's father. Everything at New Territory is first class, and the 24 employees assigned to the facility adhere to top standards.

Northwest Missouri State University, Maryville, MO

Grounds Manager Randy Willis has plenty to do. Parking, streets, trash pickup and recycling are all under his supervision. But, he also had time to help the campus earn designation as a Missouri arboretum. The campus contains 80 varieties of trees, and they are all labeled for trail walking. "We're expanding that to cover shrubbery and groundcovers," says Willis. Visitors can enjoy the campus without having to cross a single busy street.

Oriole Park at Camden Yards Baltimore, MD

Head groundskeeper Paul Zwaska believes that "you can never do too much monitoring," particularly root depth and soil temperature. "I know exactly how my field reacts to weather conditions." This is especially critical for a bluegrass ball field located in Baltimore. "We've finally gotten it to where we can get it to survive." He urges budding groundskeepers to develop mentors. His include Dr. Jim Love from the University of Wisconsin ("He gave me a kick in the behind when I needed it.") and Pat Santarone, who provided guidance at the old Memorial Stadium.

Sierra High School Colorado Springs, CO

Todd Wittrock (shown) has the full support of the school's athletic team coaches in his efforts to keep the 16 acres looking like a showplace. "If the coaches don't help me, I



can't help them, and they help me quite a bit." Use of the practice fields is staggered so Wittrock can provide the proper care. He attends industry seminars and reads trade magazines to increase his knowledge. "Pin up the articles that pertain to you; you'll have them right in front of your face." Wittrock says he's got "the best job in the district."

Spring Grove Cemetery and Arboretum, Cincinnati, OH

Chartered in 1845, it covers 730 total acres, 425 acres of which are mowed and developed. Not only does the park have a renowned arboretum, it also contains 14 lakes and 45 miles of high-crowned



roads-perfect for bicycles and hiking. Senior vice president is Tom Smith. Spring Grove no longer does its own road repair and it contracts with local arborists for

stump grinding and extensive tree pruning. "Any prudent business manager must ask the question whether it will cost less to do the work from the inside or outside," says Smith, a past LM "Person of the Year."

University of Texas at El Paso El Paso, TX

The UTEP campus is built on bedrock in the Chihuahuan Desert with high-alkali, low-sulfur soils. Even so it's landscape is well-maintained and its bermudagrass is green. Irrigation and soil testing are key elements in the program used by Tony Sullivan at this 15,000-student facility. Irrigation here is a must. Average annual rainfall is 7-8 inches.

Wide World of Sports Celebration, FL

A 200-acre sports facility includes a 7500-seat baseball stadium and a baseball quadruplex; a 5000-spectator field house; 11 tennis courts; softball facility; youth baseball fields; four soccer-sized fields, and a track and field stadium. The stadium is sodded with Tifway 419

bermudagrass, and drains seven to 10 inches of water per hour. The other sports fields are Tifway 419, with one percent crowns. Landscape/turf manager is John Strantz.

Wrigley Field, Chicago, IL

Wrigley Field was first known as Weeghman Park and home to the Chicago Whales of the Federal League. The first National League game at the ballpark was played on



April 20th, 1916. Roger Baird and four assistants keep the turfgrass playing field green and the ivy on the outfield walls healthy. Baird has been at

Wrigley for 20 seasons, the last two as head groundsman. There's nothing fancy at Wrigley, but playing conditions there are great.

LANDSCAPE COMPANIES

Barnes Nursery Huron, OH

One of northern Ohio's most respected full-service lawn/landscape companies, started in 1950 by Harold Barnes as a 50-acre rose farm. Son Robert Barnes guides the



company that offers a full array of landscape services. Barnes maintains 300 acres of shade and ornamental trees and grows 75,000 containers providing nursery stock for its two retail stores, landscape operation and wholesale markets. In 1990 the firm began a composting division creating quality soil products, and most recently became involved in recycled rubber. In season, 150 people work for Barnes Nursery.

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Blondie's Treehouse, Inc. Larchmont, NY

This distinctively named landscape company serves satisfied customers in New York City and the surrounding tri-state area. Blondie's Treehouse, Inc., established in 1979, employs about 100 professionals and will generate sales of over \$4 million. Howard K. Freilich, CLP, President-CEO, says that although his firm is registered in the State of New York as a pesticide application business, its focus is preventive care.

Bozzuto Landscaping Company, Upper Marlboro, MD

Bozzuto Landscaping Company has been serving the Baltimore, Washington D.C. and Northern Virginia markets for more than 20 years.



BLC prides itself on its employee recruiting, development and training. The management team at BLC creates a work environment that gives each

employee the opportunity to achieve his/her potential. Growing at a rate of 20 percent a year, BLC is led by President Tom Davis (shown). BLC, which should exceed \$4 million in sales this year, has been filling its trophy case with beautification and environmental awards.

The Brickman Group, Ltd Langhore, PA

The Brickman Group, Ltd. is a full-service design/build landscape management company with 1997 projected revenues of \$100 million. Brickman operates through a regional network of 45 branches in 17 states, primarily the eastern and midwestern U.S.. The company was founded in 1939 by Theodore W. Brickman, Sr. and has remained a family owned and operated business. It started by focusing on the design/build sector of the industry, but has evolved into a full-service provider with a large majority of its business in landscape management.

Carol King Landscape Maintenance, Inc., Orlando, FL

"We help keep Orlando beautiful," says Jerry Bachand, president. Bachand started in lawn service in the Orlando area in 1960. In 1974 he bought Carol King Landscaping (7 trucks, 12 men) and continued using the name—"it was simpler to recognize." Today, two sons help Jerry with the company which employs 138 in season with revenues over \$6 million. The company's size and reputation for quality work make it a favorite with large general contractors.

Coronis Landscaping, Inc. Nashua, NH

Laurence S. Coronis founded this company in 1969 after graduating from the University of New Hampshire. He started the company as a "one man" operation. Coronis now employs 75-100 in season, and is an award-winning full-service landscaping and design firm. "Coronis' dedication to continue to educate its employees has benefited through the long-term relationships with its clients," says Laurence S. Coronis.

Dennis' Seven Dees Landscaping, Inc., Portland, OR

This respected company in the Pacific Northwest offers landscape design/build, contracting and maintenance for both residential and commercial clients. Its progressive employee policy includes profit sharing, a 401(k) pension plan, open-book management, on-going training, safety incentives and community involvement. Dennis' Seven Dees has 170 employees and will generate about \$8 million in revenue this year. "We stand apart from the rest by providing exceptional people, service and quality," says company president, David Snodgrass. A great company to work for. (Employee photo appears on page 21)

D. Foley Landscape Walpole, MA

Dan Foley attributes much of the company's growth to detailed estimating system—developed with help of consultant Jim Huston of Smith Huston, Inc.—and its own

landscape management programs. The *Site Management Program* gives them "a distinct competitive advantage," says Foley. The company was founded in 1987. Foley projects the company will enjoy a \$1 million year.

Grunder Landscaping Service, Dayton, OH

Marty Grunder is only 28, yet he has been in the business for 14 years. He started with a \$25 mower he found at a garage sale. Today, Grunder's company has annual sales of \$1.6 million and employs 30 people. Grunder believes customers looked beyond his youth because he showed confidence in his ability to get the job done. His business philosophy and system has been published and is available to fellow professionals.

Grass Roots Inc. East Lansing, MI

Tom Smith founded Grass Roots in 1982 after he completed his Masters Degree in Turfgrass Management at nearby Michigan State University.



His company, which employs 20 people in peak season, offers several unique services, like a service to rescue native plants, especially wildflowers. Smith's commitment to the precepts of "plant health care" make it special with Michigan clients. Grass Roots Inc. offers landscape design, construction and management.

Hermes Landscaping Lenexa, KS

Founded in 1965 by CEO John T. Hermes (shown). Son Dalton serves as president, son Gilbert is vice president. Services include commercial and residential landscape management, sprinkler installation and a 400-acre wholesale nursery. Approxi-



mate annual sales are \$10 million. Strong training programs for about 200, including orientation, safety, technical areas related to green industry, and customer service. John Hermes retires in December, and the company will continue under sons Dalton and Gilbert. "It was very gratifying to start the business," recalls John Hermes.

Hillmeyer Nurseries, Inc. Lexington, KY

Five generations, and 156 years after its founding, Hillmeyer Nurseries is still growing in central Kentucky. It's run by brothers Chris, president, (shown left) and Stephen Hillmeyer, secretary, right. About 160 workers (in peak season) staff



its two retail garden centers, 250-acre nursery, greenhouses, and landscape division. Sales just over \$8 million in 1997, but what makes its special is the relationship it has established with employees. The brothers employ a company-wide policy encouraging staff meetings. Employees know where they stand and they're regularly informed about how their departments are performing in terms of revenues and expenses.

Kinman Associates, Inc. Dublin, OH

Gary Kinman and his staff of experts don't take shortcuts in their design and build work. Most of their residential projects are sizable. They make it easy for customers needing distinctive residential landscapes to get exactly what they want. Kinman and a partner started this firm in 1979. It should do about \$7 million in 1997.

Korfhage Landscape and Designs, Inc., Louisville, KY

Services include design/build, landscape maintenance, interior-scaping, and a retail garden center with full-service florist. The Korfhage name is respected for quality service in Louisville and surrounding areas. John and Bob Korfhage's company has about 85 people on



staff, including three landscape architects, with sales of about \$5 million this year. "We enjoy the challenge of designing and implementing a unique landscape environment for our clients, and then maintaining that landscape so that it will retain its beauty year after year," says John.

Landtrends, Inc San Diego, CA

Jon Ewing founded Landtrends in 1981. Today the company employs over 300 with sales over \$10 million annually from landscape construction, maintenance, irrigation management, and Miramar wholesale nursery. It's active in Southern California and Las Vegas, NV. Ewing points to some of the company's more visible recent projects: maintenance of the 100-acre Arco Olympic Training Center, and the landscaping of the White Tiger Exhibit at the Mirage Hotel in Las Vegas.



Lawns Etc., Reno, NV

Paul Flint started this company in 1979 with a mower and a small pick-up truck. Today, Lawns Etc., provides lawn and landscape maintenance service to over 400 properties in



northern Nevada. Flint's watchwords have been "education and pride," because besides gaining Master Gardener status and becoming certified himself, he provides his employees with three landscape management classes each year to improve their skill and professionalism.

The Morrell Group, Inc. Atlanta, GA

You can tell Morrell Group employees by their clean-cut appearance and the efficient, safe way they do their jobs. The company employs 180 people and will exceed \$9 million in '97. The firm's Maintenance Group services more than 250 commercial customers, including corporate headquarters of Bell South, Cox Enterprises, Delta Air Lines, and others. Also, landscape design/installation, irrigation, technical services, seasonal color. George Morrell, involved in the landscape industry for several decades, started this company in 1989.



The Pattie Group, Inc. Novelty, OH

The Pattie Group, Inc., does award-winning work out of its offices in a small town in Northeast, Ohio. Steve R. Pattie started the company in 1966 and called it Pattie's Landscaping. PGI has grown beyond that. A new concept being tried by PGI is known as Project Management. PGI develops a team of professionals to design and build both the indoor and outdoor living spaces for both residential and commercial settings, involving architects, designers, horticulturists and construction crews.



Pro Scapes, Inc. Jamesville, NY

"We're big enough to do a good

job and small enough to care." That's what Pro Scapes, Jamesville, NY, tells clients. President Rick Kier started this business with a single pick up truck in 1978; Pro Scapes now employs about 45 people in season, and the company's red trucks are a common sight in and around Syracuse, NY. Pro Scapes does it all—from chemical applications to snow removal.



Post Landscape Services, Inc. Atlanta, GA

Post Landscape Services, Inc., was formed in October 1990 to bring the Post Properties, Inc. tradition of landscape architecture, design/build, installation and full service maintenance so visible on its apartment communities to other environments. Well known for its "traffic stopping" season color displays, PLS constantly seeks new ways to create unique landscapes and gardens. With a staff of 85 people, this firm's consulting, contracting and maintenance operations work together as a single team, from the inception of a project to its on-going management. Post will generate sales of \$10.3 million in 1997, mostly from the commercial sector.

Rae's Greenscapes Naples, FL

What makes Rae's Greenscapes special? "Training, pride and teamwork," says President Steven R. Pruchansky (shown right). This 35-year-old firm with its 80 fulltime employees offers lawn installations and repairs, landscape management, lawn maintenance, irrigation



services, spray services and arbor services. Greenscapes staff members have volunteered thousands of hours at Youth Haven, a haven for abused children and Habitat for Humanity, the group that builds housing for the disadvantaged. Linda Rae Nelson, left, daughter of founder Ethel Rae Nelson, is VP of Operations.

St. John and Associates Hattisburg, MS

"Our goal is to consistently exceed the client's expectations," has been Drew and Kathy St. John's mission since establishing this company in 1992. St. John & Associates is a regional provider of diversified design/build, landscape construction and interior/exterior hort services. It employs a team of 25. Its award-winning projects are on time and within budget.



Southern Tree & Landscape Companies, Charlotte, NC

With offices in Charlotte, Raleigh, Greensboro and Wilmington, Southern Tree & Landscape Companies employs 200-300 in peak season. Ralph Boone started Southern Shade Tree Co. in 1954 as a tree transplanting and tree surgery company. Roger Braswell (shown) started Braswell's Lawn & Landscape in 1968 when he was 15. In December 1976, Braswell purchased the assets of Southern Shade Tree Co., combining the two companies, into a new business. The Charlotte office provides commercial landscape services and treescaping, while the Raleigh company and its branches in Greensboro and Wilmington offer full-service commercial landscape services.

Stano Landscaping, Milwaukee, WI

Matthew Stano started out of his garage as a lawn care operator in

THE LM 100

1963. He incorporated the company in 1971. In peak season Stano employs about 150 people, with a core staff of about 50 providing residential and commercial landscape design/build, management, and snow removal. Matthew's been active with the Wisconsin Landscape Contractors Association, and the Wisconsin Landscape Federation.

Valley Crest, Calabasas, CA
Valley Crest is the nation's largest landscape and construction company. Through the first half of this year it had secured contracts of \$97 million. "The diversity of projects tells us that builders and developers recognize Valley Crest can excel at any type of job, from streetscapes, golf courses and sports fields to theme parks and resorts," says Richard A. Sperber, president and COO of Valley Crest which has nine regional branches across the United States.

LAWN CARE COMPANIES

Arborlawn, Inc., Lansing, MI

Gerald Grossi is owner of this quality firm located in Michigan's capital city. Grossi, 18 years in the industry, has worked to elevate the entire industry as evidenced by his participation in the Michigan Lawn Service Association, the Michigan Turfgrass Foundation, and with PLCAA.

Arbor-Nomics Turf, Inc. Atlanta, GA

Richard J. Bare started this company in 1980 as a tree and shrub care company serving the greater Atlanta area. In 1986 he added turf care. Arbor-Nomics, offering superior service, has seen its market place, the north Atlanta suburbs explode with growth. Bare recently started another branch on Atlanta's west side. It's jointly owned

with Doug Cash, vp and gm of both operations.



Bio Green Ashburn, VA

Bio Green turns 10 this season. Its three offices in northern Virginia—Manassas, Ashburn, and Winchester—service more than 3000 customers. Bio Green is proud of its "prescription" approach to lawn care. "A large national company cannot do that, nor can they know all the local problems, requirements and cures in a particular city or development," says Executive VP Wayne L. Schrader.

Cooper's Lawn Aeration Service, Virginia Beach, VA

This million-dollar firm is mostly staffed by former military personnel. Cooper knows that preparing a proper battle plan is critical and makes use of experts including extension specialists and university turfgrass authorities. Cooper's firm has built some excellent relationships with landscape and mowing companies. "Other companies call us to do the chemical aspects of their programs," he says.

Crowley Lawn Care Cleveland, OH

"Every day we talk about keeping our promises," says owner Phil Fogarty. About a third of the Crowley LC's business is subcontracting for landscape firms. "They've allowed us to network with their customers and they've been able to concentrate on what they do best."



Emerald Green, Van Wert, OH

Emerald Green provides superior lawn care in a five-county area in north-west Ohio. It's a small company and its owner, Gene Pool, does his share of production—like many of you. Pool,



17 years in the business, also participates annually in PLCAA's Legislative Day, serves on the PLCAA board, and, this year, leads the Ohio Lawn Care Association as president. You have to be big to be great?

Fairway Green, Inc. Raleigh, NC

"Our highly trained staff and comprehensive lawn care programs prevent common problems before they occur," says owner Sam Lang. Fairway Green, Inc., has about 3,000 residential and commercial customers. Lang says great service translates equals low cancellations.



Farison Lawn Care Louisville, KY

"There's nothing like a face-to-face with a customer on his lawn," says Sam Farison who started this company in 1971 with his brother and business partner Dan Farison. These Louisville-area natives rely on the personal approach to business—walking lawns to offer accurate estimates and selling face to face. Primarily a chemical lawn care company, Farison Lawn Care offers some mechanical services.

The Greenskeeper, Inc. Carmel, IN

Expansion is the goal for The Greenskeeper, Inc., which, since 1981, has been serving customers on the north side of Indianapolis. A wholly owned subsidiary, Green Carpet Lawn Services of Jasper, services the southwest section of Indiana. Look for this firm to open another location in Indianapolis. It's owned by Robert and Jennifer Andrews.

GroGreen, Plano, TX

Winner of the Plano and Collin County 1996 "Reader's Choice Award" for best lawn service, GroGreen is run by Gary LaScalea. In addition to many satisfied customers, the company provides all

the professional lawn care, tree and shrub care, fertilization, weed/insect/disease control for Southfork Ranch of the "Dallas" tv series, now a tourist attraction.

Heritage Lawns Farmington, CT

Company president James Leszuk switched the direction of Heritage Lawns from a residential to a commercial focus last year. The move has been positive, resulting in higher morale within the company, better customer service and a tighter business focus, says Leszuk. The move has also allowed the Connecticut firm to strengthen its tree and shrub program.

Lawn Cure, Inc. of Southern Indiana, Jeffersonville, IN

"We go one step beyond what is reasonable to satisfy our customers' lawn care needs and wants." That's been Lawn Cure's motto since its founding in 1978 by Larry Messina.



Lawn Cure does about 20 percent of its business across the river in Louisville, KY, the remainder in southern Indiana. Of its 2500 chemical

lawn care customers, about 85 percent are residential. A division of the company, "No Gro" Weed Control provides industrial weed control. Messina is pleased with the acceptance of this service.

Lawn Master, Pensacola, FL

Not even hurricanes (it has suffered several in the past few years.) can stop this family operation which provides lawn and shrub care services to over 4,000 and commercial properties along the Gulf Coast. Lawn Master expanded operations to include lawn maintenance, mostly commercial accounts. Joe Williams



(shown) and his two brothers-in-law Ken and Ray Weekley started the company in 1981. In 1994, Joe's sons, Jeff and Scott, bought out Ken and Ray's ownership in the company.

**Lawn Management, Inc.
Venetia, PA**

The husband/wife team of Tony and Pat Raffaele started this company in 1984, and have provided fertilizer and pest control services to some of the same customers' lawns since then. The Raffaeles have grown the company primarily by word of mouth resulting from excellent service. They offer fertilizers blended specially for clients' lawns. The south hills of Pittsburgh is their market area.

**Liqui-Green of Central Illinois
Bloomington, IL**

Liqui-Green of Central Illinois is 19 years old and operates three franchises in Illinois: Bloomington, Springfield and Decatur. It offers turf fertilization and weed control



programs along with aeration, seeding and insect control. It also offers a comprehensive shrub and tree care program. This Midwestern company has prospered. It

keeps a close eye on the market and stays in tune with it, thanks to vice president/owner David Harris.

**Massey's GreenUP Lawn,
Tree & Shrub, Maitland, FL**

Massey's is a Florida leader. The company offers a complete agronomic program based on the specific conditions and needs of each individual piece of property. Massey's is headquartered in Maitland, just outside of Orlando.

**Munie Outdoor Services, Inc.
Belleville, IL**

Munie Outdoor Services has been providing residential and commercial lawn programs to customers in the St. Louis areas since 1980. Joe Munie started out as an LCO. But his company has evolved

to offer a full range of landscape services. Its staff includes a certified arborist, registered landscape architect and fully licensed applicators.



"We approach the consumer who wants quality and who understands the value of quality," is one of the firm's philosophies. Munie's low employee-to-supervisor ratio is one reason for the firm's success.

**Natural Lawns, Inc.
Merrifield, VA**

In 10 years Natural Lawns has grown from a small, local lawn care company to a regional operation with customers in northern Virginia, Washington D.C., and Montgomery County, MD (Bay Country Natural Lawns). Services include lawn and shrub care, aeration and seeding. A couple of years ago, Natural Lawns



purchased a small lawn care company and moved into Fredericksburg, VA. The company is run by business partners Bern Bonifant and Dan Henneberg. Shown above, from left are Jeff Mansfield, German Vergara and Kevin Walter.

**Northern Lawns, Inc.
Omaha, NB**

"Our belief is that there will always be a demand for a small, locally owned company that responds quickly to customers' needs," says Northern Lawns President Dale Amstutz. The



company, in its 16th year, serves nearly 2000 customers in and around Omaha. In recent years it has been growing its tree and shrub care business too.

**Pro-X Systems
Appleton, WI**

Pro-X Systems is 10 years old.

Lou Wierichs, Jr. is president and CEO. His wife Cindy is secretary/treasurer. Wierichs has also served the green industry as president of the Professional Lawn Care Association of America (PLCAA). The firm's mission statement is simple: "Create a Satisfied Customer."



**Pro-Lawn-Plus,
Baltimore, MD**

Pro-Lawn-Plus has been providing quality lawn and tree/shrub care service to the Baltimore metropolitan area for 19 years, with over 3200 customers. "We take pride in our dedicated and knowledgeable staff, who are always willing to take the necessary measures to satisfy our customers," says owner Mark Schlossberg, a longtime supporter both of Maryland Turf and PLCAA.

**Pro Lawn Plus
Jacksonville, FL**

Nick Dennis believes in providing top-notch lawn services. And he believes in marketing, including radio advertising and a print campaign involving blades of grass dressed as football players (playing off the success of the local J'ville Jaguars). He promotes the hometown nature of Pro Lawn Plus's service. "We've seen the market open up. We're back on top," he says.

**ServiceMaster/Irmo,
Irmo, SC**

Top pay and benefits help Gene Broome retain great employees as does "a continuous, ongoing and non-nonsense training program."

When customers call his firm they don't get a recording; they get a real person from 7 a.m. to 9 p.m. weekdays and until 2 p.m. on Saturdays. Broome's goal is "unbeatable customer service". He says having an excellent franchisor helps too.

**The Swingle Tree Company
Denver, CO**

Swingle celebrates 50 years in business this year. John Swingle started the company in 1947 with a war-surplus Jeep and a single helper. Today the company has 90 fulltime employees and 60 seasonal employees. It's recognized by just about everybody in the Denver metropolitan area, not just for its tree work but also for its lawn care programs. The Swingle Tree Company is successful, in part, because of its commitment to its community as evidenced by volunteer efforts with Wilderness on Wheels Foundation.

**TurfGard Co. Inc.
Dayton, Ohio**

"The level of service our technicians provide has kept us at a rather low cancellation rate," says Bill Clutter, president. "We will not play the price game. We sell the benefits of what we are doing and people appreciate that approach." Clutter started in lawn care in the mid 1970s and slowly grew TurfGard by buying several smaller companies. It offers lawn and tree/shrub services in a very competitive Dayton market. **LM**



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AERIAL LIFTS

Booms are essential in the tree care industry, but there are strict safety guidelines to follow.

By CURT HARLER



Operator-driven, self-propelled unit from Polecat Industries will not damage turf or landscapes. The lift is hydraulic.



The Leguan Plus from Speciality Equipment has a 36-ft. working height, flexible aerial work platform, 298 lb. platform capacity.

Landscapers in the market for an aerial lift will find two types to choose from: scissorlifts, for lower height applications and heavier platform loads with larger working area; and telescoping booms, targeted at applications where reach and mobility are key.

For jobs in confined areas and hard-to-reach sites, telescoping booms with a jib boom, articulating/telescoping booms, and articulating/telescoping booms with articulating jib booms are available, notes Don Roach, vice president of marketing at Snorkel, St. Joseph, Mo. Jib booms, used after the telescoping boom is extended, allow workers to reach out and over obstructions to the work area.

Safety around lines, training essentials

Always beware overhead electrical or phone lines when extending a lift. The fireworks display you'll get when you extend a boom into power lines is impressive. But the price you pay—both in dollars and in fury from a justly enraged utility supervisor—is not worth the price of the show. Look up, especially in dense foliage or in fog.

Failure to train aerial work platform operators can result in litigation and OSHA citations, warns Roach. In some cases, job-site safety requirements may be more stringent than those dictated by OSHA.

High-reach telescoping booms must be fitted with tilt alarms that sound when the base unit is out of level. Machines with expanding axles should have a boom/axle interlock that prevents the boom from being raised above horizontal unless the axles are properly extended and locked.

Slab operated scissorlifts should have a pothole protection device that reduces the likelihood of tipping if a wheel is accidentally driven into a hole or off the edge of the slab.

Scissorlifts must have an alarm that sounds when the platform is being lowered and a built-in safety support beam to hold the scissors arms when the machine is being serviced.



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AERIAL LIFTS

AMERIQUIP 800/824-9776 Circle No. 250

The Eagle 47 aerial lift from AmeriQuip, Laverne, CA, is a trailer-mounted, articulated lift with a 25-foot side reach and 47-foot working height. Features include positive bucket leveling, 360-degree continuous rotation, and excellent portability for easy access to a variety of tasks. Proportional control valve with neutral position interlock allows two-function operation and complete feathering capability. Comes with 8 hp gas engine; 24V DC electric motor, or dual power (gas and electric) options are available.

ALTEC 800/958-2555 Circle No. 251

LR and LB Series aerial devices combine smooth, efficient maneuverability with working heights to 60 feet. All equipment is backed by an

unsurpassed warranty, says Altec.

BIL-JAX, INC. 800/527-5333 Circle No. 252

The Workforce XLB-4232 Towable Boom Personal Lift has a maximum working height of 42 feet and has 300-pound capacity, 32-foot outreach, and 360-degree continuous rotation. Made by Bil-Jax, Archbold, Ohio, it has a steel, one-man cage; surge brakes, master slave leveling cage, outrigger safety switches, lower and upper controls and a 110v outlet to the platform. Optional fiberglass cage and cage cover are available. Comes with VHS safety video, safety harness and lanyard.

POLECAT INDUSTRIES 800/876-5322 Circle No. 253

Operator driven, self-propelled aerial lift sips fuel — it can run all day on just seven gallons of gas. The PCD-28 from Polecat, Miami, FL, weighs 2,480 pounds and will not

damage turf or landscape. It operates easily without a trailer for transport. The lift is hydraulically controlled by the operator in the bucket, allowing it to move in any direction with ease.

SIMON-TELELECT, INC. 605/882-4000 Circle No. 254

Hi-Rangers are known for their high quality and durability. The new XT-5 series provides arborists with two units from which to choose. The XT-52 provides 57 feet of working height; 42.2 feet of side reach in the work zone; 135 degrees lower boom and 270 degrees upper boom. The XT-55 provides 60 feet of working height; 42.2 feet on side reach in the work zone; 125 degrees lower boom; 26 degrees upper boom.

SNORKEL 816/364-0317 Circle No. 255

Articulating riser boom allows for up-and-over work on the ATB 60 from Snorkel, St. Joseph, MO. One of six families of lift available, the 60's telescoping main boom gives extra horizontal and vertical reach, and the six-foot articulating jib boom gives added horizontal reach. Main boom reaches 43 feet, for total work height of 66 feet. Comes in two-wheel or four-wheel drive models. While you're at it, call for Snorkel's handy Work Envelope Calculator, available free, which gives maximum and minimum reach available at various heights.

SPECIALTY EQUIPMENT 800/722-6543 Circle No. 256

Flexible aerial work platform has 36-foot working height, 17-foot reach and 298 pound platform capacity with telescoping boom fully



The ATB 60 from Snorkel comes in two-wheel or four-wheel drive models.

extended and 474 pounds retracted. The Leguan Plus, from Specialty Equipment, Indianapolis, IN, has zero-degree turning radius for easy maneuvering. It weighs just over a ton, so it is easy to transport. Its 34-inch width allows easy moving through gates. Unit is powered by a 13-hp Honda engine with optional LPG or electric power.

TIME MFG. CO. 817/776-0900 Circle No. 257

Low maintenance and long, dependable service life at a 60-foot working height is available with the Versalift VO-55, says Time. Standard features include continuous rotation, start/stop, full pressure hydraulic controls and more.

LM



The Workforce XLB-4232 Towable Boom Personal Lift has a steel one-man cage, surge brakes, and outrigger safety switches.

Grow-in fine turf with blankets

*Wheat straw becomes popular for landscaping,
thanks to its revegetation capabilities.*

By RUSSELL GRUBER AND PETE HANRAHAN

Wheat straw erosion control blankets reduce soil loss, protect seed and assist with vegetation establishment.

The blankets consist of a layer of biodegradable mulch stitched to one or two layers of natural or synthetic netting. Weighing about one half pound per square yard, the blankets are light and easy to handle. A 60 square yard roll weighs 30 pounds.

Close ground contact

Manufactured wheat straw blankets are engineered to avoid many of the problems associated with loose straw mulching. An evenly distributed mulch layer is stitched to a photodegradable or biodegradable netting. The netting holds the mulch material in close contact with the ground, while the stitching assures the retention of straw fiber throughout the blanket, even when subjected to water flow or high winds.

Straw blankets are made to offer erosion protection during turf establishment, and to assist the turf establishment. The correct amount of fiber is essential to opti-

mal performance in both the erosion control and seed germination functions.

Weed infiltration is a concern when establishing fine turf, and wheat straw does not have the weed impurities associated with hay. Erosion blankets give the landscape contractor control over seed mixtures, fertilizers and topsoil. The stand of vegetation adapted to the specific site conditions can be established.

Erosion blankets help establish a strong root system. Wheat straw blankets hold moisture from rainfall and condensation close to the soil surface, and aid in obtaining a higher and more efficient seed germination than other blanket types.

Protect dormant seedings

Blankets can offer erosion control protection for dormant seeding throughout the winter months. This, of course, allows the seed to take full advantage of early spring moisture. The earlier turf can become established in the spring, the better chance it has to survive heat and drought stress during summer.

A customer who wants a green lawn immediately will not get it by using erosion control blankets. Sod installation is the only answer.

Straw blankets give job sites a finished look, especially when installed in accordance with manufacturer's specifications, using the proper number of staples and assuring blanket-to-ground contact.

Sod quality can vary greatly. For the serious landscaping contractor, it's important to know the best sources of quality sod. On the other hand, the blanket method gives the landscaper more control over the final product.

The straw blanket is certainly no cure-all. If the top soil used on the site is infested with weed seeds, the blankets will not eliminate them. A poor installation will undermine the effectiveness of any product or material used.

Estimates vary, but the use of the blanket package, compared to sod, can result in a cost savings of up to 50 percent.

Some landscapers who want a strong stand of turf have decided they want to use the straw blanket method. Those who have not done so may wish to consider it as an affordable, efficient method of turf establishment. **LM**

Russell Gruber is estimating and systems manager for The Brickman Group Ltd., Long Grove, Ill. Pete Hanrahan is a regional sales manager for North American Green, a manufacturer of erosion control blankets, based in Evansville, Ind.



A 60 square-yard roll of wheat straw blanket weighs only 30 pounds.



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Angie Mueller, Seasonal Color Manager
Gibbs Landscape Company, Smyrna, Georgia



Left: Treated with compost fertilizer (2 months).

Right: Treated with Flower Saver™, Healthy Start™, and Yuccah™ (2 months).



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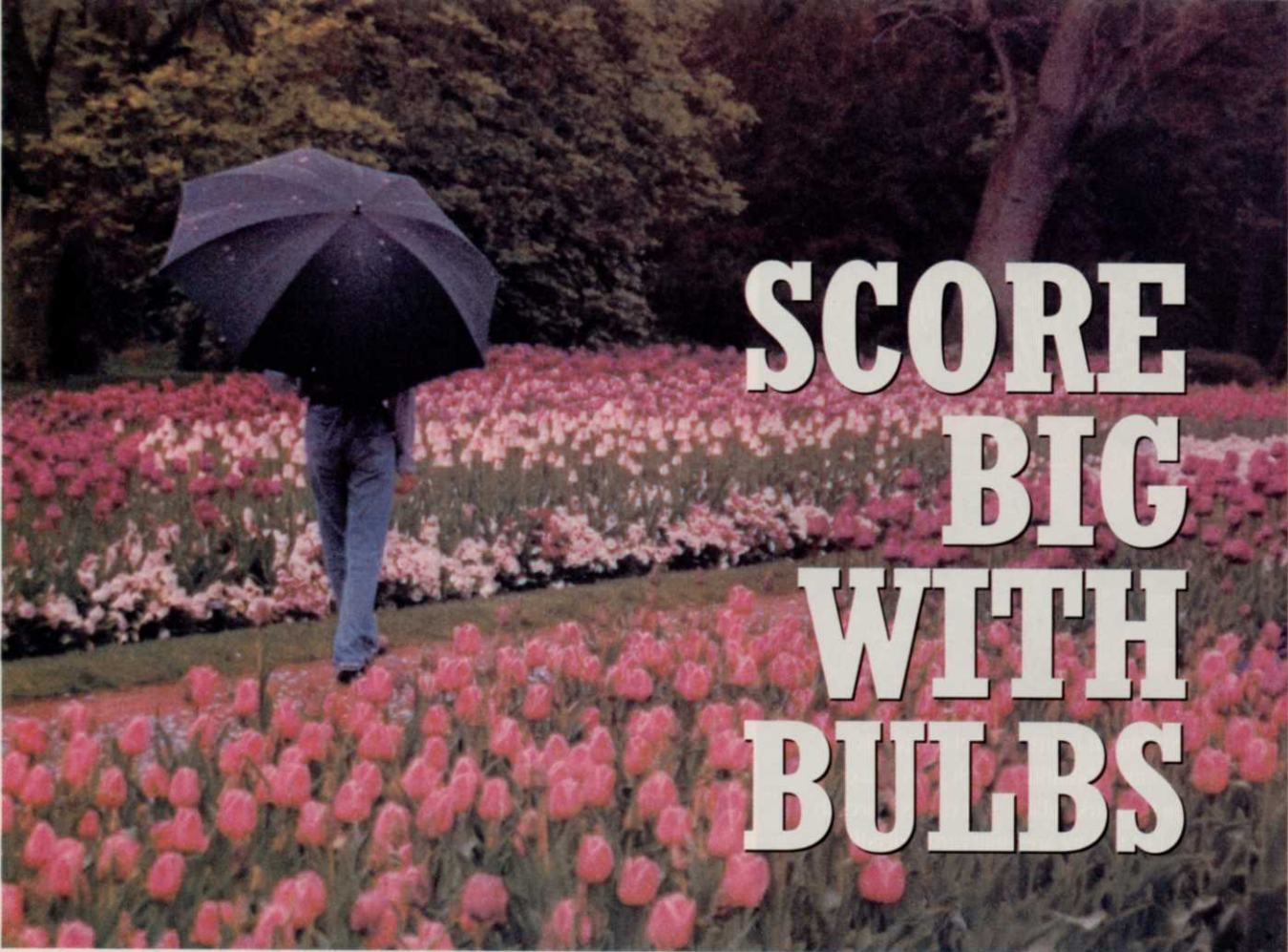
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Circle No. 122 on Reader Inquiry Card



SCORE BIG WITH BULBS

by STEPHANIE
COHEN

Bulbs are one of the easiest choices for landscapers, whether new to the business or a sun-tanned veteran of the trade.

There are, however, a few things to keep in mind when using bulbs.

► Most do not like wet feet, so don't let them stand in water. Plant them in average, well-drained loam.

► Give them full sun when the leaves green up. This makes planting under deciduous trees or shrubs a perfect option. Make sure to mulch bulbs the first winter to improve the soil and protect the bulbs.

► Never remove the leaves from your bulbs until they have yellowed. This allows the

bulb to produce and store the food it needs to grow and make a magnificent display the following year.

Some of the best ways to use bulbs is to have them emerge between non-aggressive ground covers. I like short daffodils, species tulips, crocus, Grecian wind flowers, snowdrops and anything one foot tall or under.

They are also good to tuck among hostas, which by the

time they unfurl the bulb foliage can barely be seen.

Daylilies

For taller bulbs I like to plant with daylilies. The daylily foliage is excellent for hiding yellowing foliage. Both of them are easy to grow and are in the ground for the long run.

Ferns with fronds

Another choice is ferns with large fronds. Ferns and bulbs grow well together in a light to dense shade.

Big sweeps of bulbs are spectacular, but I cannot abide looking at yellowing foliage. In a regular annual or perennial border, plant bulbs way in the back, so that as everything begins to grow, foliage is hidden.

Don't skimp

When you plant bulbs, don't be skimpy. Minor bulbs such as crocus, winter aconites, snow drops, or scillas should be planted by the dozens. That's right: at least 12,

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Holland-America

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804/379-0152

Vandenberg Bulb Co.

P.O. Box 532
Chester, N.Y. 10918
914/469-9161

The Daffodil Mart

7463 Heath Trail
Gloucester, Va. 23061
804/693-3966

but 24 to 36 is better for impact. In planting any of the larger bulbs, 12 is a minimal amount. Don't line them up like soldiers if you want a naturalistic effect. Plants in nature do not grow in a straight line. Plant them randomly in the design. In a woodland design, this is a given.

Things growing in a woods have to look natural. In a perennial design, plant between large perennials in the back of the border so foliage disappears. The more naturalistic the planting, over time you are less likely to have to go dig and divide.

For those of you who want to get the most out of your bulbs, plant bulbs with a bulb food, especially if soil isn't opti-

mum. Remember to topdress each year to keep your bulbs healthy, happy and to keep multiplying.

If you've noticed, I've avoided tulips and hyacinths. In most climates, these tend to last at best for three years. Many of you are better off planting in pots and removing them after flowering. In two to three years, tulips always become crowded and begin to produce smaller flowers and eventually just disappear. It may be best to treat them as annuals.

With bulbs, you get what you pay for. Larger bulbs produce larger, more vigorous plants and flowers. I always like to buy double-nosed or triple-nosed daffodils. I also like to ei-



These daffodils, when planted in groups, brighten a client's garden.

ther pick out my own firm, white bulbs or deal with a reputable wholesale bulb dealer. In buying bulbs "bigger is better".

Spring should be colorful, exciting and easy care. Many of the bulbs fit this category. Don't be afraid to experiment.

The more diversity you bring to the landscape, the more your clients will enjoy your design ideas. **LM**

The author is a horticultural consultant and teacher living in Collegeville, Pa.

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Microinjection

preps trees for fall



With microinjection, antibiotics, fungicides, insecticides and mineral nutrients are placed directly into a tree with no contact with the environment.

by TERRY A. TATTAR,
Ph.D., Univ. of
Massachusetts

Microinjection is a contained, delivery system that presents the applicator with an environmentally friendly alternative to spray applications.

Why fall is a good time

Many tree health problems can be effectively treated in the fall. As trees in temperate climates and subtropical climates go into dormancy many plant pathogens and insect pests continue to be active.

In some cases, fall treatments lower pest and pathogen populations and give trees protection against health problems in the following spring. In addition, the root growth without shoot growth, that occurs in the fall, facilitates treatments of nutrient

Specific tree health problems

The following tree health problems can be treated in the fall by microinjection:

1. Leaf scorch diseases of hardwood trees—Bacteria, which live in the xylem, cause leaf scorch diseases on a number of hardwood hosts including elm, maple, mulberry, oak and sycamore. The antibiotic treatments do not eradicate the bacteria, and treatments have to be repeated within every 1 to 2 years.

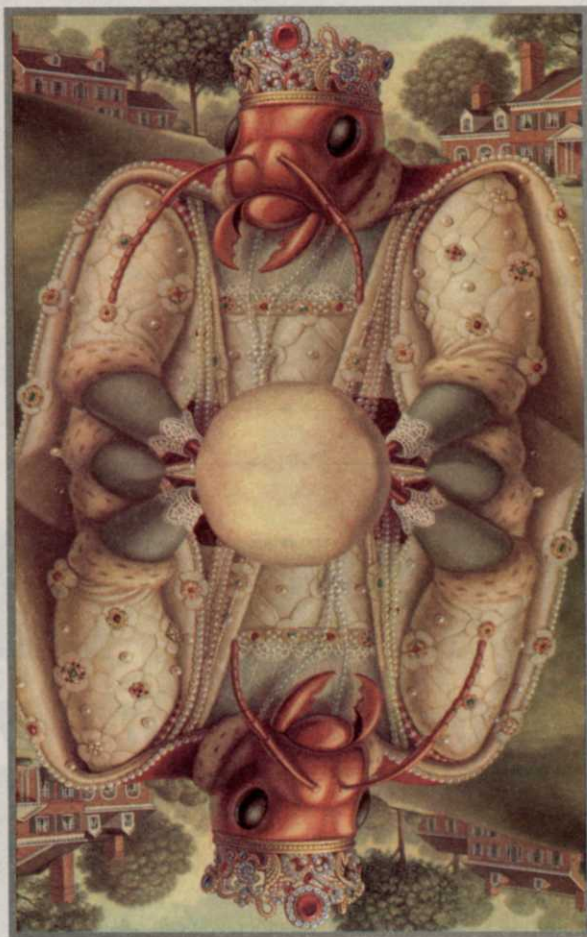
2. Adelgids on coniferous hosts—Adelgids are close cousins to aphids, but their health impact on coniferous hosts is often more severe. The hemlock woolly adelgid can kill an infested eastern hemlock (*Tsuga canadensis*) in one year. Microinjection capsules are placed onto the hemlock trees in early fall.

3. Anthracnose diseases of hardwood trees—The fungi which cause anthracnose diseases in the spring and summer on many species of trees including, ash, dogwood, maple, oak and sycamore, are also active during the warm periods in the fall. Fall microinjection of fungicides can provide protection for recently formed twigs and buds and may help to improve the overall appearance of the trees in the spring.

4. Nutrient abnormalities on all trees—Mineral nutrient deficiencies cause health problems, such as chlorosis, on many species of trees. Many of these mineral deficiencies, such as iron deficiency and manganese deficiency, can be corrected by microinjection during the fall season

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abnormalities at this time.

Microinjection is a type of trunk injection. Small amounts (approximately 0.1 ounce) of therapeutic chemicals, contained in sealed capsules, are injected into shallow trunk wounds around the base of a tree. Injected chemicals are distributed systemically by sap movement within the tree to the branches, leaves and even roots within a few hours. Microinjection treatments can be applied to tree health problems in the fall and early winter. **LM**

The author is a professor at the Shade Tree Laboratory, Department of Microbiology, Univ. of Massachusetts, Amherst, Mass. He can be reached by phone at 413/545-2402, by fax at 413/545-5178 and by email at tat-tar@pltpath.umass.edu.

Treat root causes with fungi

Landscapers can repopulate soils and promote healthy root growth through application of mycorrhizal fungi, beneficial bacteria and root growth-promoting organic products.



► Beneficial bacteria in the rhizosphere solubilize mineral elements, such as phosphorus, for uptake by plant roots. Others fix nitrogen from the air, produce plant growth regulators that stimulate root growth, and others deter root diseases.

► Mycorrhizal fungi colonize the fine absorbing roots of the plant. The fungi extend hyphal strands (feeding tubes) far into the soil, which improves absorption of water and essential elements.

► Introduced mycorrhizal fungi and soil bacteria increase water and nutrient absorption from soil; increase resistance against soil-borne root pathogenic fungi, such as *Phytophthora spp.*; and increase plant survival, particularly during drought periods and on adverse planting sites. These microorganisms do not stimulate tree growth—they eliminate inhibited growth, which makes them true preventative plant health care tools.

by Dr. Donald H. Marx, Plant Health Care, Inc.

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Autumn 1997 is not the time to coast. Put the spurs to your lawn/landscape business. You can get in weeks of production. How much depends a lot on the weather. Hopefully, you will cover expenses for the year earlier rather than later this fall so you can make the profit you'd budgeted for. If you didn't add to the worth of your business this year, consider:

- 1) fixing what's wrong within your company (Job costing? Labor costs? Quality of service?);
- 2) offering service or product that's distinguishable from competitors;
- 3) working for somebody else. This isn't a put down. If you're not making it running your own business, why put up with the stress and strain?

There's nothing wrong with drawing a pay check from somebody who can make things happen.

But, if you're an owner, today, in the fall of 1997, is when your business should be paying you back for all the 60-hour weeks. The lean times.

The sleepless nights.

The building boom that's been going on for four or five years continues. Several of you have told me that building contractors in your markets are busy and are picking and choosing their jobs.

But there's another reason why you should be optimistic, at least in the short term. It's called demographics.

Many of your best customers (and your best prospects) are Baby Boomers. They've been working for 20, 25, maybe 30 years. Both husband and wife have been working.

They have money. They may not be millionaires, but the house is paid for and so are the cars. The kids are grown. Although Boomers look toward retirement with some anxiety, they have accumulated assets like homes, properties, pensions.

Autumn '97, time to buckle on your spurs



Ron Hall

RON HALL
Managing Editor

LANDSCAPE/GROUNDS

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Installing rocks; getting paid for it

Some are discovering that they have more money than they realized. That's because their parents are dying, leaving behind homes, cars, savings accounts, insurance.

This earlier generation saved "for a rainy day." That's understandable. After all it experienced The Great Depression and a worldwide war. It treasured security. This generation is fading fast.

Boomers don't view security with the same reverence as their parents. Why should they? They spend money more freely.

Thanks to Boomers your company should be doing pretty good this year, and, if you can rev up production these final few months of '97, you can squeeze out an even better year. (Don't forget to reward your employees for their extra effort.)

If this has been a disappointing season, there's time yet to revive your business. Start this winter while the economy is still relatively strong. **LM**

Questions, comments? Call Ron at (216) 891-2636, fax at (216) 891-2675, or e-mail at rhall@advanstar.com

It's important for our industry to take a more active role in the general educational process in our own country so that we can produce a "flow" of people into the green industry.

We are no longer too small or too young an industry to simply hire someone for a job in hopes that they will like it, stay with it and progress in it.

It is now time for us to become involved in educating people for our industry and developing programs that promote a career in it.

While this is being done at the college level, more needs to be done in our vocational and technical schools where two-year or shorter programs can be created for those interested in green industry careers. At the same time, I would like to see how certain high schools would react to the introduction of industry educational efforts in their vocational programs.

There is no greater challenge facing us than both the long and short-term shortage of employees. It strangles us in terms of consistent production, professional customer service, and overall stability. Most importantly, this shortage will affect our willingness and ability to expand our operations as we move into the next millennium.

Several years ago I read that by the year 2015 there would be several million more jobs in the United States than there will be people to fill them. This hardly seemed possible at the time, but makes more sense today. When we read about three to five percent national unemployment what we're really reading is that anyone who wants a job, already has one. And probably the choice of many others. If you consider that more jobs are being produced, then even a downturn in one segment of our economy, or one part of the country, will not have more than a temporary impact.

Here are some other "employment" statistics. By 2000 a million new inhabitants will be born every

four to five days! The problem is the extreme unevenness of population growth because most of it will occur in the most underdeveloped countries. That's 90 million a year, and 95 percent of them will live in the world's poorest nations.

For example, according to United Nations figures, Lagos, capital of the African country of Nigeria, will be the world's fifth largest city by the year 2005. It will have 15 million people if the present growth trend continues. Indeed, a "youth bulge" is predicted for more than 57 countries, including three former Soviet republics, and also Egypt and Algeria.

My point here is that we may well face the next century with jobs being in one place, and the people to fill them somewhere else. As you look at the growing number of Hispanics at work in the green industry, it should be apparent that bringing the people to the jobs is a trend already well underway.

As we attempt to solve our labor shortages, we will also have to deal with the imbalance in educational skills. Today, we in the United States must stay on our toes to keep up with new technological and scientific advancements.

It seems my office is full of perfectly good computers which are outdated shortly after they are purchased.

At the same time, fully one half of the world's population (maybe three billion people) have never placed or received a telephone call!

Thus, even if we can figure out the logistics of getting the people to the jobs, we have some serious training to do once we get them here. And remember, we simply cannot move the factory overseas. Lawn care, mowing maintenance, and landscaping must be done here, not shipped out for subassembly. □

Employees come from our schools?



BOB ANDREWS
Contributing Editor



New Boomer™ is as good as it looks

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Circle No. 117 on Reader Inquiry Card

Time to 'go native'

The landscape professional that knows about and offers native plants gives clients one more good reason to use that professional's services.

By PAUL DOWLEARN

The demand for "natural" landscapes is growing steadily if not rapidly. The concept behind a natural landscape is: the use of native or naturalized plants within a given ecological zone.

Since these plants are adapted to their specific ecological zones they almost always require less additional watering or chemicals. Over time they've developed defenses against insects and diseases.

While a natural landscape may be a novel idea in suburbia, it's certainly not new. The first European settlers to the United States, of course, had to rely on what they had. So, if a family wanted a tree to shade its porch, it simply selected a tree from the surrounding wood lot and moved it.

Natural landscaping, in fact, is evident at many of our favorite vacation spots. Notice when you visit a national park or, perhaps, a resort lodge or dude ranch. Plant material at these locations evoke a "sense of place" for their guests and customers. Whether these places are in the desert, mountains or prairies, the best way to convey this feeling is with the artful use of local vegetation.

Who needs it?

The most obvious people who could benefit from natural landscapes are those who own large properties. A trend that is



Natural landscapes seem to be catching on, particularly for customers with larger properties. Incorporating adapted plants with these boulders makes a rugged but interesting vista.

growing here in north Texas is to buy small tracts of land on which to build a home outside of the cities and towns, and gain the peace and privacy of country living. Where once a person had 5,000 to 6,000 square feet of lawn, they may find that they have 10 times that amount to mow, water and fertilize.

That's where a landscape professional that's knowledgeable about the selection and use of native and naturalized plants, including turf (in our region Buffalograss requires remarkably few inputs and makes an acceptable lawn for many home owners), can provide clients with a landscape that are both aesthetically pleasing and maintainable.

Trees are the big players in the landscape. Obviously something that gets as big as a tree had better be well adapted to local soils and climate. Check out anybody's top 10 tree list, and you'll find that at least seven will be native to the area. Trees that require a lot of care are the wrong trees for your particular area.

No "perfect" plants

This applies to shrubs and flowering plants too. The public is slowly learning that there aren't many one-size-fits-all ornamentals that can be grown over most of the country. Not without the use of extra water, fertilizer and pesticides, anyway.

Meanwhile, many good local plants are now being incorporated into landscapes,

and they're becoming available in a greater variety of color and growth characteristics.

Admittedly, not many homeowners will buy a property that has all the trees, shrubs, and flowering plants that they want already existing on the site. Most new home owners start with site that has been partially or completely cleared, perhaps bulldozed. They have to start from scratch. So how does a landscaper find the plants, or the knowledge, to advise these property owners?

Digging plants or collecting seeds from the wild is frowned on by the state. This is a job for other professionals. Fortunately, the number of native plant nurseries in many parts of the country is growing. The Native Plant Society of Texas, for example, lists 40 member nurseries, and 13 landscape architects.

Local plants are best

For a truly natural landscape, you should mainly stick with plants existing in your local area. As a rule of thumb, plants existing within a 50-mile radius of a site would be considered suitable. But, there are obvious exceptions, for instance in a mountainous area.

Because the use of natives is just now becoming popular, it is not known just how far north, south, east or west some species will go. Here in north central Texas we have listed close to 300 species from Texas, Oklahoma, New Mexico and Arizona that will naturalize and are aesthetically pleasing.

What about all those exotic plants we've been using all these years? A fair number of the popular species will naturalize. Exotic plants in a natural landscape should meet certain criteria.

First of all, you should not plant exotic species that are invasive. Check with local nursery operators about aggressive root systems and self-sowers. Also, in a natural land-

scape, all plants should be capable of sustaining themselves on the natural rainfall. Even so, some exotic plants are drought tolerant, and some native plants can stand a little extra water during droughts.

In 1993 Texas legislators passed a law encouraging the use of native plants and landscape water-saving techniques on state properties. Local water resource boards have followed suit with programs aimed at educating home owners and encouraging the use of drought-tolerant plants. This trend will continue as water resources become an even more critical issue.

Start learning

Whether you're a contractor, a landscape architect, or a nursery owner, gaining a knowledge of plants native to your area, and those that have become naturalized, will provide you with a slightly different offering for those clients that don't particularly want a "look" or a "theme" if it requires a lot of maintenance. This knowledge is becoming easier to acquire.

For instance, here in Texas, both the Texas Department of Agriculture and the

Texas A&M Extension have begun promoting native plants and landscape water-saving techniques. These organizations provide plant lists, seminars, and technical information. These services are free for the asking.

Other sources of information include The National Wildflower Research Center in Austin, TX, and the Native Plant Society of Texas, located in Georgetown. There is a small membership fee to join these groups. These two organizations are on the cutting edge, and their newsletters by themselves are worth the cost of the dues, not to mention the seminars, symposiums, field trips and other educational opportunities.

In the past 10 years, there have been a great many books written on this subject, and not just field guides. There are books that give good identification information and also suggestions on landscape use, including photographs and drawings. □

—Paul and Nila Dowlearn operate Wichita Valley, Your Natural Nursery, Wichita Falls, TX.

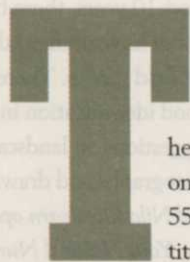


Plants adapted to a particular region of the country have a better chance to survive the stress associated with heavily-used or otherwise hard-to-landscape areas like along this commercial site.

Fields of change

More effort needs to be directed to the fact that turf is a growing plant that needs a certain amount of care to continue to grow properly.

By FLOYD PERRY



The climate for better and safer athletic facilities is changing on all levels. In my travels across the country to more than 5500 facilities, I have seen a complete metamorphosis in attitudes involving athletic/football/soccer fields:

- ▶ Gates are locked after school hours.
- ▶ Permission slips and liability waivers are required to use fields, thanks to the frequent lawsuits.
- ▶ Internal scheduling regulates the amount of weekly traffic.

For example, at a particular campus there is one field used to share football and soccer play. The football team has the field two hours each week, on Thursday before the Friday game. The band has the field for two hours a week on Wednesday. Soccer team gets two hours to work on game patterns, with no drills. And outside institutions—concerts, art shows, fairs—are not getting the fields during the season.

These procedures were not put into place overnight, but became policy after a serious injury lawsuit over a poorly maintained field.

Also, this institution had the foresight to set up enough practice areas for individual activities, including their physical edu-

▲ **With no management program, fields become better suited for parking lots.**

cation program.

Rotation or split fields

Some institutions (and this is probably directed to larger recreation departments and colleges) have established a program in which two fields a year (cool-season turf) are closed and renovated. This involves re-leveling; reseeding or spot-sodding and giving an irrigation system upgrade. This allows the community to start the Pop Warner football/youth soccer/intramurals on quality turf and creates a strong confidence factor with the parent/taxpayer.

Cross-field use

The more practical way to create safe athletic turf—field rotation is not practical in many locations—is cross-field design.

Divide your main field into two opposite length fields and avoid play in the center. Outstanding facility managers got this idea from the design of inside basketball courts with side baskets and different colored lines.

cont. on page 8L

...or fields of mud

- ▶ *As coaches, teachers and administrators we create a 365-day plan for our individual teams or students. The facility manager must begin to create his/her plan and seek the administration's support.*
- ▶ *Do we have policies in place for rainouts or cancellations?*
- ▶ *Do we have a policy providing that teams cannot practice if the moisture level is too high in heavy clay subsoils?*
- ▶ *Or do we just go ahead and destroy whatever has been achieved?*

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cont. from page 6L

If the coaches and field personnel work together to create quality turf by moving their workouts around and shifting their heavy work to the end zones or sidelines, they would have a better chance of keeping a strong bio-mass of turf for their big ball games.

The pendulum swings

Some institutions and recreation boards are creating safety committees of peers to help solve this 21st Century dilemma of not having sufficient quality turf for young people to play on. Some colleges, high schools and recreation boards have set aside funding for equipment which aids in turf protection and establishment. I tip my groundskeeping hat to those groups.

Turf grows by the inch and is killed by the foot. Truer words were never spoken. □

—The author is president of
GMS For Sports Fields, Orlando, Fla. He
has written *The Pictorial Guide to Quality*



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Circle 133

Working the contract

A look at how an Erie, Pa. company went into action to fulfill a supermarket contract through a rough winter.

by JENNIFER FAILS

In June of 1993, Allin Companies, a \$2 million landscape company based in Erie, Pa., was awarded the \$75,000 landscape construction bid for the Wegmans Food market, also in Erie.

The specs

The bid specs for the project stated that the landscaping had to be completed by the opening date of March 1, with no exceptions. Bids were due by October 18, 1996.

Allin received the project on October 25. Owner John Allin realized that bad weather was probably approaching. After a review of the blueprints, it was recommended that 44 poplar trees be substituted with maple and ash. The site was exposed to heavy northwest winds and there was some concern that the fragile poplars could possibly break off and damage customers' vehicles.

Working closely with Lake County Nursery in Madison, Ohio, the plants and trees were ordered and scheduled for delivery. Lake County supplied 90 percent of the plant material needed for the project.

Arrangements were made to dig the required material late in the season to accommodate the projected opening date. Some plants were dug "at customer risk" due to the time of year. Plant material was scheduled to arrive in early November.

Irrigation subbed

Allin Companies subbed out the irrigation portion of the project to Rain Makers, a local company that has worked with Allin before. By November 1, most of the irrigation mainlines and lateral were in. Rotor and sprinkler head pipes were stubbed out and taped off.

Allin hauled 250 cubic yards of topsoil from the site back to Allin Companies, where it was stored inside one of the warehouses. Using a bulldozer, the soil was stacked under the roof to keep it dry so that it could be used later in the winter to topdress bed areas.

Landscape installation work began on site November 4. Five days later, a tremendous snowfall hit. By November 11, the Erie lake shore had 48 inches of snow and 55 plus at the Wegmans site. Installation work was stopped till November 18, with

The Wegmans project "was a classic example of everyone working together to get the job done," says John Allin.





Allin employees found themselves planting viburnum and juniper one day, and shoveling off the planter islands the next as they worked to meet the store's grand opening date.

a foot of snow still on the ground. Snow removal work then began at the 95,000 square foot site.

In early December, Allin Companies was also awarded the turfgrass installation portion of the contract. Taken away from the site development contractor, the hydroseeding would need to be complete by the March 1997 opening. The stored topsoil back at the warehouse was definitely going to be put to good use.

Installation work progressed between snowstorms throughout the winter. Allin employees found themselves planting viburnum and juniper one day, and shoveling off the planter islands the next.

Protection for planters

Working closely with the site civil engineer from Urban Engineers of Erie and Wegmans, obstacles were met and overcome. Aside from the snow piled on the planting islands, the main planters against the building needed support and had to be prepped so that freezing temperatures would not damage the planters.

Planting areas had to be built in as soon as possible. Trees had to be planted and staked before the ground froze. Ed Kris from Lake County Nursery visited the site regularly throughout the winter to help Allin in properly protecting the plants and trees from the wind and snow.

Towards the end of the year, Wegmans requested flowers on-site for the grand

opening. A grower was called, and several hundred mums were "forced" so they would be in full bloom for the opening. Allin Companies told Wegmans that the mums would last only a few days, but the client insisted on color for the opening.

Time for the grassing

By mid-January, most available areas were planted. A significant space near the building was not ready for planting because of the building construction.

It was now time to begin the grass the areas. Crews began the long process of raking the island areas to remove the large pieces of frozen soil. At the same time, crews were back at the warehouse breaking down the stored pile of top soil. As the islands became ready the dry pulverized unfrozen top soil was hauled to the site and used to topdress the islands.

As areas became ready for seeding, a Bowie 900 gallon hydroseeder was used to seed with a bluegrass and ryegrass mixture.

The hydroseeder then had to be winterized for the cold nights and prepped again for morning.

Weather delay

The winter conditions provided hardships for the landscape contractors, and also for some of the building contractors. The grand opening date was pushed back to March 16.

This was both good and bad news. The later date gave two more weeks for installa-

tion work. However the mums were scheduled for March 1 delivery.

Crews took the mums to a vacant company office, placed them on plastic and set the room temperature at 65° F. The flowers were watered each day, and a window was left open at night to simulate normal fall conditions in the Erie area.

The weather worsened as March 16 neared. On the 14th, Allin Companies hydroseeded previously seeded areas so everything would be green. The mums were to be planted at 4 o'clock in the morning on the 16th to be in before the 7 a.m. grand opening.

On the 15th, the temperature hit 15° F, and a hard snow began to fall. At 8 p.m. on March 15th, Allin and Wegman officials decided not to plant the mums till Easter.

Instead of planting mums at 4 a.m., the Allin crews salted the lot, touched up bark mulch and removed plow stakes. Every grass area not covered by snow was hydroseeded again. All planting was complete and on time.

By mid-May, only two trees and six plants had died from the weather.

President John Allin says the Wegmans project was an exciting challenge, but he would prefer not to do many more winter projects.

"Because we could not predict the snowfalls we had to work around," says Allin. "It was nerve racking and a logistical nightmare."

Allin Companies employees were glad to be working, but conditions were certainly not what most landscape contractors are used to.

Allin credits the work of his site foreman, Jerry Kunco, and the teamwork among the Wegmans personnel for the success of the project.

"It was a classic example of everyone working together to get the job done," says Allin. The company has been asked to bid on future Wegmans construction sites in New York. □

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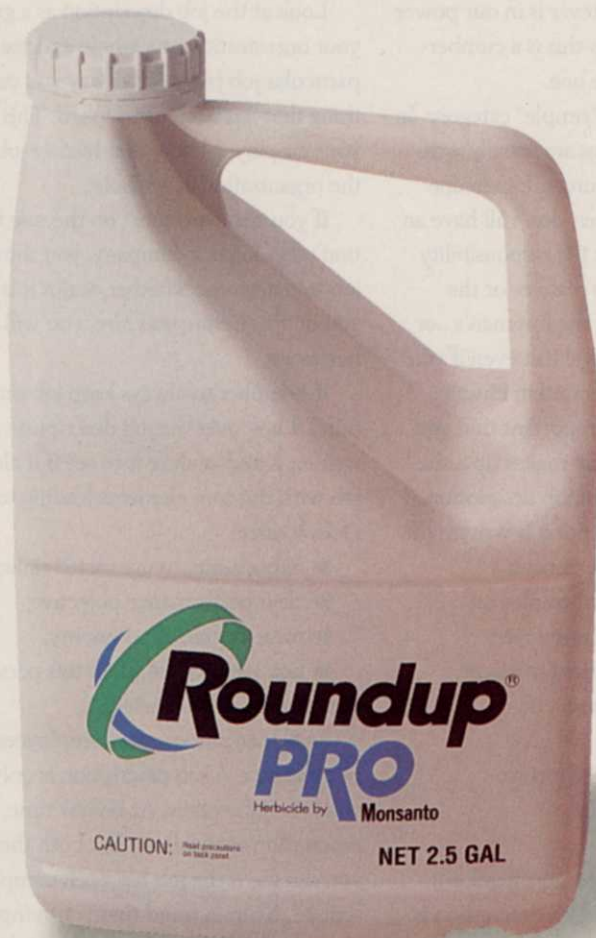


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What **do** you **do**?

The job description must be clear to prevent absenteeism or high turnover.

by MARLENE EICHHOLZ

Lack of job satisfaction is linked to high absenteeism and turnover. Employee productivity is linked to whether or not they are more productive when they are happy. Since our main goal as manager is to increase productivity, we should do whatever is in our power to make this happen. Sometimes this is a cumbersome task but often it is a simple one.

Job descriptions fall into the "simple" category. In larger companies, job descriptions are usually written by someone in Human Resources. Landscape management companies, however, don't all have an HR department, which may put the responsibility

on the owner's plate or on the crew chief's or the foreman's...or the receptionist's! But even if you have no background in Human Relations, it's important that you understand what makes up a successfully written job description.

A job description is written for at least three audiences:

- ▶ a potential employee;
- ▶ a present employee;
- ▶ a department manager.

It should consist of:

- ▶ job title;
- ▶ who you report to;
- ▶ date of hire;

- ▶ secondary duties;
- ▶ special requirements (license; certification);
- ▶ signature (verifying that the job description is clear and understood).

Aside from the obvious function of describing a job, a job description also acts to:

- ▶ advertise a job (a lot of organizations post them for cost-effective internal hiring or use a ver-

sion in writing classified ad copy);

- ▶ promote job satisfaction
- ▶ outline job tasks
- ▶ form part of the organizational structure
- ▶ support future strategic direction
- ▶ provide legal backing, just in case.

Look at the job description as a gap filler. View your organization as a whole and see what role this particular job plays. That way you can cover anything that has been overlooked. This also helps to let your employee know that his/her job is significant to the organization as a whole.

If you come up short on the role the job description plays in your company, you should review this job to determine whether or not it is truly needed. If you do this before you hire, you will save yourself a headache.

Remember to always keep job satisfaction in mind. Look over the job description after you have written it and analyze it to see if it clearly describes a job with the core elements leading to productivity. Does it offer:

- ▶ opportunity to use varied skills;
- ▶ clear performance objective;
- ▶ some degree of autonomy;
- ▶ task significance (does this person contribute to the company as a whole).

Lastly, encourage your employees to work outside the box. A job description is only an outline of what the job entails. At review time, have the job description available so that both the employee and you can see if the job has been completed as described. Keep in mind that your employee should also give you feedback as to whether or not the job description should be changed. □

A job description should consist of:

- 1) job title*
- 2) who to report to*
- 3) date of hire*
- 4) secondary duties*
- 5) special duties*

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in the category of
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Merit Award to Ron Hall,
in the category of "Turf Feature Article"

Merit Award to Lisa Bodnar,
in the category of
"Multiple-page Feature Design"

The landscaping scene in El Paso, Texas, is getting rocky, and Joe Lomeli has gotten used to it. In fact, he thrives on it. He specializes in landscaping with rocks, both on large commercial jobs and small residential projects.

There are basically three types of rock jobs, says Lomeli, who is president of J & J Landscaping. There's the crushed rock lawn, rock walls and flagstone walkways. Crushed rock is by far his biggest money-maker now.

"To do a rock landscaping you can either lay down a sheet of plastic or a fabric material," he says. That creates a foundation and suppresses weeds. "You don't want water penetration."

There's also the herbicide option, and Lomeli uses Surflan for this purpose occasionally. The problem, he says, is that chemicals only last a few months at best.

Lomeli gives his customers the choice of 4mm, 6mm or 10mm black polyethylene. That gives them a price option, though he carefully points out to them that the heavier sheet is going to last longer.

"It's how you maintain the plastic," he says, though. Even 4mm poly will last for years if properly laid and covered.

J & J Landscaping does some pretty large areas with crushed rock—the new U.S. Postal Service processing and distribu-



Joe Lomeli of J & J Landscaping in El Paso shows how a rock landscaping job can be attractive and practical. His materials of choice are crushed rock and flagstones.

Rockscaping

"We're in a desert. We do the desert landscaping—very little grass, mainly rocks, and very few plants."

tion center, for example—and he tries to insist that a layer of chat, or finely pulverized rock, be laid down under the rock.

"To do a quality job you'd want to do these phases," he says. The chat provides a cushion between the rock and plastic, preventing tears or punctures from traffic.

When he excavates a job he goes down four inches, leaving enough room for the plastic, two inches of chat and two inches of crushed rock. He uses either ¾-inch or 1½-inch rock. Ninety percent of El Paso jobs are Mt. Franklin crushed rock, a local rock, though he offers a variety such as lava

rock or white crystal rock.

"The prices vary tremendously," he says. Mt. Franklin rock is \$20 per ton, while white crystal is \$38.

Lomeli is a great believer in the Bobcat loader. He owns four of them, using them

cont. on page 18L

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Big talk? Yes, it is, but this Grunder wisacre has been showing off—and blowing sceptics away—his entire life. As a freckle-faced, red headed Dennis-the-Menace type kid, he started his business with nothing more than a "push" lawn mower and chutzpah. That little business went to 75 regular customers almost overnight. As a full-time student at the University of Dayton, while his buddies drove to school in old "beater" cars and flipped burgers for pocket money, Marty arrived in his Grunder Landscaping Company truck and, at age 21, did over \$300,000.00 in business. Last year he was named Young Entrepreneur of the Year by the Small Business Administration's Midwest Region, in the 1 to 25 employees category. Currently, Marty oversees a staff of 30, 18 trucks, a backhoe, an assortment of other equipment, and a diversified business doing everything from basic residential lawn maintenance to complicated commercial landscaping projects—and, this year, breaking \$1.5 million in annual sales. He's also investing in land, lecturing from time to time, and working with other landscapers as their "marketing coach."

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Who Should Get Marty Grunder's Special Report?

Marty asks that you call for his free Report ONLY if: (1) you own your own business or are the President, CEO, manager or marketing manager for the business; (2) you make the decisions about advertising, marketing, and customer service investments; (3) you are currently unhappy with some aspect(s) of your business; (4) you recognize that in today's competitive environment, just "doing a great job" isn't enough to sustain a business; and (5) you are willing to make progressive innovative changes in your business if convinced, even reasonably assured that doing so will dramatically improve sales, profits, customer satisfaction, referrals, growth, and community prominence. (Please do NOT waste your time or Marty's money getting this Special Report if you are close-minded, change resistance, fully satisfied with your income, or just a curiosity-seeker without sincere interest in changing your business for the better.)

How To Get Your Free Report:

Simply write "Report" on your business card or a sheet of your letterhead and FAX it to 937-847-8067 or, for even more information and to get your Report, call 1-800-399-7135, listen to a brief free recorded message, then leave your name, company name, and address as instructed. You can FAX or call anytime, 24 hours a day, 7 days a week. If you prefer having your report sent confidentially to your home address, just let us know. Incidentally, requesting your free Report does not obligate you in any way; no salesperson will call to follow-up, nothing of the sort. However, this is a limited free offer, so please take care of it right now, while it's fresh in your mind.

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Circle No. 107 on Reader Inquiry Card



Lomeli shows where the underlayer of chat gives way to the surface layer of gravel at the U.S. Postal Service distribution center.

Flagstone walkways are done in the traditional manner, placing stone over a bed of sand and filling in the niches with grout. No foundation is necessary on solid soil, and an inch of sand is usually plenty to allow leveling of the stones.

Boulders popular

"We use a lot of boulders," Lomeli adds. Accenting boulders, from hand-carried to forklift size, round out his repertoire of rock construction.

Lomeli, who hires 32 employees and does \$1.75 million in business every year, says that rocks have become the in-thing with both residential and commercial designers in El Paso. And in all desert areas of the U.S.

Some of his jobs feature all three types of rock construction, plus boulders. Many older El Paso neighborhoods have more rock lawns than turf lawns now, and more homeowners are converting every day.

"Rock landscaping goes real quick," he points out, making it advantageous to the contractor. "We can hop to another job and don't have to come back."

Lomeli, who designs most of his own rock jobs, estimates that rocks represent 90 percent of his work now, and that is climbing. The huge new Post Office facility, for example, has no grass and only a few shrubs out front.

Thus, irrigation systems are generally minimal under rock, and most irrigation installed is drip. Any desert plants that are installed are generally expected to survive on native rainfall. **LM**

—Story and photos by Don Dale

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- membership directory (Who's Who In Grounds Management)
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*Conferred by PGMS, grounds manager certification is a program of developing and administering a program of voluntary peer review to establish acceptable competence levels, and to help the grounds professional attain his personal goals.



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It's the middle of July and it's been hot and humid for about six weeks now, and I can't wait for August!

The golf course members are wondering what happened to the beautiful grass in the fairways (*Poa annua*) and, is that an irrigation leak on number two, or an underground spring...?

It's that time of year when the stress level is at its highest and when we all can be thankful for the people who are near to us.

There's no question of the importance of our families. I know that my family understands how important they are to me and how much I love them and appreciate their patience when dad can't come home soon enough.

There's another family that is also close to me, and they are my fellow golf course superintendents, co-workers and friends in this business. With all of our busy schedules, it's sometimes difficult to stay in touch,

but when we can visit it's great to know that I may have made someone's day a little brighter or that I am not alone in my own challenges.

A good example of superintendents helping each other occurred in the spring of 1996, after several area courses experienced winter kill. The Nebraska Superintendents Association called a meeting in Lincoln. There was an excellent exchange of ideas and possible solutions. The Beatrice Country Club also had some degree of winter kill that spring, and it was a good feeling to know that I could call on other supers and experts for help.

Have you ever wondered why you are a golf course superintendent or, what keeps you in the work you do? A very few may say the money, and some may say, "I love working outdoors with

GOLF

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What golfers want

Be a friend, love your family, learn to laugh



CASEY CRITTENDEN,
CGCS
Guest Columnist

nature."

While all of these things and more are all part of the big picture of why you do what you do, for me as a golf course superintendent for more than 15 years, it's the people.

I have been privileged enough to meet and become personal friends with some of the greatest people a guy could ever hope to know, and I would bet that most of you feel the same about the people that are near to your heart.

Remember to laugh every day. Don't take yourself too seriously. And remember, you're never alone during the rough times. Help is always a phone call away! Keep the faith! **LM**

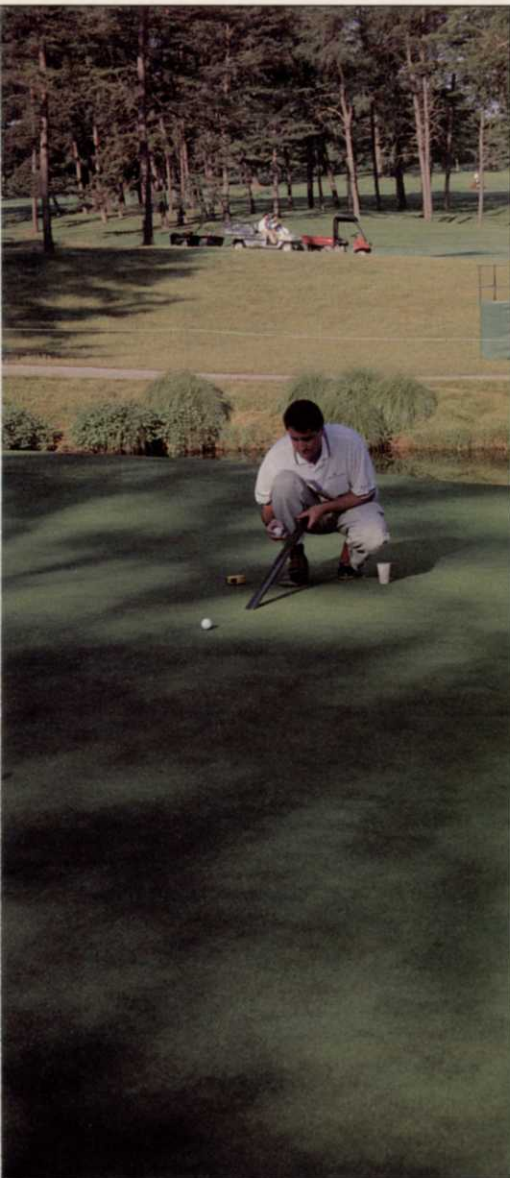
The author is superintendent of the Beatrice Country Club, Beatrice, Neb.

*You're never
alone during
the rough
times. Help is
always a
phone call
away!*

Reunion at Paul's

When Paul Latshaw, Sr. needed a crew for the U.S. Open, he recruited some past employees to help him out.

by TERRY McIVER, Editor-in-Chief



The green speed goal was to keep stimpmeter readings within six inches of each other. "We hit a few low 13s," says Darren Davis.

As is the tradition in the ranks of U.S. Open superintendents, the man in charge gets to bring in whatever help he needs to prepare for and get through the most rigorous four days of golf course maintenance.

This year Paul Latshaw, Sr., combined a little nostalgia with a lot of the work, by having a number of his past assistants join him for the long days at Congressional.

Latshaw's help for the 1997 U.S. Open Championship came from far and wide. Some were sales reps from green industry suppliers. Others were superintendents and their assistants. Mechanics got into the act too. Four friends flew in from Australia, one from Thailand.

Lots of courses were represented. Augusta National. Pebble Beach. Olde Florida. Caves Valley. The Farm of Georgia. The Country Club of Cleveland.

There were 72 helpers in all, estimates wife Phyllis. Those who used to work alongside Latshaw were happy to lend a hand to a man who is a role model for many of today's best superintendents.

Steve Glossinger brought his entire bunker crew down from Caves Valley Golf Club, Owings Mills, Md., located about an hour's drive from Congressional.

"Of course, at 3:30 in the morning, the traffic's not too bad," laughs Glossinger, who has known Latshaw for quite a few years.

The Open's great bunkers

"He's kind of responsible for me moving out here," says Glossinger, who managed Oakland Hills before moving to Caves Valley, and hosting the Open there in 1996.

"Paul came out to Oakland Hills last year and liked what he saw. He was impressed with the way we manage our bunkers."

Glossinger and 12 crewmen began their daily treks to Congressional a week prior to the four-day event, to groom and prep the brand new course bunkers. They continued on for the week of the championship.

"Being the host of a major tournament myself, I knew Paul would be looking for help," says Glossinger, who has managed to keep in his employ a solid nucleus of bunker specialists.

"I've had a group of fellows with me now for almost 10 years, when I was the superintendent of Point of Woods," he explains. "There, we hosted the Western Amateur every year. I took them to Oakland Hills, and when I left Oakland Hills, I brought them here.

"We put bunker maintenance at the same level of green maintenance," says Glossinger. "My guys are very detailed, very proud of what they do. Members and guests from all over the country, at every course I've worked, have always complimented our bunkers.

"Bunkers are a work of art. To keep them maintained properly is



Paul Latshaw: his course management initiatives include really short greens and walk-behind mowers on fairways.

very important to us. We worked on Robert Trent Jones bunkers at Point of Woods; Robert Trent Jones and Donald Ross bunkers at Oakland Hills, and now we're working on Tom Fazio bunkers at Caves Valley. We always keep the [architect's design] in mind. The architects want nothing better than to keep these things picture perfect. We take it to the next level."

Green speed a blur

Darren Davis, of Olde Florida Golf Club in Naples, was in charge of stimpmeter readings.

"I really enjoyed it," says Davis, who went to Penn State turf school with Paul Latshaw, Jr., who manages Merion.

"Since then, Junior and I have stayed good friends, but I got to know his father a lot better."

Davis took stimp readings on each Congressional green, after the morning and afternoon cuts.

"We based our decision for the next morning's cut on the afternoon stimpmeter reading," explains Davis. "From Thursday on, the greens were never [stimping] less than 12 feet. The average was about 12.5 We hit a 13.1 and 13.2."

Davis says he's got some great assistants at Olde Florida, which meant he could be away for 11 days with no worry about how things were going back at his home course.

"I run three interns through Olde Florida every year," says Davis, "and I always hire my assistants from the ranks of former interns. In five years, I've had six guys that have come through who are now superintendents. We turn out some pretty good guys here."

Water management

Matt Shaffer worked under Latshaw for two years at Augusta National. He now manages the Country Club of Cleveland, Pepper Pike, Ohio, but came down to help out with greens and water management.

"He taught me a lot, and we created a lifetime friendship, which is more valuable for me than the things he's taught me," says Shaffer. "Paul is always



Steve Glossinger hosted the Open at Oakland Hills in '96. He knew what Latshaw wanted out of his bunker crew.

leading edge. He was the first person to cut fairways by hand, the first person to probably aerify fairways with walk-behind aerifiers at Oakmont, and I'm sure he was one of the first people to really cut greens to low heights.

"So you would think he would be set in his ways, but he's not," says Shaffer. "His staff is second to none. It's like a dream come true to have that many qualified people working as one unit."

Revived course

Shaffer was most impressed by the change Latshaw has brought about at Congressional, a course that had some serious problems five years ago.

"You had to see have seen the place when Paul inherited it," Shaffer recalls.

"They had some nasty soil origin problems. They had done a lot of reconstruction there, and they took a lot of the topsoil off the fairways to build mounds, and left a lot of the subsoil there to grow fine turf on. And there was some herbicide residue in the fairways. Seed would establish, but a couple weeks into maturity, as soon as the root would get into the herbicide, it would die off.

"Regardless of the phenomenal job they did for preparation of the Open, the biggest accomplishment took place five years prior, getting a thick grass stand to the point where it would tolerate the beating you need to give it to get it into condition for the tournament," says Shaffer.

"Paul's a great leader," says Kevin Crowe, assistant superintendent in training at Augusta National.

"Everybody was more than happy to be there as early as he wanted us, and stay as late as needed."

In the morning, Crowe helped out with fairway mowing, which began at 5:45 a.m. Five-man teams were responsible for three fairways each. Crowe then pitched in on a variety of tasks, from moving fans, to rolling greens, to filling fairway divots. □



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CART PATH

considerations

Veteran Superintendent Jeff Broadbelt shares his thoughts (and some tips) about the importance of cart paths.

By JOHN B. CALSIN, JR.

“**T**he cart paths, or anything that looked like a path, was just worn dirt, rutted and bumpy. Terrible. And, they were in the wrong spots,” said Jeff Broadbelt, manager of Downingtown Country Club and former superintendent at Chester Valley Country Club.

Downingtown CC, now a daily fee course near Philadelphia, was built as a resort course about 30 years ago. It was designed by George Fazio.

Under Broadbelt's guidance, the course is returning to excellence, and the cart path work has helped to make it that way.

Through the years, at both Chester Valley and Downingtown, Broadbelt has either designed, routed or constructed over seven miles of paths. He has some suggestions for others either laying out a new course or upgrading an existing one.

To begin with, he said about path layout, “if you don't feel comfortable with routing and



design, consult with a golf course architect.

"He believes most architects do not feel that this type of design work is beneath them. They can help.

One philosophy, of replacement is that of looking where the carts are creating new paths and then paving those dirt areas. He believes this works only about 30 percent of the time. One reason for this is the golfers themselves.

While golfers are not the enemy, they're the challenging part of the equation, often times, even more so than the topography of the course. If you let them, Broadbelt said, "golfers will drive right up on the green. You'll have to pave right on top of the green."

He said that by managing the placement of the paths, this says to the golfer: this is where we will maintain perfectly, and that is where the carts belong—on the path.

He has removed and then replaced "a ton of paths," he said they were in the wrong

place because they were either straight lines or they did not flow.

"There was one par three that was paved right down the center, so all you saw when you were standing on the tee was the path, instead of taking it down the left and then crossing over."

No straight lines

Broadbelt calls straight lines "a big distraction," unless they can be hidden by trees, for example.

The look of the placement is important too. He believes that the paths should "move". As fairways have contours that give them a softer feel and a flow, so too should cart paths.

"There should be some meandering to it," he said. "The more it resembles a creek, the more it is going to seem natural."

Take the high road

He suggests favoring the high side of a hilly fairway. While it might mean a little extra walking, putting it on the high side helps the golfers "see where they are driving."

Slicer-friendly

Nobody likes cart paths. But it is my feeling that if you have to have them, they ought to be where they can be easily used by the golfers. I do not like to be confined to a cart path that is placed so far from the fairway that it is a hike just to get there and a trip if you have to go into the far rough. The paths at the Country Club of Colorado have been placed very close to the fairways and tees, but are kept away from the greens. Generally, they are on the right side of the fairway to accommodate the slicers, who are in the majority. They were all constructed eight feet wide, but sometimes the grass encroaches. At the tees, they are wider.

It is my belief that by having a continuous path system, there is a great deal less wear on the course, even though we normally do not confine the carts to the paths except on par three holes and on a few holes that simply cannot take cart traffic. When we had paths only at the greens and tees, there was always a great deal of wear at the beginning and end of each one. That wear is spread much better with the continuous path, but perhaps the greatest benefit is to prevent the compaction during wet weather when carts are confined to the paths. □

Stan Metsker, CGCS, from "On the Course: The Life and Times of a Golf Course Superintendent," Metsker Publishing, Colorado Springs, Co. Used by permission.

Another question to ask is how is the hole usually played? For example, if players usually hit left on a certain hole, and there is a major hazard—deep woods—he suggests putting the path on the other side of the fairway so it is not in the way.

Another area to be aware of are the landing zones. While those are not etched in stone due to the differing skill levels of golfers, there are areas where balls usually land.

He suggests on a par five, for example, to keep the path wide on the drive up to the landing zone. "Keep it out of view if possible, and then come closer

so the golfer doesn't have to walk as far to the ball. Then curve it back out again." At the next zone, curve it back in. Then out and in at the green.

Wide paths better

How about the path's width? Golfers either like to drive next to each other and talk back and forth, or they like to zoom around a slower cart. That is why Broadbelt thinks eight- or nine-foot-wide paths are more realistic.

Often, paths are made narrower due more to the dimensions of the carts, which are about four feet. Then only a foot is added on each side.



Cart path placement says to the golfer: this is where we will maintain perfectly, and that is where the carts belong.

Consequently, because of the way golfers handle the carts, the grass is destroyed on either side of the path and just will not grow back.

Wider is better

A wider path helps maintenance crews move equipment on the course faster and with less wear and tear.

If there is not enough room near a tee or green to widen the path by paving it, try creating a type of curb using blocks with holes in them. Dirt can be put in the holes and grass planted in them. But the block, or paver, has the strength to stand up to carts being driven

over them.

Cost? Broadbelt's experience has them coming in at between \$14 and \$18 per square yard. He uses two inches of asphalt, compacted to 1½ inch over, usually, 6 inches of modified, compacted. If corners absolutely must be cut, don't scrimp on the asphalt. He suggests going with less modified.

Because golfers want carts, and carts generate revenue for golf courses, spend a little time on your cart paths. They can lead to positive word of mouth advertising your course. That means more income. □

Asphalt at \$5/ton!

Scott Gobel, Deer Track Golf Club, Crawfordsville, Ind., is looking forward to the deal he's getting on crushed asphalt, for his five-mile cart path project.

"We're having crushed asphalt brought in from one of the local interstate construction projects," says Scott Gobel of his good deal. At \$5 per ton (delivered!) Gobel knows he's going to save some serious cash. It's being trucked in from the road by the interstate contractor. All Gobel had to supply was the dump site. We have a pretty good path for them to follow. We've got a smaller dump truck owned by one of the course owners. We put some reducers in the back of the bed to narrow it, so it matches the width of the.

"The existing gravel paths are just kicking up too much dust," says Gobel. "I thought crushed asphalt would be bad material, but if you get it rolled out properly, it's not going to come back up. Very little prep work is required. Just put it down on a rolled surface. It seizes back up, so you have to make sure the surface is well-prepared. It's like a gravel. The bonding agent's been broken on it, but it's still in the mix. When we roll it, the bonding agent releases a little bit, so we get a little bit more of a bond."

Gobel has been at Deer Track for one year. He has worked both private and public courses. Deer Track is daily fee. □

Contractor rubble trouble

New cart paths were constructed at our course a couple of years ago. I was not there at the time, but can make a couple of comments, using hindsight.


▶ First, the cart paths are 4 feet wide, and that has proven to be a bit narrow, especially in the curves, for players and maintenance crew. Some courses solve the problem of driving off the path by installing curbs, but that would drive the cost up.

▶ We had a problem getting turf to grow along the paths in certain places, and are currently making repairs. It seems that the contractor backfilled with whatever could be found, as we are finding chunks of cement, pine cones, branches, decomposed granite (probably from a past repair effort) and more.

▶ As we excavated we also found that the forms used were about 3 inches, so at that depth is where the slag oozed under the form and now creates a barrier to roots. It might be best if the contract specified straight sides to about 6-inches, and require backfill with material consistent with surrounding soil (clean dirt).

▶ When the repairs are complete, we are going to try top-dressing the cart path approaches with crumb rubber (ground up rubber). We hope it will help reduce the wear that occurs in those areas. □

Ben Fish



This path at Hinckley Hills in Ohio was reinforced with landscape timbers, for stability and safety.

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Minnesota course improves on history

Superintendent Doug Mahal tackles the challenge of working within the historic designs of a century-old course while improving drainage and practicing environmental stewardship.

By BRIDGET FALBO

About 100 years ago two bicyclists toured the countryside of the then outskirts of Minneapolis. Sitting atop a hill overlooking the shores of Lake Calhoun, they had the idea that the place would make a great golf course. And so it did.

Now enveloped by a posh south Minneapolis residential neighborhood and bordered on one side by a busy thoroughfare, the 154-acre Minikahda Club celebrates its centennial in 1998. Already one special event is in the works: Minikahda will host the 1998 Curtis Cup, a USGA women's championship matching U.S. amateurs with the best of Britain and Ireland.

"1998 will be pretty big year for us," says Superintendent Doug Mahal who, keeps the course in shape with the help of 24 fulltime employees and six seasonal workers.

Mahal says that part of the reason he applied for the superintendent position at Minikahda in 1990 was that it was a family oriented club. Mahal's experience includes

10 years as superintendent at Interlachen, another prestigious Minnesota course. He is a graduate of the University of Minnesota.

First for many tourneys

According to Mahal, every major USGA championship held west of the Mississippi, was held at Minikahda first. The course features design work by Donald Ross, and Mahal tries to manage the course within the designs established by Ross, since "his designs have withstood the test of time from a golfer's standpoint."

The greens are small, and protected by many bunkers.

The course stretches 6700 yards in length over rolling terrain, with fairways bordered by mature elms, linden, pine and spruce. With the trees to factor in, Mahal says the challenge to the golfer is in accuracy not distance.

The older design, with inherent drainage problems, causes many maintenance issues that new courses would not run into. Consequently, it requires more labor to maintain. Steep hills slope away

▲ The course at Minikahda has 'no mow' areas that save time and money.

from many of the fairways, greens and tees. "We don't want to change a lot of the contours because he (Ross) did them for a purpose," says Mahal. But some hills are so steep that they must be hand mowed with a floating mower.

Years ago, before today's sophisticated irrigation systems, courses were planned, with the placement of clay soils, to hold water to a certain extent, says Mahal. Sometimes not much emphasis was placed on drainage. Minikahda, in fact, contained several low spots that drained poorly. Heavy rain caused water to stand on several fairways. Because of this, these areas were particularly susceptible to Pythium and other diseases.

"That's the best \$5,000 I've ever spent," says Mahal of the 1500 feet of drain tile that he installed on two fairways.

Also, a county drainage ditch runs through the course, resulting in flooding on the 11th hole and then the 9th hole in

heavy rain storms. Mahal and his crew built three drainage ponds within the confines of the drainage ditch. When the rains fall—as they did this July with rainfall three times the average—the ponds slow down the water and retain it so it doesn't spill out onto the fairways.

The crew also created natural buffers along the waterway, a band of long growth consisting of naturalized prairie and wetlands plants like blackeyed Susan and bee balm. This buffer soaks up extra moisture, traps sediment and also prevents fertilizer runoff from entering the waterway which eventually drains into Lake Calhoun.

The natural buffer zone is an example of the way Mahal sometimes breaks with tradition when it means doing things a better way. Mahal was recognized by Links Magazine with an Environmental Stewardship Merit Award based on his work with wildlife and water quality enhancement, water conservation, pesticide handling and use of organic fertilizers. He also received a Merit Award from GCSAA's Environmental Steward Award program.

Organic base to fertilizers

Mahal has worked out some environmental strategies that include using fertilizers with an organic base for 90 percent of his applications, and cutting down his pesticide and herbicide use to 25 percent of what it used to be. Mahal bases his practices on the research into the microenvironment of the turfgrasses. He explains that when pesticides are used indiscriminately, much of the beneficial fungi which actually help prevent disease are killed along with the harmful fungi. With that in mind, Mahal treats only when a disease like *Pythium* has been identified.

"It used to be that by this time in July I

would have treated three or four times with a fungicide. Now, and mostly because of all the extra moisture we've had, I've only made one fungicide application of

Banner to our 25 acres of fairway," says Mahal.

How's \$30,000 sound?

Mahal believes that these practices have saved him about \$30,000 a year, and the savings more than pay for the extra expense incurred by using the more costly organic fertilizers. He uses Ringer natural organic fertilizers, with a base of blood meal and feather meal as the primary N sources, at a rate of a half pound/month of N. Organic fertilizers help build the population of micro organisms, helping reduce disease pressure, believes Mahal.

"We've also been working to reduce our maintainable acres," says Mahal, letting areas outside of the fairways and roughs grow long with native grasses. This new course management practice reduces manhours and water, herbicide and fertilizer use.

Minikahda has a seven acre wooded area that members call the bird sanctuary for obvious reasons. "No mow" areas border the out-of-play side of a newly renovated pond on the sixth hole, throughout the wooded strips that separate the holes and near the drainage areas.

More golfers, more demands

Although a private club, Minikahda is feeling the pressure of being only 10 minutes from downtown Minneapolis. Mahal explains that the course was designed to handle 5,000 rounds of golf each season, but now sees at least 25,000 rounds.

Today's players also expect more out of their tees, fairways and greens. "Greens used to be ¼-inch long; now they want them at ½-inch; fairways were one inch, now they're at ½-inch."



Donald Ross designs have withstood the test of time from a golfer's standpoint, says Doug Mahal.

Mahal says it's a balancing act to keep the course smooth and quick, but alive. For special events he can increase the speed of the green by double cutting and rolling for several days prior to the event.

"That kind of abuse will take its toll on a green so we have to back off," says Mahal. The greens are top-dressed with silica sand every four weeks to help with compaction and to control thatch.

Mahal doesn't see any special treatment to prepare Minikahda for next year's Curtis Cup.

"I think our fine turf systems will be good. We'll slick up the greens to make them smooth and fast. I don't see any changes for the tees and fairways," explains Mahal. "They might want to increase the rough heights, depending on how dense it is." □

Wages based on length of work

Doug Mahal bases wages on experience, merit and compliance with a length-of-work agreement.

▶ A first year, inexperienced employee starts at \$7 per hour, which includes lunch. If the employee opts out of the lunch perk, he or she gets \$7.40/hour.

▶ Getting employees to stay the season was a problem, until they added a bonus of up to 60 cents/hour for every straight time hour worked during the period agreed to work, when the person was hired.

▶ If an employee stays for the whole season, there's a bonus at the end of the season of 20, 40 or 60 cents, depending on work performance during the season. That inexperienced employee could ultimately make \$8/hour.

▶ Base pay for experienced employees ranges up to \$7.75/hour. *BF*

What golfers want, reports California group

The GCSA of Southern California recently asked the Pacific Northwest Golf Association Boards of Directors, volunteers and other association members, "What expectations do you have?" when it comes to playing conditions and maintenance on the golf course. The top answers:

- 1) Smooth greens/adequate pace.
- 2) Notice of aeration dates.
- 3) Open-minded superintendent.
- 4) Proper course setup.
- 5) Good bunker maintenance.
- 6) Firm (dry) conditions.
- 7) Protect the environment.
- 8) Level tees.
- 9) Green grass.
- 10) Variety in course setup.

"The fact that many golfers in the survey believe superinten-

dents are close-minded points out the need to work on communication skills," writes Keith Ihms, CGCS, writing in the CGCSSA newsletter.

"Even if a question or comment from a player appears trivial or is based on emotion, the way we as superintendents respond will create the perception of open- or closed-mindedness," says Ihms. "If we are perceived as closed-minded, even logical explanations to suggestions or requests may be considered excuses, and will hurt our credibility."

Course construction rolls

Golf course construction keeps rolling along. The National Golf Foundation (NGF) reports that 144 courses opened the first six months of 1997, 111 in April through June.

New courses opened, or existing courses received major additions and reopened, in 34 different states. Michigan boasted the most activity with 13 openings. Nearby Indiana had 8.

Here's a breakdown of the 144 course openings:

- ▶ 64 new daily fee courses, 8 municipal, and 6 private;
- ▶ additions to 48 daily fee courses, 7 municipal and 7 private;
- ▶ reconstructions to 3 daily fee and 1 municipal course.

The NGF reports that 586 golf courses are under construction. This includes 472 18-hole courses and 114 9-hole courses. Again, most (440) are daily fee.

Another 253 courses are being enlarged, while 10 are under reconstruction. In all, construction is underway on a total of 849 golf courses. NGF says it gets its information from architects and other sources.

Legislative alerts from GCSAA

The latest edition of GCSAA's Briefax reports the following development in California:

The California EPA Dept. of Pesticide Regulations will spend the next six months monitoring methyl bromide fumigations, including applications made near homes. To protect workers and others who may be near fumigation sites, the state has adopted safety measures that far exceed national standards. DPR will use findings to see if more restrictions on methyl bromide are needed.

NGF improves directory

The National Golf Foundation offers a bigger edition of the Directory of Golf, available in September.

"Every entry...has been verified to provide the most complete and accurate information available," says the NGF's Barry Frank. Cost is \$60 each. (Free to NFG members. Contact NGF: (800) 733-6006; fax (561) 774-9085.



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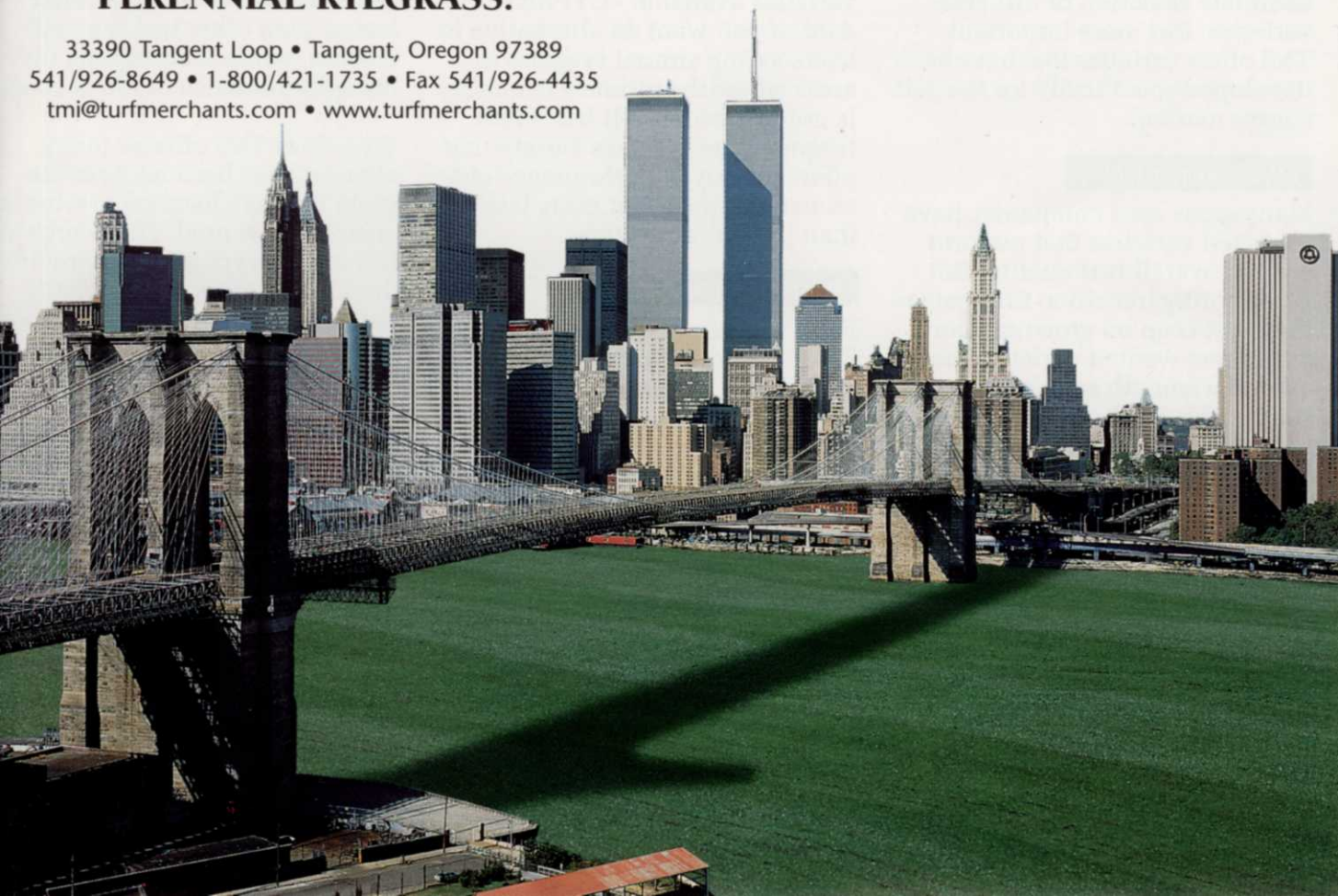
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The Allin Co. uses salt brine trucks to spread liquid calcium chloride.

Snow removal: brisk, always profitable

By Sharon Conners, Contributing Editor

Snowplowing represents more than a change in work environment. It's not easy, but there's money to be made for the dedicated, well-equipped contractor. You not only expand into a year-round business, you can keep people on the payroll.

It's -30° F and the brutal winds blow and drift snow across the roadways, making many streets impassable. The only people who are likely to be on the road are in the business of snow removal.

At the first sign of snowflakes, snow plow teams begin to gear up for their mission to clear roads, parking lots and driveways.

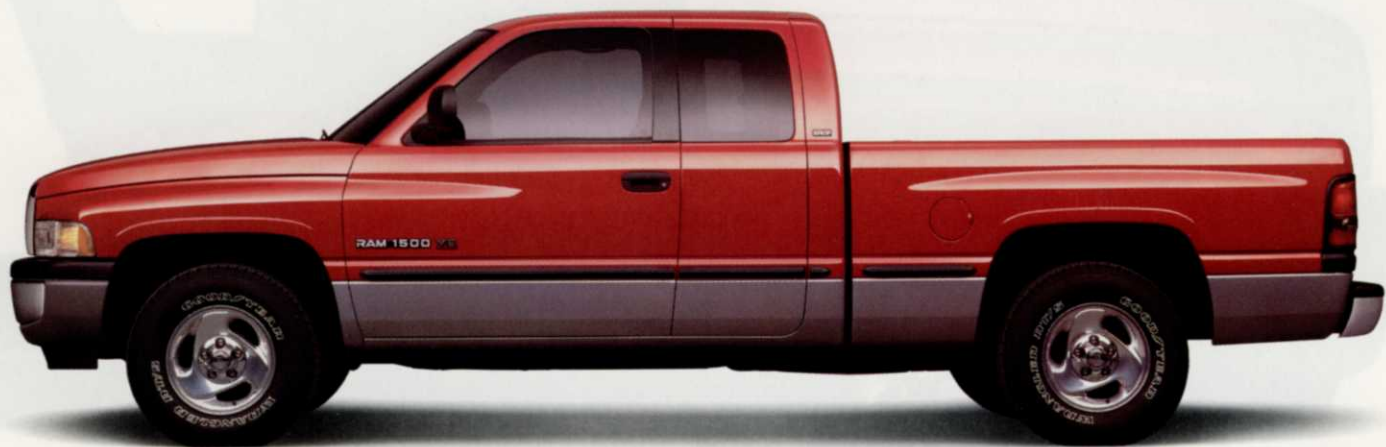
It doesn't matter that it's three a.m. Sunday. There's work to be done and it has to be done now, not later when churchgoers can't make it into the church parking lot.

Tremendous opportunity

Contractors that spoke with *LANDSCAPE MANAGEMENT* report being in the snow business anywhere from five to 20 years. During that time, they experienced growth from 100 to 1,000 percent.

Chris James, president of Chris James Landscaping Inc., Midland Park, NJ, says since the late '80s the company has consistently been over \$100,000 in sales in snow/ice services. An average winter can bring somewhere between \$125,000 and \$150,000 to as much as \$280,000.

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²Winner of Strategic Vision's 1995, 1996 and 1997 Total Quality Award™ for "Best Ownership Experience" in the Full-Size Pickup class, based on its 1995, 1996 and 1997 Vehicle Experience Studies™ of 31,440 ('95), 35,652 ('96) and 31,521 ('97) Oct.-Nov. new vehicle buyers of 170+ ('95) and 200+ ('96 and '97) models after the first 90 days of ownership.

Always use seat belts. Remember a backseat is the safest place for children.
All comparisons based on data available at time of printing.



Ram  The New Dodge



Glossop: It's more than pushing snow around.

James is frank about his pricing strategy: it's based on his experience, and his experience alone.

"I don't believe in letting the industry set my pricing. I set my pricing on what I know it takes to be profitable," James says. "In the corporate areas I work in right now, I have several very good competitors. They're true professionals and we're all in the same pricing realm. I also have a dozen other companies in that same area that are completely unrealistic with their pricing. The same is true in residential."

In Erie, PA, where it snows an average of 150 to 300 inches each year, **John Allin**, of Allin Companies, started out in 1978 as a one-man operation. In 1986 the company grew to the point where it moved out of the house and garage. It has year-round, 40 employees and 45 subcontracts for winter. Sales from snow services this year are expected to be about \$700,000.

Rick Kier, owner of Proscapes Inc., Jamesville, NY, started out at about age 10 with his father's snow blower doing the neighbor's driveway and hasn't stopped since. He bought his first truck one month before he turned 16.

"It is very important that a contractor understand the requirement and the dedication that is involved. All the contractors that I know that are

involved both in our organization and without in snow and ice management are people that understand they have to be on call 7 days per week, 24 hours a day," says Kier.

William Pullin of Environmental Maintenance, Baltimore, Md., says snow work "is a very grueling operation. It requires extremely long hours, a lot of stamina and the ability to stay focused for long periods of time. I'm talking about 30 hours a shot."

Joe Drake, president of JFD Landscapes, Inc., Chagrin Falls, OH, started in '79-80 with just one truck right out of high school and now plows with 11 trucks. He says he probably made more money when he was just doing the driving versus what they're doing now, but snowplowing is necessary in the business. "There's no set schedule. Employees don't like this. They could be out there from a couple hours to two or three straight days plowing snow," says Drake.

Watching weather is easy

Don Wilmes, director of sales for the public sector at DTN Weathercenter (Data Transmission Network), says his company provides a system to contractors via satellite that has the most recent next generation radar images. They are able to track the intensity and movement of storm systems with a 48-color palette. Images are updated every 15 minutes, 24 hours per day. It provides the ability to look at short range forecasts: 12-hour, 24-hour, 36-hour and 48-hour forecast maps. They are updated four times per day.

The company has an arrangement where it leases equipment. It provides the satellite dish, monitor screen, data box and all the cabling. There is a one time, \$318 start-up fee. The flat monthly subscription rates are \$72 per month if billed on a quarterly basis and \$68 per month if the first year is pre-paid. DTN maintains the equipment for them.

According to Wilmes, there are three main areas where the systems can benefit contractors:

1. **Operations planning** will assist them in staffing their crews, scheduling projects and determining where and when they can get work done.
2. **Cost.** There are savings as far as materials, time and equipment is concerned.
3. **Document.** "Our system does allow you to archive or you can print out weather information which can be used to document the actual weather conditions at the time that they send their people out." •

SC

In Syracuse where it snows an average of 160 inches per year, **David Venditti**, vice president of Clifton Property Services, says, "It takes a special breed of person to plow snow. It's very demanding. You almost have to write the winter off for

now, it's more of a question of managing a snow and ice on sidewalks and parking lots."

Outfitting for winter

Once a contractor has decided that snow removal is for him, there's equipment to buy and deicers to stock up on.

The amount a contractor can expect to pay for snow equipment depends on the investment they wish to make. Contractors place the range for a truck with a plow between \$25,000 to \$72,000 depending on the type of truck and whether it is new or used and what kind of plow is used. Plows alone range from \$2,500 to \$4,000. Most use the same equipment in summer as in winter with the exception of one or two vehicles.

Glossop says that he would not use a ½-ton pick up truck in the winter unless it was for hauling snow blowing equipment and shovels, otherwise the warranty on it will be voided. He recommends buying a ¾-ton or larger truck.

Rock salt is one of the cheapest deicers contractors use. Regular rock salt ranges in price from \$30-\$60 per ton.

Another common deicer calcium chloride can cost around \$13-\$20 per 80 lb. bag. Magnesium chloride sells for \$18 per 50 lb. bag. Rock salt is generally used for

"The key to successful snow removal is being prepared. Whether it be having enough supply on hand or the way you maintain your equipment. That's kept us going when a lot of our competitors have failed."

— *Wayne VenHuiren, Koala Landscapes*

personal or social activities."

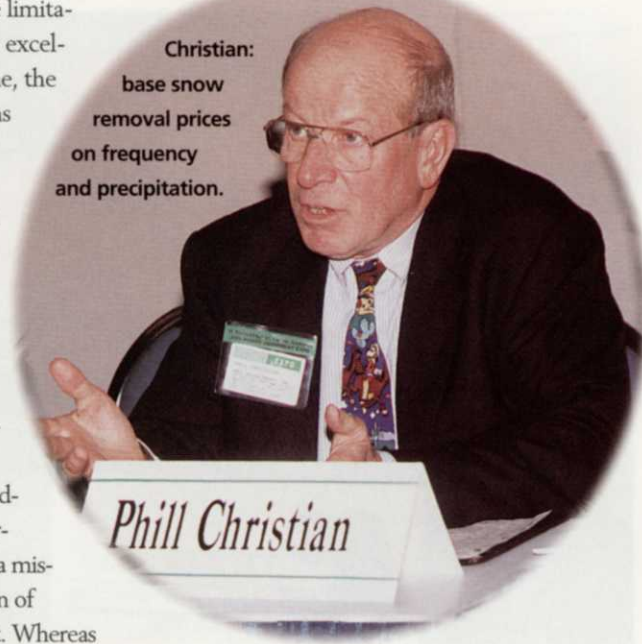
"[The snow contractor] is opening up the door to another kind of liability, which is 'slip and fall' related lawsuits, of which today there seems to be an exceptional amount," says **Michael Frank**, VP/Operations of David J. Frank Landscape Contracting Inc., Germantown, WI.

"The best way to protect yourself against a lawsuit," advises Frank, "is to make sure that your contracts with your clients are very clear as far as you agreed to make a prudent effort to clear the snow and the ice in conjunction with the limitations [caused by the weather]. Also keep excellent paperwork of the work that was done, the time it was done, and what the conditions were so that when you are in a court of law, you have a very good record that you did make a prudent effort. That you did follow the duty of the contractor."

Some mistakes that contractors say they made early on were lack of planning and underestimating the amount of equipment and personnel. Trying to do too many small jobs was another mistake.

Charles Glossop, owner of British Landscapes Ltd., Roseville, MN, says not understanding what the customers wanted was a mistake. "Ten or 12 years ago it was a question of pushing the snow in the pile and leaving it. Whereas

Christian:
base snow
removal prices
on frequency
and precipitation.



Snow & Ice Removal Guide

roads and parking lots; calcium and magnesium chlorides for sidewalks. Often times buying in bulk helps to defray cost.

Many find it advantageous to stock up. Sometimes it involves preparing for the whole season or a snow storm and a half.

Contractors use anywhere from 50-1,000 tons of deicer per year depending on the volume of their business.

"The key to successful snow removal is being prepared. Whether it's having enough supply on hand or the way you maintain your equipment. That's kept us going when a lot of our competitors have failed," says **Wayne VenHuijzen**, owner and president of Koala Landscapes, London, Ontario.

Bound by snow

Some common types of contracts are seasonal, hourly or per push (event).

Pullin of Environmental Maintenance, uses two kinds of contracts.

"I have 'per storm,' which includes plowing sidewalks and salting. They usually break from zero to six inches and six to 12. Above 12 inches is typically time and materials.

"The second contract is hourly and usually has a four-hour minimum. It costs anywhere from \$70 to \$125 per hour. "I would never write a straight 'per plow' contract," insists **Pullin**.

"You have to go by the hour or the inches," says **Richard Lauger**, owner of Lauger's Good Lawn, Youngsville, PA. "Because you can get three or four inches of snow to plow, but what happens when you get 16 inches of wet heavy snow? That has to be figured into the contract."

Many have stipulations in their contracts that if

Plowing is only the beginning of a contractor's duty. Next, he needs to be concerned with which deicer will get the job done the best and quickest.

there is snow above a minimum amount they can charge more.

David George, exterior division manager, Engledow Group, Carmel, IN, says, "Our contracts are based on minimums with a declining rate the more it snows. The minimum covers the initial purchase of the equipment that I have to make whether or not it snows. If we go out and buy the equipment and it doesn't snow, the return on our investment is pretty poor. The minimum protects against that."

"The reason why we graduated rather quickly

from the residential market to corporate condominium snow removal was that it was like feast or famine," says **James**.

"When it snowed 10 or 12 times, and I had a couple plow trucks doing residential, it was profitable. But during winters that we only had a couple of snowstorms, it wasn't. There wasn't consistency.

"With the corporate property management, all-inclusive snow and landscape contracts assures us our equipment and manpower were more than



Allin: no interest in residential competition.

So the price is right...

With so many different ways to calculate what they'll charge, a weary contractor can call on the expertise of a consultant to find out the best way is to bill a customer for his services. Phil Christian, president of PDC Associates Inc., Marble Hill, GA, is one consultant who helps contractors. He has a formula for figuring price:

- measure the area to be removed in square feet
- divide by production factor—the number of square feet we can plow per hour
- equals the number of hours required
- multiply number of hours required
- times hourly rate
- times the number of frequencies you expect that year.

Most contractors plow by the hour, which Christian thinks is the most fair, but not the most professional. "Selling your time by the hour is kind of a low end of the business. I would much prefer to have an annual contract based on frequency and precipitation rate. Selling your time by the hour is pretty tough because it may or may not snow in some markets."

Prices range from \$50-\$60 per hour all the way to \$110. Usually the more snow you have the lower the hourly rates.

Christian says one common mistake is "copy cat" pricing—trying to get all the market will bear based on someone else's calculations. Also, not taking into account "snow removal" as opposed to snow plowing. "After the first two or three storms there might not be anywhere to put the snow and you have to hire big tandem trucks and loaders, and sometimes they don't take that into account." ●

SC

paid for throughout the winter months."

Most snow removal contractors' clients are existing landscape clients. Very few of them advertise their services.

Tom Yackley, president of Yackley All Weather Service Ltd., Oswego, IL, says writing a contract, "should be based on what your client needs. A lot of times it's based on what the contractor thinks he needs. It's got to be an educated guess, not gambling when you price the work out."

"You grow some years a little bit and then there's other years, because of the weather, that you make a big jump and then the next year, you make another big jump. We have never leveled off, we have always grown. In the last five years I would say our business has doubled maybe three times."

"You have to take the time to assess your abilities, your employee's abilities, your client's expectations and are they compatible," says Yackley. "Where a lot of contractors fall down on the job is that they fail in the preparatory stage. They lack experience and education."

Flurry of competition

While residential snowplowing is profitable when it snows a lot, there are some drawbacks. There is a lot of competition, especially from the guy who just happens to own a plow.

Pullin says, "The only time there is any money to be made in residential is in blizzard conditions. It's unfortunate but the prices will triple when demand is high."

Adds Frank, "for a smaller contractor it would be in his best interest to do residential work because it is very profitable. You can make more per hour doing residential than you can doing commercial."

"Every Tom, Dick and Harry that has a truck is out beating the bushes to plow residential. I've got 'competitors', one truck operators that are willing to plow driveways for less than half of what I'll plow them for. We can't compete with them, nor do we want to," says Allin.

Most competition comes from the guy with a pick-up and a plow scooping driveways. Competitors are most likely to take a bite out of a contractor in the residential market where small-time contractors are predominant. There is some competition in the commercial market, however, most contractors enjoy a comfortable niche.

"The problem with a one or two-truck opera-

Contractors say a truck and plow outfit ranges between \$25,000 to \$72,000.

tor," says Allin, "is that if he's servicing a plaza and he has a truck go down he has lost 50 or 100 percent of his workforce. I've got 75 to 85 units out moving snow. If I lose one or two trucks, it doesn't affect the overall operation of the business that much. We can still service the customer."

Snow & Ice Removal Guide

"In the landscape industry," says Kier, "if you have a lawnmower breakdown, you can call a customer up and say we're coming back tomorrow and they're just fine with it. In the snow removal business if the customer opens up their garage door at 7:05 and you were supposed to have the driveway plowed at 7:00, your name is mud."

Glossop is not concerned about the guys with pick up trucks.

"I would much rather hire some of those people and put them out in the field as a good subcontractor and probably pay him a little more than what he would be making if he was out there bidding it on his own. It comes down to a liability and an insurance issue more than anything else," says Glossop.

Gearing up

The number of people that contractors use to staff their snowplow operations varied according to how many customers they served. Some contractors use as few as two and others as many as 400 during a blizzard.

Yackley says his company determines how many hours it needs to cover the work. Then, he figures out how many people he needs.

"This year I know we're expanding and I'm going to need 1800 hours," he predicts. "I've got to come up with more equipment and more people I feel are qualified to do the job so I have 1800 hours I can use a day."

In Baltimore, where the snowfall is an average 21 inches per year, if snow is six inches or less, Pullin needs 75 to 100 people. "In situations like we had in

'96 where we had 30 inches of snow in one week, I had 400 people working around the clock."

Starting out: be ready

The reality of snow removal is this:

"A landscape contractor has to look at whether or

"With corporate property management, all-inclusive snow and landscape contracts assures us our equipment and manpower were more than paid for throughout the winter months." —Chris James, Chris James Landscaping, Inc.

not he wants to allot five months of his winter dedicating 24 hours a day, seven days a week to be on call and to be able to provide snow-related services," says Michael Frank. It does take a lot of dedication and time. It's days on end a lot of times and 24-hours in a row. It also places exceptional wear and tear on the equipment that he uses during the summer months."

As a snow removal professional, it's often hard to predict what kind of weather the winter will bring. It's also a risky business venture that a contractor has to decide whether or not they are willing to take. Whatever the outcome, a contractor's first responsibility is to make sure his company is geared up for winter.

Profits will hopefully come later. ●



Frank: know the importance of 'prudent effort,' and what the job requires.

As we were going to press, it was learned that Phil Christian, mentioned in this article, died of a heart attack on September 1.

LANDSCAPE MANAGEMENT extends condolences to Mr. Christian's family, friends and business associates.

Versatile equipment helps plow in profit

John Gerosa, president of ProLawn, Inc., Elmgrove, WI, has been profiting from snow removal since 1990.

A lawn care professional for 25 years, Gerosa found he could use existing equipment to plow in some extra cash from snow removal.

“Since we were using Grasshopper zero radius turn mowers, in 1990 we put a new snowthrower on a five year-old 1985 model Grasshopper and it was a perfect fit, mechanically and operationally,” says Gerosa. That kind of year-round versatility is the answer.

Gerosa uses the models 721, 721D and 720K to remove snow on sidewalks. All are equipped for year-round operations with interchangeable attachments. Each unit uses a Combo Mulching Deck which can quickly reconfigure for side-dis-



Grasshopper units have heated cabs that enable crews to stay on the job even in the most severe weather conditions.

charge, collection or mulching during the spring, summer and fall and for winter operations, each unit's Quick-D-Tatch Mounting System allows the operator to easily switch attachments to the 48-inch Snowthrower or Rotary Broom.

The team at Greenlawn Landscaping Maintenance of Farmington Hills, MI, uses four Grasshopper Model 721D diesel units, all equipped with 60-inch Combo Mulching Decks which are interchangeable with three 48-inch Grasshopper Snowthrowers and four 48-inch dozer blades.

Each unit is also equipped with heated cabs that enable the crews to stay in operation even in the most severe weather conditions.

“We handle 22 apartment complexes and several other commercial properties on a year-round

Snow removal services help contractor stay productive year round.

"Being able to clear snow is a real added value I offer my clients. I have a snowthrower, dozer blade and rotary broom, and my system lets me change attachments fast, without tools. I'm a real believer in zero-radius maneuverability. It lets me get into spots other guys just can't reach with bigger or less maneuverable equipment. And it is a lot faster than the smaller hand-pushed snow blowers."

— Mark Moyer, Kirksville, MO



PTO-driven snowthrower delivers no-clog performance, moves snow 20 to 30 feet away.

Let it Snow. Let it Throw.

When it snows . . .



PTO-driven rotary brooms leave a clean, dry path. Shown with winter enclosure and optional heater.



Multipurpose dozer blades remove heavy snow, slush or sleet.



V-snow plow clears walkways.

Call or write for the name of your nearest dealer and a "hands on" demonstration.

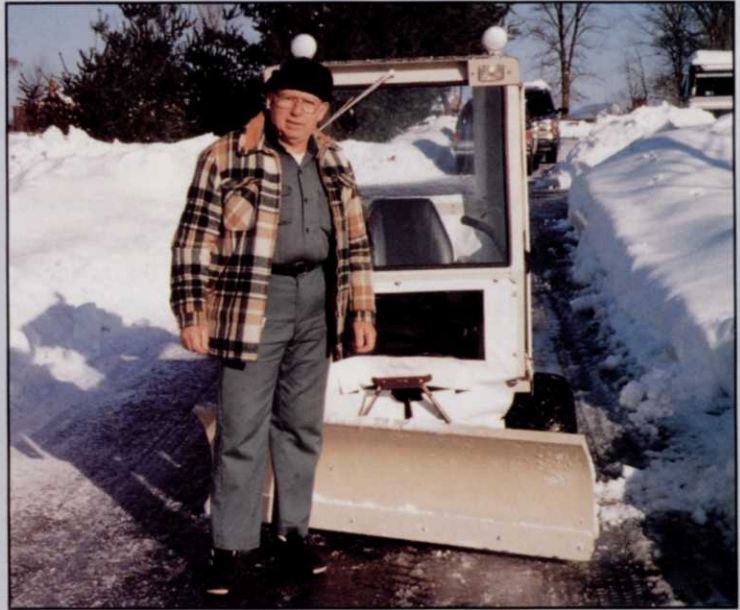
First to Finish...Built to Last

GRASS HOPPER
YOUR NEXT MOWER

Grasshopper passes the test in the worst storm of the decade.

"More than 25 inches of snow fell. Even though 1-2 inches fell each hour, we were able to keep the driveways in our area clear with our Grasshopper. The cab enclosure allowed us to stay warm for long periods of time – even with a minus 20° F wind chill index."

— Charles McIntire, Elkton, MD



Let it Mow.

When it shines . . .

Your Grasshopper turns into a high-efficiency zero-radius mower that lets you trim while you mow. Built for comfort, productivity and endurance, your Grasshopper will give you dependable service all year long, season after season.

Switch attachments in minutes without tools.

Grasshopper's Quik-D-Tatch® mounting system* easily connects a deck or attachment to the power unit and eliminates the alignment hassles often associated with switching attachments and deck sizes.

Other productivity tools include:

- Quik-D-Tatch Vac® Collection Systems
- Dethatcher • AERA-vator™ • Wand Vac™
- ROPS • Sunshade Canopy

Let it pick up leaves, mulch and aerate. Grasshopper lets you handle more jobs with the same machine.



GRASSHOPPER is number one in productivity.

The exclusive Combo Mulching™ Deck* with full-flotation option, lets you mulch, discharge or bag with the same deck for superior results in varying conditions.

*patent pending

contract basis," says Brian Fraser, owner of Greenlawn. "When it snows, we have about eight hours to have it completely cleared. Without our zero-radius units, we wouldn't be able to pull it off. They give us the maneuverability and snow-clearing power to stay on schedule."

Fraser teams up the Grasshoppers with nine or 10 trucks with plows and about 30 men with shovels.

"We have rigged a calcium chloride spreader on a couple of the Grasshopper units and that allows the operator to clear the snow and drop deicer as he goes," explains Fraser. "That has worked out amazingly well and saves a lot of time. It's safer too; there is no chance for ice to form after the majority of the snow has been moved. Zero-radius units and shovel crews is very efficient." •

—by Sharon Connors

Are you ready for winter?

Western Products advises contractors go through this checklist to make sure their plow is ready for the winter time challenge:

Blade Assembly

- If disc shoes are being used, adjust shoe to attain a 1/8-inch to 1/4-inch air gap between road surface and cutting edge.
- Inspect the cutting edge and tighten carriage bolts. If material is unevenly worn, remove carriage bolts and reverse cutting edge end for end.
- Tighten trip springs until coils just begin to separate. Over tightening will damage the spring.
- If blade is equipped with shock absorber (pro plow), detach shock at blade and manually extend and collapse shock assembly. If shock easily collapses, assembly should be replaced.
- Inspect all welds and material for cracks and yielding. Reweld if necessary.

A-Frame, Quadrant & Lift Frame

- Inspect pivot bolt at the A-frame to quadrant connection. Bolt should be tight but allow the components to swing freely.
- Check to see if angle stops on quadrant are making contact when plow is fully angled in both directions. Rebuild angle stops with extra material if contact is not being made.
- Lubricate all the pivot points. This will reduce wear and extend the life of the components.
- Check the lift chain bolt on the A-frame for tightness. Replace bolt if bent or cracked. Replace the lift chain if wear is apparent.
- Thoroughly check all fasteners for tightness and wear.
- Inspect all welds and materials for cracks and yielding. Repair or replace if necessary.

Hydraulics

- Drain, flush and add new oil in the hydraulic system. Recommend (ATF) Dextron III. *Helpful Hint: To remove all hydraulic fluid, position blade to full angle right and collapse lift ram. Drain oil out of reservoir by removing drain plug. Reinstall drain plug and refill reservoir with fresh hydraulic fluid. Disconnect left cylinder hose*

and direct to drain pan. Power angle left to remove oil from left cylinder. Reconnect hose and top off reservoir with hydraulic fluid.

- Check lift ram and angle ram packing nuts for tightness. Packing nuts are to be adjusted 1/4 turn beyond hand tight. *Loose packing nut will cause oil leakage, over tightening will cause premature wear and high electrical AMP draw.*
- Lubricate the chrome rod plunger on the lift ram and angle rams with oil.
- Inspect hydraulic hoses for leaks, chaffing and cracked or worn surfaces.

Electrical

- Inspect, clean and tighten all electrical connections.
- Apply dielectric grease to all electrical connections paying special attention to:
 - motor connections (positive and negative)
 - light relay terminals
 - park/turn bullet connectors
 - coil/cartridge terminals
 - 9 and 12 pin grill connectors
 - cable assembly connectors
- Inspect all headlights for proper functioning (high-low beams, park/turn signal)

Vehicle inspection

- Inspect and test your battery. Recharge or replace as needed. (Recommended vehicle electrical system: 700 CCA battery and 70 AMP alternator.)
- Check windshield wipers and fluid, heater/defrost operation, radiator coolant, vehicle headlights and appropriate fuses feeding plow accessories.
- Inspect tires for tread condition.
- Consult the current Western Products Selection List for the specific vehicle ballast requirements. Ballast should be secured behind rear wheels. •

Deicer

options

Deicers serve as important components to getting rid of unwanted ice and slippery areas. By understanding how they work and what the proper application is, you'll be able to serve your customers better.

There are four common halide salts used as deicers: magnesium chloride, calcium chloride, sodium chloride (rock salt) and potassium chloride. They each have a different melting rate, related to the chemical activity of the individual salts.

►Magnesium chloride provides a very fast melting action and high penetration rate, however, the melting action does not last very long. Magnesium chloride will drain moisture from air until it dilutes itself so much that the water could freeze again.

►Calcium chloride also has a fast melting action. It too, however, draws moisture from the air in a manner similar to magnesium chloride, but at a lesser rate.

►Sodium chloride provides a long-lasting melting action as a result of the product's chemistry and mixture of fine and coarse crystals.

►Potassium chloride's melting action is quite slow and therefore may have limited applications for deicing.

►Salt is the most common melter used. While other melters have different performance characteristics, salt melts the most ice and snow per dollar. A cost comparison of the four deicing products reveals that potassium, calcium and magnesium chlorides are four, seven and 14 times costlier than sodium chloride.

Time/right amount

The keys to the effective use of any deicer, including salt, are to apply the proper amount of material based on the weather conditions and allow sufficient time for the melter to work. This is particularly important at lower temperatures.

If landscapers plan ahead, healthy vegetation can be maintained throughout the deicing season by strategic planting of vegetation bordering roadways or walkways that are salt tolerant and efficient application of deicing materials. Most major salt manufacturers offer a variety of blended deicing salt products that help protect delicate vegetation. These products generally are available in bulk and a variety of packaged sizes and are specifically designed to address the salt/vegetation issue. •

SIMA for snow pros

In 1996, in order to place a more professional image on the snow and ice removal industry, the Snow & Ice Management Association Inc. (SIMA) was formed. SIMA currently has about 100 members and is growing by 3 to 4 members every week.

SIMA president **John Allin** says the mission is to "provide a network of resources of information to our members in the snow and ice industry and to promote ethical, efficient and environmentally sound risk management."

"We're all concerned about slip and fall lawsuits. We don't want our customers to be hurt. The property manager wants to make sure that their customers, whether they are tenants in a residential facility or whether they're shoppers at a large grocery store, those people want to make sure that those people can get in and out of their places of business and they want to make sure that they can do it safely," comments Allin. •



SC

Snow equipment smarts

There are so many different types of equipment for snow and ice removal that a contractor may feel like he's skidding into an icy slick zone coated with choices none of which he can quite get a grip on.

Rick Coolman, advertising and communications manager for Douglas Dynamics, Milwaukee, parent company of Western Products, Milwaukee and Fisher Engineering, Rockland, Maine, says the potential plow buyer needs to ask himself several questions:

1. What type of plowing will he be doing?
2. What kind of a truck does he have or is he looking to buy?

3. What kind of a plow does he need?



Dan Bousman, product manager with Western Products, says, "In the buying process, too many times, the contractor will buy his truck knowing that he wants to plow with it, but he doesn't get the truck specked out properly. In other words he'll buy the truck thinking he can put an eight-foot plow on. What he finds when he gets to the distributor to have this plow installed is that his truck can't handle the plow that he wants."

Both Western and Fisher offer plows ranging from 6 1/2 feet to 10 feet. The size of the plow a customer needs depends on whether it is to be mounted on a vehicle such as a sport utility vehicle or a heavy duty truck.

There are several different types of plows:

- most common is a reversible plow-operator can angle right, left or straight;
- adjustable V-plow, -hinged in the middle and can go from a V-position to a scoop position and anything in between;
- plows with polyethylene blade—the snow doesn't stick to that surface.

Adjustable V-plows such as Western's MVP Multi-position plow, page SR 17, and Fisher's EZ-V, left, are hinged in the middle and can go from a V-position to a scoop position and anything in between.

What the customer wants

A customer/service provider relationship can dissolve almost as quickly as snow and ice during a spring thaw.

Kevin Richardson, superintendent/facilities-central region, of Niagara Mohawk Power Corp., Syracuse, has direct responsibility for 54 facilities in the central New York area. The electric and gas utility in New York state incorporates some 24,000 square miles. He oversees 25 service centers which are anywhere from 3 to 50 acres and 75 substations which are anywhere from 1/3 of acre to 1 or 2 acres.

Richardson does not want "trouble calls. The contractor gets there and the job is completed. In the spring there is no damage that has to be repaired because of the snow removal operation. As we get more and more competitive in our industry we expect the more service for the same kind of money or if not less money," Richardson says. "Not only do we expect them to plow the driveways and parking lots we expect them to sand, shovel sidewalks and open doors to the building." •

SC

"Another common mistake they may make is most trucks require ballast in their rear end which many times is not used to counterbalance the weight of the snowplow that's added to the vehicle. . . Sometimes equipment that you put on the back of the truck helps to counterbalance," says Ben Stenman, product service manager for Western.

Both Western and Fisher have insert hopper type spreaders that can be put in the bed of pick-up trucks. They also offer a line of tailgate spreaders that can hang off the back of a truck to spread salt or similar materials.

One manufacturer offers a multi-purpose unit that's effective in numerous applications. Grasshopper, Moundridge, KS, offers a 48-inch and 68-inch dozer blade. It also offers the 48" snow thrower for its 600, 700 and 900 series of

Grasshoppers and a 60" snow thrower for its 700 and 900 series.

"(Snow throwers) are very useful because you



Snow throwers are very useful because you can preset the height adjustment by hand easily. And, the discharge shoot is mechanically controlled from the operator's seat.



can preset the height adjustment by hand easily. And, the discharge shoot is mechanically controlled from the operator's seat. It can throw the snow anywhere in 180-degree arc. It can be drawn to the left or right.. That's one of the good things about a Grasshopper is that it has a lot of attachments that make it a year-round machine—from de-thatching in the spring to leaf disposal in the fall and mowing in the summer and in November the combo mulching pack which is very easy to change from vacuum to side discharge to mulching," says Ruth Anne Stucky, marketing director for Grasshopper.

Grasshopper's rotary broom is used in the Midwestern states for small amounts of snow. "The Sweepster Rotary Broom comes in 48" that angles up to 25 degrees and clears the debris to the right, and 60" inch that angles up to 25 degrees and clears to left or right. •

Best service you can buy

Not all parking lots can get the same treatment. The type of facility will dictate how often and quickly the parking lot needs to be plowed. For instance, a busy shopping mall is a challenge due to the high amount of traffic. For example, the Christmas season presents a challenge because of the longer shopping hours.

David Venditti, vice president of Clifton Property Services, Syracuse, NY, does nothing but shopping centers and says the biggest challenges are the sidewalks and the large parking areas.

"We're always working around obstacles in shopping centers. Safety is obviously a number one concern especially with the size of equipment we have. It's easy to do a lot of damage to people or property. Workers have to slow down and take their time. You can't rush through it."

Lawsuits for slip and fall cases are always a risk in snowplowing. Venditti says, "We try to limit our exposure as much as possible but in reality you are always subject to the shotgun approach of lawsuits. Nowadays everyone is sued whether you're responsible or not. You're always sued for slips and falls."

"Vendetti recommends not signing a hold harmless clause meaning that you are responsible and that you're going to defend the property owner from slips and falls. His company carries a \$3-5 million policy. •



Calcium chloride and urea combined

Dow Chemical Co. and Ossian, Inc. introduced a new product on the market this year called LANDSCAPE Ice Melter, a combination of calcium chloride and urea developed specifically for the landscape market. The manufacturer claims that the combination of the two is safer for plants. The result being healthier plant life in the spring.

Rick May, marketing manager, of the dry calcium chloride group Dow Chemical Co., Luddington, MI, says the company produces calcium chloride in flakes and pellets.

There are five common types of deicers, according to May: the four halides mentioned above and urea.

"For an ice melter to work it has to undercut the ice, turn into a solution and lower the freezing point of water. Once it has undercut the ice, it spans out over the surface of the pavement. It breaks the bond between the pavement and the ice, and then it should be removed from the sidewalk through me-

chanical means. In other words, you get your snow shovel out and scrape off the slush," says May.

Another salt application procedure that is in use is called presalting or anti-icing. The idea is to apply deicing salt to the surface prior to the storm. An application of deicing salt 20 minutes before a snowfall replaces the initial application of salt during the snowfall and can ultimately eliminate the final application of salt, thereby reducing product and labor costs.

Circle No. 101

Two-stage tailgate spreader from Western

The new Western PRO-FLO 2 Two-Stage Tailgate Spreader spreads all types of material to remove snow, including wet sand. The two-stage design features a belt conveyor to assure positive feed with all types of materials. The hopper assembly is easily removed from the vehicle without the use of tools.

Features include :

► **high strength poly hopper with 1200 lbs. capacity.**

- ▶ adjustable spreader height, deflectors and feed gate
- ▶ 1/3 hp, 12V DC motor
- ▶ center high-mounted stop lamp CHMSL is standard
- ▶ in-bed truss mount or under-bed frame mount
- ▶ choice of on-off blast toggle switch or solid state variable speed control.

For more information, write to Western Products, 7777 N. 73rd ST., Milwaukee, WI 53223 or visit the website: <http://www.westemplows.com>, or check your local yellow pages for nearest Western distributor. Circle No. 102

Three plows in one from Fisher Engineering

As a trail breaking 'V' blade, the EZ-V plow from Fisher is perfect for punching through drifts and snowbanks to get you started on those big jobs.

In the 'Scoop' position, the plow cradles and controls the snow in crowded locations, like tight parking lots, where you can't cast it to the side.

When a Straight or angled blade is needed for windrowing, the 8-1/2 feet EZ-V plow adjusts



quickly and easily.

The best part about this new snowplow from Fisher that sets it apart from the competition is the convenient, easy-to-use hand-held Fish-Stik control. All functions—raise, lower, moving the wings in or out either simultaneously or separately—are right in the palm of your hand. The Fish-Stik puts the easy in EZ-V plow!

The Insta-Act Hydraulic System gives state-of-

the-art power source that allows you to hydraulically lock the blade wings to act as one.

As with all Fisher plows, the EZ-V plow incorporates the well known, Fisher trip-edge design to keep plowed snow out in front of the blade and make stacking easier.

For more information, write to Fisher Engineering, 12 Water St., Rockland, ME 04841, or visit the website at <http://www.fisher-plows.com> or check your local yellow pages. Circle No. 103



MVP™
MULTIPOSITION V FLOW



ONE SNOWPLOW DOES IT ALL!

The versatile 8½' MVP™ snowplow from WESTERN® adapts to any plowing situation because it's hinged in the center to allow plowing in the scoop, "V" or straight blade position.

The feature that separates this plow from the rest is the exclusive, hand-held CABCOMMAND control. Now all blade functions – including moving the two wings in or out either simultaneously or separately – are right in the palm of your hand.

Add trip-edge blade technology, double acting cylinders and the patented Uni-Mount® System for easy on/off, and it's easy to see why the MVP snowplow provides the professional with the ultimate in plowing efficiency.

WESTERN

WESTERN PRODUCTS 7777 N. 73rd Street Milwaukee, WI 53223
World Wide Web: <http://www.westernplows.com>

Circle No. 136 on Reader Inquiry Card

Events

SEPTEMBER

- 16-18: Virginia Turf and Landscape Field Days**, Virginia Tech Campus, Blacksburg, VA; contact David McKissack (540) 231-5897 or turf1@vt.edu.
- 17: LCA SuperShow**, Howard County (Maryland) Fairgrounds; LCA; (301) 948-0810.
- 18: Mid-Atlantic Athletic Field Managers Field Day**, MacGruder High School, Rockville, MD; (410) 290-5652.
- 23: Ornamental Horticulture Open House (U. of**

GA), State Botanical Garden of Georgia, Athens; (706) 542-2861.

24: Va. Tech. Hampton Roads Ag Research Field Day, Extension Center, Virginia Beach, VA; Dr. Bonnie Appleton, (757) 363-3906.

26: International Warm Season Turfgrass Research Tour, Seeds West Arizona Research Facility, Sheraton San Marcos Golf Course Resort, Chandler, AZ; (520) 785-9605.

OCTOBER

1-2: Turfgrass Landscape & Equipment Expo, Orange County Fair, Costa

Mesa, CA; (800) 650-9595.

6: Ohio Turfgrass Foundation Golf Tournament, Jefferson Golf and Country Club, Blacklick, Ohio; OTF (614) 760-5442.

6-8: West Texas Turfgrass Training Seminar, Holiday Inn Lubbock Plaza, Lubbock, TX; WTGCSA (806) 354-8447.

12-15: Southwest Turfgrass Conference, Ruidoso, NM; (505) 275-2576.

15-18: Interstate Professional Applicators Association Convention, Resort at the Mountain, Welches, OR; (503) 363-7205.

15-18: American Society of Consulting Arborists

Conference, Walt Disney World's Coronado Resort, Orlando, FL; (301) 947-0483.

19-24: Second International Congress of Vector Ecology, Holiday Inn International Drive Resort, Orlando, FL; (714) 971-2421.

21: Addressing Idiopathic Environmental Intolerances: A Concerned Approach, Radisson Hotel, Santa Fe, NM; (sponsored by RISE and NPCA), call RISE at (202) 872-3860. **LM**

22-25: Southern Crop Protection Assc. Convention, Hyatt Regency on the Riverwalk, San Antonio, TX; (912) 995-2125.

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Trees Make a World of Difference™

Trees Make a World of Difference. Between rivers filled with silt and mud, and clear-running streams

that are home to fish and wildlife. Trees Make a World of Difference. Between farm fields that blow away to the next county, and productive land where crops and precious topsoil are protected by field windbreaks.

Conservation Trees conserve precious topsoil, control energy costs, and make life more enjoyable and productive.



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Find out how Conservation Trees can make a world of difference for you.

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The National Arbor Day Foundation

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SUPPLIERS CORNER

Advanta Seeds West, Inc. has changed its name to **Advanta Seeds Pacific, Inc.** The company was formed 18 years ago as VanderHave of Oregon. General Manager David Holman says ASP seeks to expand export markets into the Pacific rim.

Harold Boyanovsky was recently named senior vice president and general manager, North American Construction Equipment Business Unit and North American Parts Operations, for the **Case Corporation**. In June the company announced a new organizational structure aimed at providing greater customer focus. Boyanovsky has overall responsibility for engineering, manufacturing, sales and marketing of all Case construction equipment products and services in North America.

John Deere Lawn and Grounds Care Division is now known as the **Worldwide Commercial & Consumer Equipment Division** (www.deere.com). The division's business units have also been renamed to reflect more accurately each group's customer focus and area of responsibility. There are seven division business units: Consumer Products, Lawn & Garden Products, Commercial Grounds Care Products, Commercial Worksite Products, Overseas Operations, Horicon Manufacturing & Products Development Services, and Division Support. Fred Korndorf is president of the Division. Mark Rostvold is senior vice president.

Fine Lawn Research can now be reached on-line at www.finelawn.com. The site features company information,

seed product listings and information on how to order products, regional maps, distributor locales, and technical tips from Dr. Karl Danneberger of Ohio State University.

Jason Stoddard and Sean Billante are new California district sales managers for **Hunter Industries**. Stoddard covers northern and central California. Billante manages sales in nine south-central counties. Brian Vinchesi has received the company's Edwin J. Hunter Industry Achievement Award. Vinchesi has been involved in many significant irrigation design projects across the country and has been an industry leader in education and training, says Charles Huston, vice president of sales.

IMC Vigoro restructured its operations to eliminate all direct sales and unprofitable,

slow-moving products. The move was made to keep up with the competition, says Frank Wilson, company president. "The changes ...will make the Professional Products organization more efficient, effective and strongly focused on our network of distributor partners. There will be increased emphasis on new product development and a continued investment in product quality improvements," says Wilson.

Frans Jager is new vice president of Supply Chain Management for **LESCO**. He will establish a management process and order that deals with internal and external product flow issues. The goal is to make it "seamless," says the company. He will choose and manage LESCO's strategic supply partners to achieve "least total cost" and plan merchandising and inventory management.

Don Shor, owner of **Redwood Barn Nursery**, Davis, CA, is chairman for the Landscape & Nursery Expo 1998, Sacramento, CA. The Landscape & Nursery Expo is jointly owned by the California Landscape Contractors Association/Sacramento Chapter and the California Association of Nurserymen/Superior Chapter. For more info call 916/442-4470.

Kelly Shuck is a new turfseed specialist in **Seed Research of Oregon's** Phoenix office. Her territory is Arizona and the Southwest. She helps market Primavera and Primo blend bermudagrasses and common bermuda. **LM**

Info center

VIDEOS AND LITERATURE FOR THE GREEN INDUSTRY

BERMUDAGRASS BARGAIN... *Designing and Maintaining Bermudagrass Sports Fields in the United States* is a must-have book for sports turf managers, or anybody involved in athletic field scheduling or maintenance on bermudagrass sports fields. Written by Bert McCarty and Landon Miller, Clemson University and Jeff Higgins, Auburn University. Lots of great, practical info. \$7.50 per copy (tax is included). Order from: Clemson University Cooperative Extension Service, Bulletin Room 82, Poole Agricultural Center, Clemson, SC 29634-0311. (864) 656-3261.

EFFICIENT LAWNMOWING... 40 minute VHS video (English and Spanish versions) demonstrates the safest, most efficient ways to mow a lawn. Train yourself and your employees in the safe operation of intermediate mowers, trimmers, and edgers. Easy finish up techniques to impress clients. Free handout with test and answers included. Tape is \$59.95 plus \$5.00 S&H. For more information contact Progress Products, 5074 Masheena Lane, Colorado Springs, CO 80917-2675. (719) 637-0811.

CRITTENDEN GOLFINC ONLINE... has launched Crittenden GolfInc Online Magazine: www.crittendengolfinc.com. The site includes news on the golf industry helpful to golf course owners, developers and others.

Huskie vehicle made tougher

The Huskie HD from Haul Master, Inc., offers new heavy duty features. Like the original Huskie, the HD features a 1,000 lb. dump box capacity, largest in its class yet small enough to fit in a standard pickup bed for transport to job sites. A short turning radius (11.5 feet) and a four-cycle, air-cooled, 16-hp B&S engine hauls heavy-duty loads over almost any terrain. Transaxle drive, differential lock and 9½-inch ground clearance improve operation in muddy fields or rocky terrain.

The Huskie HD also offers rack and pinion steering with adjustable tie rods and rugged A-frames. The front suspension features independent coil springs over heavy duty hydraulic shock absorbers, as well as five-position spring force adjustment.

Optional features include front carrier, snow blade, canopy, hydraulic front disc brakes, turning signals and bedliner. Call Haul Master at (815) 539-9371, and tell them you read about the Huskie in LANDSCAPE MANAGEMENT, or



Circle No. 258

Diesel engine added to Dig-It

HCC Inc. now offers Dig-It with diesel engines. The Dig-It is a self-propelled, hydraulic, towable backhoe. "Many of our existing and potential customers have large investments in diesel engine products. They already know how to operate and maintain diesel engines. Now these customers can have the durability of a diesel and the convenience, light-weight maneuverability and compact size of our Dig-It Towables," says Tim Meranda of HCC. For more information on the entire Dig-It product line dial (800) 330-0530, and tell them you saw it here, or

Circle No. 260

General-purpose work gloves

Direct Safety offers general-purpose work gloves in a variety of materials and styles for protection, durability, comfort and safety on any landscape job. It has five distribution centers for quick delivery throughout the USA. Over 6000 items in stock at most locations. For further information, contact Direct Safety at (800) 528-7405, and mention LM, or

Circle No. 259



Sostram's new chlorothalonil formulation

Sostram Corporation offers Echo 75 WDG formulated with Echo Stick which provides maximum weatherability for excellent residual control. Echo 75 WDG provides excellent disease control with rapid dispersibility, long-lasting suspension and easy mixing, says Art Assad, business manager for Turf, Ornamental and Speciality Products.

Echo 75 WDG (water dispersible granules) Turf and Ornamental Fungicide contains 75 percent chlorothalonil and is labeled for the control of dollar spot, large brown patch, Helminthosporium melting out and leafspot, red thread, fusarium, anthracnose, copper spot, Curvularia leafspot, gray leafspot, stem rust of bluegrass and pink and gray snow mold, plus a wide variety of ornamental diseases.

Sostram's Echo Turf and Ornamental Fungicides, including Echo 720 and Echo 75 WDG, are registered for use on golf course tees, greens and fairways, ornamental turfgrasses, ornamental plantings and nursery stock for the control of a wide variety of diseases.

To learn more about Echo 75 WDG, contact Sostram at (800) 295-0733, and mention LANDSCAPE MANAGEMENT, or

Circle No. 261



The best turf and ornamentals

You've known for quite a few years that CHIPCO® RONSTAR® herbicide is the most valuable tool you have for keeping tough broadleaf and grassy weeds out of the turf and ornamentals you care for. But, did you know that this proven performer is now available as a sprayable formulation in two convenient sizes that are ideal for big or small jobs? It's true. CHIPCO® RONSTAR® is now available in both one and one-half ounce and one -pound water soluble packages. That means that you can keep crabgrass, goosegrass and more than 20 other broadleaf and grassy weeds out of sight

Rhône-Poulenc Ag Company, 2 T.W. Alexander Drive, Research Triangle Park, NC 27709. CHIPCO and RONSTAR are registered trademarks of Rhône-Poulenc. Roundup is a registered




chipco
RONSTAR 50WSP
Systemic Herbicide

chipco
RONSTAR 50WSP
Systemic Herbicide

weed control on any scale.

all season long no matter how much ground you have to cover. And the new water soluble packaging means that you can now tank mix CHIPCO® RONSTAR® with Roundup® for use as a directed spray on landscape beds and other non-turf areas. Of course, you'll still get all of the other CHIPCO® RONSTAR® advantages, like no root pruning, no leaching, and season-long protection from just one spring application. This year, keep your customers satisfied with CHIPCO® RONSTAR® herbicide in two easy-to-handle sizes.

chipco
RONSTAR®

trademark of Monsanto. As with any crop protection chemical, always read and follow instructions on the label. ©1997 Rhône-Poulenc Ag Company.  RHÔNE-POULENC

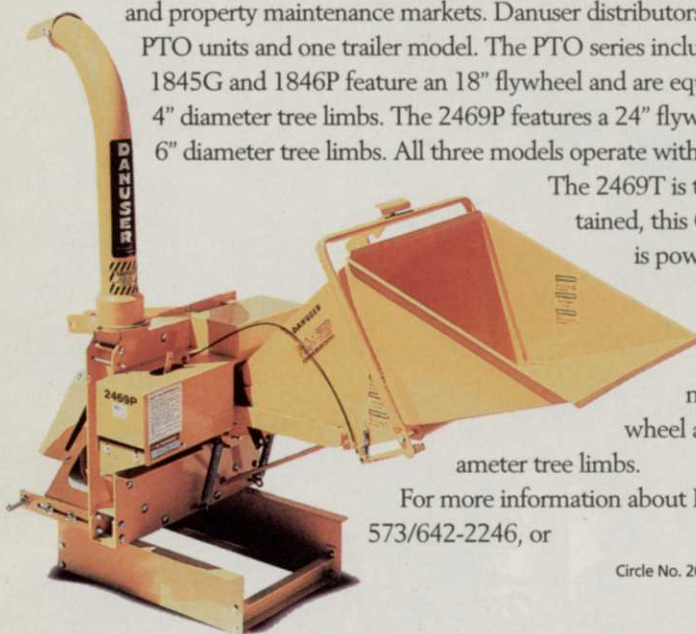
Danuser enters chipper market

Danuser offers a new line of Chipper/Mulch Systems for the landscape, agricultural and property maintenance markets. Danuser distributors will offer three new PTO units and one trailer model. The PTO series includes three models: the 1845G and 1846P feature an 18" flywheel and are equipped to handle up to 4" diameter tree limbs. The 2469P features a 24" flywheel and can take up to 6" diameter tree limbs. All three models operate with a minimum 18 hp.

The 2469T is the trailer unit. Self-contained, this Chipper/Mulch System is powered with a 25 hp Kohler engine and hitches onto the owner's vehicle. The model features a 24" flywheel and handles up to 6" diameter tree limbs.

For more information about Danuser products, call 573/642-2246, or

Circle No. 262



Fine Lawn offers improved ryegrass

Fine Lawn Research, Inc., introduces Stallion Supreme, an improved version of the widely used Stallion Select perennial ryegrass. Some of the improvements include better turf performance over a wide geographical region, darker turf color, finer, narrower leaf blade, improved cold weather performance and winter survival, improved summer performance due to better disease resistance and improved quality after mowing.

Circle No. 263

Talstar container makes measuring easy

Talstar Lawn and Tree FLOWable Insecticide/Miticicide, FMC's long residual broad-spectrum product, is now available in a convenient pint-size squeeze and measure container.

Talstar controls chinch bugs, cutworms, fire ants, ticks, sod webworms, mole crickets, mites and over 53 other insect species on lawns, perimeters and ornamentals. Talstar Lawn & Tree Flowable is a water-based formulation which leaves no odor when applied at label rates. It is rainfast and will not cause phytotoxicity.

Circle No. 264



Find those buried pipes and cables

Verifying the location of utility services is essential prior to the start of any trenchless construction project. The Verifier Digital Locator from McLaughlin Mfg. Co., Greenville, SC, offers a reliable yet affordable means of detecting and tracking underground utilities.

The Verifier is adaptable to most any pipe and cable locate by offering five accurate methods of locating buried metallic services. The Verifier can also work in conjunction with a remote probe transmitter to locate non-metallic pipe and conduit. Able to locate to a depth of 16 feet, the system operates on two active frequencies of 9.5 or 38 kHz. Inductive and direct connection methods can be achieved with an adjustable 2-watt transmitter inducing a magnetic field to the service. Electric and telecommunication cables can be spotted using the passive 50/60 Hz or radio frequencies.

Each Verifier unit features a high gain filter and current strength index to distinguish between multiple lines in the locating area. Exact location and depth of the underground service is measured by multiple coils located inside the Verifier Receiver. This information, along with a current measurement, is translated and then displayed on an easy-to-read LCD digital display.

For more information about the Verifier, contact McLaughlin at (800)435-9340, or visit the web page, www.mightymole.com, or

Circle No. 265



LANDSCAPE
management

'97 **C O R P O R A T E**
capabilities



American Cyanamid Company

The plant's integrated environmental systems provide management control levels that are designed to meet or exceed industry standards for air, water, solid and hazardous wastes. Pollution prevention and waste reduction efforts are an important part of ongoing programs in all production areas. Cyanamid manufacturing plants also participate in the Chemical Manufacturers Association's Responsible Care Program.

Product Focus:

The Specialty Products Department of American Cyanamid Company's Agricultural Products Division researches and develops special-use chemical products, and markets them throughout the United States.

The department's herbicides, plant growth regulators and insecticides are used in forestry, professional turf management, consumer lawn and garden, industrial vegetation management, horticultural and greenhouse industries, professional pest control and public health markets.

American Cyanamid is committed to the development of products that are effective, convenient and respectful of the environment. Along with others in the turfgrass and golf course industries, the company believes it has a responsibility to protect the environment, to improve the aesthetics of America's communities and provide enhanced recreational opportunities for all. The company is committed to helping secure a superior habitat for people and wildlife through the manufacture and marketing of environmentally-sensitive products.

Manufacturing Facilities:

American Cyanamid has a number of manufacturing facilities worldwide. Many of the company's products are manufactured at a 2,000-acre complex in Hannibal, Missouri. In addition to using state-of-the-art technology, this plant is a model for safety and environmental responsibility, emphasizing strong programs in recycling and reuse in all production areas to minimize waste.

Tech Support / Training:

The Specialty Products Department is fully-supported by a dedicated staff of research, sales, marketing, technical, service, logistic telemarketing and support professionals. The sales force is among the best-trained in the industry. Cyanamid's Technical Service Group in Princeton, New Jersey, supports sales representatives in their effort to keep lawn care operators, golf course superintendents and custom applicators informed about the performance and environmental aspects of Cyanamid's products.

Major Product Lines:

American Cyanamid produces and markets leadership products such as pendimethalin technical, the most widely used preemergent herbicide for turfgrass weed control in the United States. Pendulum herbicide, for preemergent control of annual grasses and many broadleaf weeds in turfgrass and for over-the-top control in more than 260 labeled ornamental plants, available in 60 WDG and 3.3 EC formulations; Image herbicide, available to professional applicators for postemergent use on hard-to-control weeds like nutsedge in warm-season turf. Cycocel plant growth regulant, used by greenhouse horticulturists, primarily on poinsettias, azaleas and geraniums; and Amdro fire ant insecticide, America's leading fire ant bait.

American Cyanamid Company

Specialty Products
Department
One Campus Dr.
Parsippany, NJ 07054
(800) 545-9525

DowElanco



Product Focus:

DowElanco discovers, researches, manufactures and markets products to manage pests that destroy personal, public and corporate properties; food, timber resources and clothing fibers. DowElanco is committed to continuous improvement, cost consciousness and total waste elimination in all phases of production. Its scientists are dedicated to discovering and developing new technologies that can be integrated with conventional technologies to provide the greatest benefits to customers.

Manufacturing Facilities:

Corporate headquarters is located on a 325-acre site in Indianapolis, Indiana. The Research and Development Building contains more than 612,000 square feet and 15 individual greenhouses which contain more than 62,000 square feet. Together, they comprise the worlds largest single plant-breeding and agricultural research center under one roof. Approximately 400 scientists and other employees work in the Research and Development Building and approximately 1,000 employees work at the corporate headquarters, with 3,000 people working for DowElanco worldwide.

Tech Support / Training:

DowElanco is committed to global leadership in consistently satisfying customer needs by providing improved solutions in specialty products and crop production. In addition, DowElanco is dedicated to being a long-term business partner and has more than 20 sales and technical service professionals devoted solely to servicing the turf and ornamental business.

Major Product Lines:

DowElanco manufactures a variety of products for insect, weed and disease pests for lawn care operators, pest management companies, nurseries, golf course superintendents, consumers, rights-of-way, utilities and agriculture. Major products include: Dursban* insecticide; Team*, Gallery*, Surflan*, Confront* and Snapshot* herbicides; Rubigan* fungicide, and new Conserve* turf and ornamental insect control product.

DowElanco

9330 Zionsville Road
Indianapolis, IN 46268-1054
(800) 255-3726

Fax number:
(800) 905-7326

Website:
www.dowelanco.com

Date founded:
1989 (A wholly-owned subsidiary of the Dow Chemical Company.)

Staff:
John L. Hagaman,
President/CEO

*Trademark of DowElanco



The Grasshopper Company

Product Focus:

Grasshopper products are designed for easy operation, maximum comfort, durability, productivity and versatility. A Quik-D-Tatch Mounting System (patent pending) lets you change deck sizes or add attachments in minutes without tools. Combo Mulching Deck converts to mulch, bag or discharge with the same deck.

Manufacturing Facilities:

The family-owned manufacturing facility was founded in 1958. Grasshopper employs skilled workers and high-tech equipment including computer-aided design system, CNC fabrication and machining; soon to exceed 200,000 sq. ft. of manufacturing, testing and warehouse space in Moundridge, Kansas.

Technical Support / Training:

Grasshopper products are retailed and serviced by an extensive dealer network throughout the world. Sales personnel with in-depth product knowledge and factory-trained service technicians receive ongoing technical support in sales and service from the factory.

Major Product Lines:

Grasshopper zero-radius outfront riding rotary mowers with engine choices from 14 to 28-hp, liquid-cooled or air-cooled, gas or diesel. Year-round attachments include high-efficiency Quik-D-Tatch Vac collection systems; heavy-duty, solid-tine AERA-vator; dozer blades, rotary brooms; snowthrowers and tine-rake dethatchers. Options available include ROPS, sunshade canopy and winter enclosure.

One Grasshopper Trail

P.O. Box 637
Moundridge, KS 67107
(316) 345-8621

Fax number:

(316) 345-2301

Web address:

<http://www.grasshopper-mower.com>

E-mail address:

grasshp2midusa.net

International Seeds, Inc.

Product Focus:

International Seeds, Inc. is a leading wholesale breeder, producer and marketer of improved cool and warm season turfgrass varieties. Our staff works exclusively with selected seed growers and a worldwide distributor network to provide value added products and service of the highest quality.

Available today to golf course professionals, architects and contractors are varieties that require less fertilizers, provide natural insect resistance and supply superior quality turf. In addition, our staff can provide valuable species information to augment the signature look or design of your choice. International Seeds turf products are recognized around the world for their quality and have been used at many of the world's most prestigious golf and sporting events.

Manufacturing Facilities:

International Seeds maintains a fully equipped, 57-acre research and breeding station from which has come some of today's best known and most widely used grass seed varieties.

By owning our own facility, International Seeds is better able to respond to the needs of our customers. Our staff researchers are able to take immediate advantage of advances in breeding technology.

The International Seeds research facility is also the location of various turf trials, including the National Turfgrass Evaluations Program.

Staff researchers also work closely with research scientists from major land grant universities and at trial sites throughout North America, South America, Asia, Europe, Africa and Oceania.

Technical Support / Training:

International Seeds' sales and marketing staff, as well as our distributor network, is comprised of highly experienced professionals prepared to assist customers as needed either by telephone, in person or through a

variety of written literature. These resources are in place to assist customers in the proper selection of cool and warm season turfgrasses throughout the world for turf area construction, renovation and restoration.

The International Seeds team knows that assisting customers in the proper selection of a turfgrass can have a major impact on the ultimate turf performance and maintenance expense profile. In the era of environmental stewardship, assisting our customer with proper turfgrass selections contributes positively to habitat enhancement, wildlife and water conservation, waste management and energy efficiency.

Major Product Lines:

Cool-Season Turf Grasses

Perennial Ryegrass: Top Hat, R.2, Essence, Gator, Gator II, Derby Supreme, Regal and Ph.D.

Creeping Bentgrass: Viper, Cobra and CEO

Colonial Bentgrass: Tiger

Poa Trivialis: Sabre II and Sabre

Chewings Fescue: Longfellow and Enjoy

Strong Creeping Red Fescue: Cindy

Hard Fescue: Eureka

Turf-Type Tall Fescue: Houndog 5, Pride, Era and Houndog

Kentucky Bluegrass: Fortuna, Cardiff and Merit

Slender fescue: Marker

Cool-Season Turfgrass Mixtures permanent turf and overseeding: Ph.D. with Sabre, Dixie Green Overseeding Blend, Showboat Custom Ryegrass Blend, Anvil Fine Fescue Mixture, Major League Turfgrass Mixture (sun, sun & shade, shade or utility)

Warm-Season Grasses

Bermudagrass: Mirage, Pyramid

Zoysiagrass: Sunrise



International Seeds, Inc.

P.O. Box 168
Halsey, Oregon 97348
(541) 369-2251
(800) 445-2251

Fax number:

(541) 369-2640

E-Mail address:

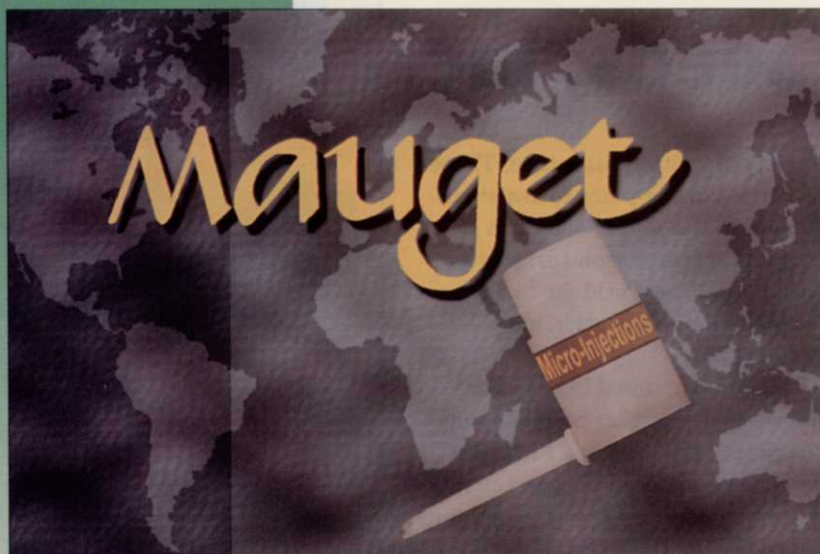
intlseed@intlseed.com

Date Founded:

1972

Staff:

Rich Underwood, President
Brad Dozler, Vice President
Sales
Craig Edminster, Director of
Research



J.J. Mauget Company

Product Focus:

Mauget, the company which pioneered micro-injection for trees, is also the company that was chosen by Shell Chemical in 1965 to introduce its new insecticide to prevent Dutch Elm disease, called Bidrin. Today, Inject-A-Cide B (Bidrin) is labeled for systemic treatment for aphids and many borers, caterpillars, psyllids, scale insects, gall causing larvae, spider mites and spittlebug nymphs. Micro-injection, performed in just minutes, eliminates concern over drift, groundwater contamination, or applicator and customer exposure.

Manufacturing Facilities:

In 1997, Mauget doubled the size of its manufacturing and headquarters facility by moving from Los Angeles to Arcadia, Calif. The new facility enables the company to continue to meet the growing demand for highly-targeted systemic, closed-system, micro-injected products. An aggressive research effort recently resulted in the introduction of two new insecticides, a fungicide and an antibiotic.

Technical Support / Training:

Mauget maintains a technical support staff to answer its toll-free telephone support line—800/TREES RX. This service is available to all professional applicators and nearly 35 distributors across the nation.

Additional support is available through its website—www.mauget.com.

For more than 20 years, Mauget has provided winter training workshops throughout the country through its distributors. Its comprehensive Micro-Injection Field Manual is available from distributors for training and reference.

Major Product Lines:

Since 1965, Mauget has developed 15 systemic products to serve the ornamental tree care market. Combinations of these products are available in capsule form for micro-injection.

Antibiotics: Mycoject

Fertilizers: Stemix, Stemix Iron/Zinc, Stemix Zinc, Stemix Hi-Volume

Micro-Nutrients: Inject-A-Min (Iron, Zinc and Manganese)

Fungicides: Fungisol and Carboject

Insecticides: Imicide, Inject-A-Cide;

Inject-A-Cide B and Abacide

Combination: Abasol

(Fungicide/Insecticide)

In Tree Health Care, Tomorrow is Today at Mauget

J.J. Mauget Company

5435 Peck Rd.
Arcadia, CA 91006-5847
(800) 873-3779,
(818) 444-1057

Fax number:

(818) 444-7414

E-mail address:

mauget@mauget.com

Website:

www.mauget.com
Incorporated 1958

Staff

Dale I. Dodds, president/CEO

Nathan E. Dodds,
vice president, marketing

Charles A. Dodds,
vice president, operations

Kubota

Product Focus:

Incorporated in California in 1972, Kubota Tractor Corporation (KTC) has since become a leading U.S. marketer and distributor of under-40 hp compact tractors by consistently marketing high-quality products that meet the needs of today's customers.

Kubota Tractor Corporation markets a complete line of tractors from 12.5 to 91 PTO horsepower, along with a complete line of performance-matched implements, compact construction equipment, pumps and generators, consumer lawn and garden equipment and commercial turf products.

Manufacturing Facilities:

KTC is affiliated with the Kubota Corporation of Osaka, Japan, which introduced the first Kubota tractor to the United States in 1968. Kubota Corporation has affiliates and subsidiaries that manufacture and/or market in 11 countries around the world, and Kubota Corporation products are sold in more than 130 countries. In the United States, Kubota Tractor Corporation, Kubota Credit Corporation (KCC) and Kubota Manufacturing of America support authorized Kubota dealers and customers. Kubota Manufacturing of America is located in Gainesville, Ga. Production started in 1989, making loaders for Kubota B and L-Series tractors. Backhoe production began in 1990. And, in 1995, the first Kubota tractor manufactured in the United States started rolling off the assembly line.

Based in Torrance, Calif., KTC has facilities throughout the United States. Division offices are located in Columbus, Ohio; Atlanta, Ga.; Dallas, Texas; and Stockton, Calif. The Engine Division is located in Schaumburg, Ill. Nearly 1200 dealers comprise Kubota Tractor Corporation's coast-to-coast network.

Technical Support / Training:

Kubota Tractor Corporation supplements its high-quality, dependable products with the service, parts, training and financing necessary to ensure customer satisfaction. Service personnel in the dealerships are



provided with annual training on new products, and additional in-shop service training is available through printed materials and video-based programs. Kubota also provides dealers with a computerized parts ordering system which links dealerships to an inventory of more than 60,000 part numbers strategically located in four warehouses across the country. Kubota Credit Corporation offers flexible programs such as low P.P.R. financing, equity financing, tailored customer repayment plans, rental purchase plans and leasing options.

Major Product Lines:

Kubota's residential and commercial mowing equipment consists of the F-60 Series front mower, T-Series lawn tractors, G-Series garden tractors and GF-Series front mowers, along with a variety of implements. Designed to deliver top performance, Kubota's tractor and implement line-up features the B-Series tractors, Grand L Series and L Series products, M-Series tractors and the M-Series Turf Special. Kubota's compact construction equipment line boasts the powerful new generation KX-2 Series excavators, R-20 Series wheel loaders, L-35 and B21 tractor-loader-backhoes and an impressive array of related implements and attachments. Ideal for a range of indoor and outdoor construction and emergency-power applications, Kubota offers customers and extensive line of gas and diesel generators and pumps.

Kubota Tractor Corp.

3401 Del Amo Blvd.
Torrance, CA 90503
(310) 370-3370

Staff:

Mr. S. Majima, president
Mr. Robin Killian, senior vice president of sales
Mr. Michael Heitman, director of marketing



Product Focus:

Novartis Turf and Ornamental Products was founded in December, 1996 with the FTC approval of the merger of Ciba and Sandoz Agro, Inc. With this major merger, combined with the recent acquisition of Merck & Co. Inc.'s global crop protection unit, Novartis has made the commitment to become the worldwide leader in providing innovative products and services, and developing superior technology to protect the production and care of turfgrass and ornamental plants.

Manufacturing Facilities:

Novartis' U.S. Crop Protection, Inc. headquarters is located in Greensboro, North Carolina. Its headquarters houses approximately 1500 employees including the Turf and Ornamental Products Group, as well as the Crop Protection, Inc. Agricultural Division.

Technical support / Training:

Novartis is committed to discovering and marketing a broad range of leading-edge products for the Turf and Ornamental industry. With that in mind, Novartis has six highly dedicated Turf and Ornamental field scientists who are setting the pace by researching products that are both highly effective and environmentally compatible. To reach their goal of listening to the needs of

Novartis Crop Protection, Inc.

their customers, Novartis Turf and Ornamental Products has a field sales force which includes 19 dedicated turf product sales representatives and three ornamental product sales representatives. In addition, Novartis also offers an on-site customer service staff to provide information and literature on Novartis Turf and Ornamental products and services. For more information, please call 1-800-395-TURF.

Major Product Lines:

Turf Product Line:

Primo®: Plant Growth Regulator;
Barricade® Preemergence Herbicide: Poa annua, Crabgrass, Goosegrass and 28 other weeds; **Banner® MAXX®** Fungicide: dollar spot, summer patch; **Subdue® MAXX®** new formulation Fungicide: Pythium and Phytophthora; **Sentinel®** Fungicide: brown patch, dollar spot; and **Award®** Insect Growth Regulator: fire ants.

Ornamentals Product Line:

Subdue® MAXX® new formulation Fungicide (features zero hour reentry interval): Pythium and Phytophthora;
Medallion™ new Contact Fungicide: Rhizoctonia, Botrytis and Alternaria;
Factor® Herbicide: problem grass and annual broadleaf weed control all season;
Avid® Insecticide: spider mites and leafminers; **Banner® MAXX®** Fungicide: Broad spectrum tree and shrub disease control including powdery mildew, rusts, leafspot, blights, scab and anthracnose;
Precision® Insect Growth Regulator: whiteflies, soft scales, fungus gnats and shore flies; **Citation®** Insect Growth Regulator: dipterous leafminer larvae developing in the foliage of chrysanthemus.

Novartis Crop Protection, Inc.

410 Swing Road
P.O. Box 18300
Greensboro, NC 27419-8300
(800) 334-9481
(910) 632-6278

Staff:

Leo Bontempo,
President/CEO

Tom McGowan, Vice
President of Specialty
Products Business Unit

Gene Hintze, Director, Turf
and Ornamental Product

Michael Joyce, Director,
Marketing Services

Joe Yoder, Director, Research
and Development

Pickseed West, Inc.



Product Focus:

Pickseed West, Inc. (founded 1969) is one of Oregon's leading developers and producers of quality lawn grass seed. The company operates a highly successful breeding program with seed production in Oregon, Idaho and Washington, and markets and distributes nationally and throughout the world where cool-season grasses are used.

Our staff works with selected seed growers with world-wide distribution network providing high quality products and service.

Golf courses, sod farms, athletic field managers, landscaping and landscape architects, park departments and home owners have all come to rely on Pickseed's quality top performing proprietary varieties.

Manufacturing Facilities:

Pickseed West is located in Tangent, Oregon, in the heart of Oregon's Southern Willamette Valley, where ideal growing conditions make the quality of Oregon's grass seed the best in the world.

Pickseed prides itself on prompt response and quick turn-around times for shipments. Pickseed's warehouse facility does blending, small packaging and shipping to areas all over the world.

Pickseed maintains a fully-equipped 25 acre research and development facility from which has come some of the most widely-recognized seed varieties. The research facility

is also the location of various turf trials including National Turfgrass Evaluation Program Trials.

Technical Support / Training:

Pickseed provides information to distributors and consumers through technical turf news, slide shows and film presentations, trade show participation and technical support from Dr. Jerry Pepin. Our highly ranked varieties are also entered in the National Turfgrass Evaluation Program. Pickseed Sales, and Marketing staff is composed of highly experienced individuals who are able to assist with customer service as needed by phone or in person.

Major Product Lines:

Perennial ryegrasses: Cutter, Dasher II, Edge, Express, Fiesta II, Lowgrow Futura 2000, and Futura 3000 blends.

Tall fescues: Crossfire, Crossfire II, MIC 18, Mini Mustang, Mustang II, Shortstop II, Sunpro, Team and Team Jr. Blends.

Kentucky bluegrass: Alpine, America, Banff, Bronco, Crest, Indigo and Touchdown.

Fine fescues: Azay, Jasper, Spartan, Victory and Victory II.

Creeping bentgrasses: Cato, Mariner and National.

Wildflowers: Flowers N Flowers and Flowers N Flowers Elite.

Pickseed West, Inc.

P.O. Box 888
Tangent, OR 97389
(541) 926-8886

Fax number:
(541) 928-1599

E-Mail address:
PICKSEED@PICKSEED.COM

Website:
WWW.PICKSEED.COM

Staff:
Dr. Jerry Pepin, executive vice president/general manager
Chris McDowell, domestic sales & marketing manager
Don Smyth, international sales
Doug King, production manager



Plant Health Care, Inc.

PLANT HEALTH CARE, INC. • A NATURAL SYSTEMS APPROACH

Plant Health Care, Inc.

440 William Pitt Way
Pittsburgh, PA 15238
1-800-421-9051
412-826-5488
Fax: 412-826-5445

Web Address:
<http://www.planthealthcare.com>

E-mail-address:
www.planthealthcare.com

Date founded:
November 1994

Staff:

Wayne Wall
President & CEO
Donald Marx, Ph.D.
Chairman & Principal Scientist
J. Frederick Warren
Senior Vice President
Edward Cordell, Ph.D.
Vice President, Technical Services
Stephen Maul, Ph.D.
Vice President, Research & Development
Randall McDonald
Vice President, Field Sales

COMPANY OVERVIEW:

Plant Health Care, Inc. (PHC, Inc.) is a microbial biotechnology company specializing in the development of "plant health care" products and natural systems solutions for the commercial horticulture, turfgrass, forestry and land reclamation industries. The Company is the world technology leader in the commercial development of endo- and ectomycorrhizal fungi inoculant products, and is fast becoming a leader in beneficial bacteria technology. PHC, Inc. has developed more than 30 proprietary products for improving plant, soil and water quality.

MANUFACTURING FACILITIES:

PHC, Inc.'s principal laboratory and production facilities are housed at the University of Pittsburgh Applied Research Center ("UPARC") where it also maintains the world's largest private pure culture collection of ectomycorrhizal fungi. The Company operates a 20,000 sq. ft. automated dry materials blending and packaging facility in Pittsburgh, PA where it manufactures both brand name and private label products. Recently the company received an excellent rating by Eco-Rating International for its manufacturing processes, products and services.

TECHNICAL SUPPORT:

PHC, Inc. scientists and technical experts help design and implement "plant health care" solutions for difficult landscape and land restoration projects, including large-scale mineland reclamation, habitat restoration and reforestation of degraded sites.

MAJOR PRODUCT LINES:

Mycorrhizal Fungi Product Line: MycorTree™, Mycor™ and VAM Cocktail™ brand mycorrhizal inoculants for trees, turf, flower beds, ornamental plantings and propagation.

Water Management Product Line: Pond Saver™ microbial pond cleaner, BioWash™ microbial wash rack cleaner, Yuccah™ and Terra-Wet™ brand yucca-extract-based wetting agents, and Terra-Sorb™ brand water management gels.

Soil Nutrient/Bacteria Product Line: BioPak™ and Synergy™ brand dry, water soluble biostimulants with beneficial bacteria and chelated micronutrients, Healthy Start™ brand biofertilizer products, Humex™ WS dry, water soluble humic acid, and PHC™ Seakelp™ dry, soluble seaweed extract.



The company is also developing various biological disease and insect control products for plants and turfgrass

LANDSCAPE
management

September 1997

This card is void after November 15, 1997

NAME (please print) _____
 TITLE _____
 FIRM _____
 ADDRESS _____
 CITY _____ STATE _____ ZIP _____
 PHONE (____) _____ FAX (____) _____
 INTERNET/E-MAIL ADDRESS _____

I would like to receive (continue receiving) LANDSCAPE MANAGEMENT free each month: Yes No

Signature: _____ Date: _____

1. My primary business at this location is: (check ONE only)

- 01 250 GOLF COURSES
- CONTRACTORS/SERVICE COMPANIES**
- 02 255 Landscape Contractors (installation and maintenance) 06 275 Landscape Architects
 03 260 Lawn Care Service Companies 07 280 Land Reclamation and Erosion Control
 04 265 Custom Chemical Applicators (ground and air) 08 285 Irrigation Contractors
 05 270 Tree Service Companies/Arborists Other (please specify) _____
- INSTITUTIONAL FACILITIES**
- 09 290 Sports Complexes 16 325 Condos/Apartments/Housing
 10 295 Parks Developments/Hotels/Resorts
 11 300 Right-of-Way Maintenance for Highways, 17 330 Cemeteries/Memorial Gardens
 Railroads or Utilities
 12 305 Schools, Colleges, Universities 18 335 Hospitals/Health Care Institutions
 13 310 Industrial or Office Parks/Plants 19 340 Military Installations or Prisons
 14 315 Shopping Centers, Plazas or Malls 20 345 Airports
 15 320 Private/Public Estates or Museums 21 350 Multiple Government Municipal Facilities
 Other (please specify) _____

SUPPLIERS & CONSULTANTS

- 22 355 Extension Agents/Consultants for Horticulture 25 370 Manufacturers
 23 360 Sod Growers/Turf Seed Growers/Nurseries 26 Other (please specify) _____
 24 365 Dealers/Distributors/Formulators/Brokers

2. Which of the following best describes your title? (check ONE only)

- 27 10 **Executive/Administrator**- President, Owner, Partner, Director, General Manager, Chairman of the Board, Purchasing Agent, Director of Physical Plant
 28 20 **Manager/Superintendent**- Arborist, Architect, Landscape/Grounds Manager, Superintendent, Foreman, Supervisor
 29 30 **Government Official**- Government Commissioner, Agent, Other Government Official
 30 40 **Specialist**- Forester, Consultant, Agronomist, Pilot, Instructor, Researcher, Horticulturist, Certified Specialist
 31 Other Titled and Non-Titled personnel (please specify) _____

3. SERVICES PERFORMED (Check ALL that apply)

- 31 A Mowing 36 F Turf Fertilization 41 K Paving, Deck & Patio Installation
 32 B Turf Insect Control 37 G Turf Disease Control 42 L Pond/Lake Care
 33 C Tree Care 38 H Ornamental Care 43 M Landscape Installation
 34 D Turf Aeration 39 I Landscape/Golf Design 44 N Snow Removal
 35 E Irrigation Services 40 J Turf Weed Control 45 O Other (please specify) _____

4a. Do you specify, purchase or influence the selection of landscape products? Yes No

4b. If yes, check which products you buy or specify: (check ALL that apply)

- 46 1 Aerators 56 11 Mowers (reel/rotary)
 47 2 Blowers 57 12 Snow Removal Equipment
 48 3 Chain Saws 58 13 Sprayers
 49 4 Chipper-Shredders 59 14 Spreaders
 50 5 De-icers 60 15 Sweepers
 51 6 Fertilizers 61 16 Tractors
 52 7 Fungicides 62 17 Truck Trailers/Attachments
 53 8 Herbicides 63 18 Trucks
 54 9 Insecticides 64 19 Turfseed
 55 10 Line Trimmers 65 20 Utility Vehicles

5. Do you have a modem? Yes No

6. Do you subscribe to an on-line service? Yes No

7. Is CD-ROM available in your workplace? Yes No

- 101 119 137 155 173 191 209 227 245 263 281 299
 102 120 138 156 174 192 210 228 246 264 282 300
 103 121 139 157 175 193 211 229 247 265 283 301
 104 122 140 158 176 194 212 230 248 266 284 302
 105 123 141 159 177 195 213 231 249 267 285 303
 106 124 142 160 178 196 214 232 250 268 286 304
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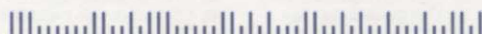
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September 1997

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 03 260 Lawn Care Service Companies 07 280 Land Reclamation and Erosion Control
 04 265 Custom Chemical Applicators (ground and air) 08 285 Irrigation Contractors
 05 270 Tree Service Companies/Arborists Other (please specify) _____
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 10 295 Parks Developments/Hotels/Resorts
 11 300 Right-of-Way Maintenance for Highways, 17 330 Cemeteries/Memorial Gardens
 Railroads or Utilities
 12 305 Schools, Colleges, Universities 18 335 Hospitals/Health Care Institutions
 13 310 Industrial or Office Parks/Plants 19 340 Military Installations or Prisons
 14 315 Shopping Centers, Plazas or Malls 20 345 Airports
 15 320 Private/Public Estates or Museums 21 350 Multiple Government Municipal Facilities
 Other (please specify) _____
- SUPPLIERS & CONSULTANTS**
- 22 355 Extension Agents/Consultants for Horticulture 25 370 Manufacturers
 23 360 Sod Growers/Turf Seed Growers/Nurseries 26 Other (please specify) _____
 24 365 Dealers/Distributors/Formulators/Brokers

2. Which of the following best describes your title? (check ONE only)

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 32 B Turf Insect Control 37 G Turf Disease Control 42 L Pond/Lake Care
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 50 5 De-icers 60 15 Sweepers
 51 6 Fertilizers 61 16 Tractors
 52 7 Fungicides 62 17 Truck Trailers/Attachments
 53 8 Herbicides 63 18 Trucks
 54 9 Insecticides 64 19 Turfseed
 55 10 Line Trimmers 65 20 Utility Vehicles

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6. Do you subscribe to an on-line service? Yes No

7. Is CD-ROM available in your workplace? Yes No

101	119	137	155	173	191	209	227	245	263	281	299
102	120	138	156	174	192	210	228	246	264	282	300
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104	122	140	158	176	194	212	230	248	266	284	302
105	123	141	159	177	195	213	231	249	267	285	303
106	124	142	160	178	196	214	232	250	268	286	304
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108	126	144	162	180	198	216	234	252	270	288	306
109	127	145	163	181	199	217	235	253	271	289	307
110	128	146	164	182	200	218	236	254	272	290	308
111	129	147	165	183	201	219	237	255	273	291	309
112	130	148	166	184	202	220	238	256	274	292	310
113	131	149	167	185	203	221	239	257	275	293	311
114	132	150	168	186	204	222	240	258	276	294	312
115	133	151	169	187	205	223	241	259	277	295	313
116	134	152	170	188	206	224	242	260	278	296	314
117	135	153	171	189	207	225	243	261	279	297	315
118	136	154	172	190	208	226	244	262	280	298	316

Seeds West, Inc.



Product Focus:

In 1996, two existing bermudagrass seed companies, Cactus Seed Company and Farmers Marketing Corporation were merged to form the world's largest bermudagrass seed company, Seeds West, Inc. Basic in bermudagrass variety research, production and conditioning, Seeds West markets and sells common bermudagrass and top performing certified proprietary bermudagrass varieties such as NuMex, SAHARA and Sultan.

Manufacturing Facilities:

Seeds West, Inc. headquarters is located in southwestern Arizona in the agricultural community of Roll, Arizona. The world's production of bermudagrass seed comes from this area of Arizona and the Imperial Valley of California. The seed crop is conditioned, coated and packaged at our modern facilities. No other bermudagrass seed company has the ability to condition, coat and package at its facility.

Technical Support / Training:

Seeds West, Inc. provides technical support via sales literature, telephone support in both the sales and research departments, the SWI website on the Internet and company seminars. Much of the SWI sales literature has been translated into several different foreign languages. Seeds West

grower communication is facilitated by a quarterly newsletter to the bermudagrass growers in Arizona and California.

Major Product Lines:

Bermudagrass for Turf: Common for general purpose turf and erosion control. Plant Certified NuMex SAHARA for an improvement over common in uniformity, color and texture. Certified Sultan is a significant improvement over SAHARA. Sultan's increased turf density, dark green color and fine texture have made it a favorite for sports turf use such as golf and soccer. Premium home lawns and parks have also been planted to Sultan.

Bermudagrass for Forage: SWI offers two products for forage and hay applications: Giant bermudagrass and a bermudagrass pasture grass mixture, Tierra Verde. Giant is known for its abundant forage and hay production. Tierra Verde is a mixture of common and Giant bermudagrass for an economical bermudagrass pasture.

Buffalograss for Turf: Certified Buffalo Pals premium buffalograss turf seed blend for turf was recently introduced. This certified blend offers high quality turf in an economical seeded form.

Seeds West, Inc.

50505 E. County 1st Street
Roll, AZ 85347
(520) 785-9605

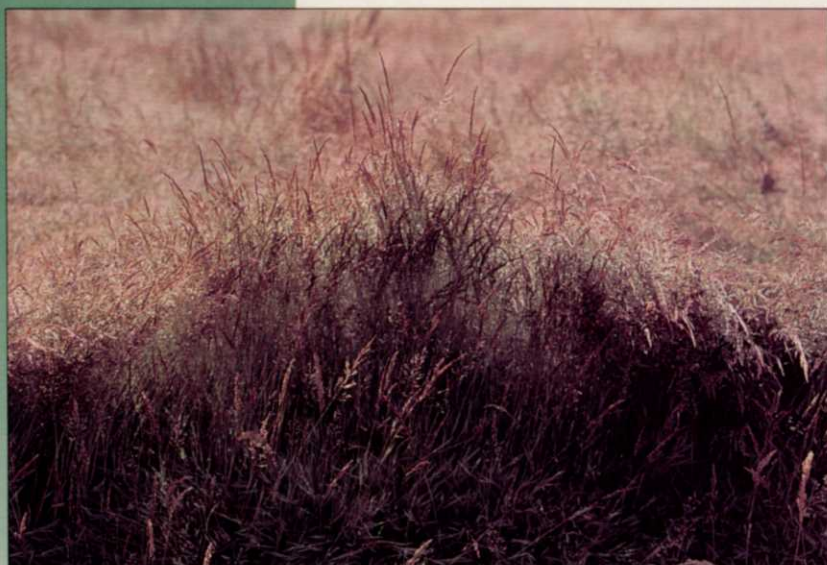
Fax number:
(520) 785-9608

E-mail address:
info@seedswest.com

Web address:
<http://www.seedswest.com>

Date founded:
January 15, 1996

Staff:
Ernie Millner, Vice President,
Chief Operating Office
Brenda Dossey, Vice
President, Sales
Mike Hills, Export Manager



Tee-2-Green

Technical Support / Training:

Tee-2-Green® supports distributors and golf course superintendents through advertising, tech sheets and publications, plus trade show and seminar participation.

Technical representatives Russ Hayworth in Arizona and Rick Elyea from Ohio work with golf course architects, designers and distributors to help spec the right bentgrass for their course.

Tee-2-Green® supports education through scholarships for Penn State University turfgrass students, and through The Annual Musser Golf Tournament which awards scholarships to graduate students involved in turfgrass research.

Major Product Lines:

Tee-2-Green® markets only premium bentgrasses for turf maintenance professionals.

Penncross, introduced in 1955, remains the best selling bentgrass year after year.

Penneagle, introduced in 1979, is an excellent choice for fairways, and consistently tops fairway trials.

PennLinks, introduced in 1986, rapidly became the new choice for true putting.

Pennway is an economical fairway and winter overseeding blend

PennTrio is a certified creeping bentgrass blend with 1/3 each Penncross, Penneagle and PennLinks

Penn A-1, Penn A-2, Penn A-4, Penn G-1, Penn G-2, and Penn G-6 (shown above prior to harvest), the new "Penn Pals", are typically lower growing and well adapted to a cutting height of 1/8 inch. They are dense, fine leafed and have an upright growth habit

Seaside II is salt tolerant, and was developed exclusively for fairway use.

Product Focus:

Tee-2-Green® is a registered trademark of Tee-2-Green Corp. founded in 1973 to market Penncross creeping bentgrass produced by the Penncross Creeping Bentgrass Association, in agreement with Penn State University. The growers association and Tee-2-Green® have maintained the high production standards set forth in 1955 by Professor Bert Musser, then assisted by Dr. Joe Duich. As Dr. Duich later released Penneagle and PennLinks, the varieties became the "Penn Pals," and set high standards for tees, fairways and putting greens worldwide.

The Penn "A" and "G" series, plus Seaside II, developed by Dr. Joe Duich, were introduced in 1995 and are the new generation of creeping bents. The "A" and "G" series are finer and denser than other commercial varieties, and demand close mowing. Seaside II is salt tolerant and was developed exclusively for fairway use.

Manufacturing Facilities:

All of the Penn bentgrass varieties are grown and certified in Oregon and meet higher standards than any other creeping bentgrass produced anywhere in the world. Seed is conditioned in the individual grower's cleaner, and stored in one of Tee-2-Green's warehouses. Shipments are carefully palletized and shrink-wrapped to avoid contamination. Pure Seed Testing Inc., West and East facilities maintain ongoing research and evaluation of all the "Penn Pals" varieties.

Tee-2-Green®

P.O. Box 250
Hubbard, OR 97032
(800) 547-0255,
(503) 651-2130

Fax number:

(503) 651-2351

Date founded:

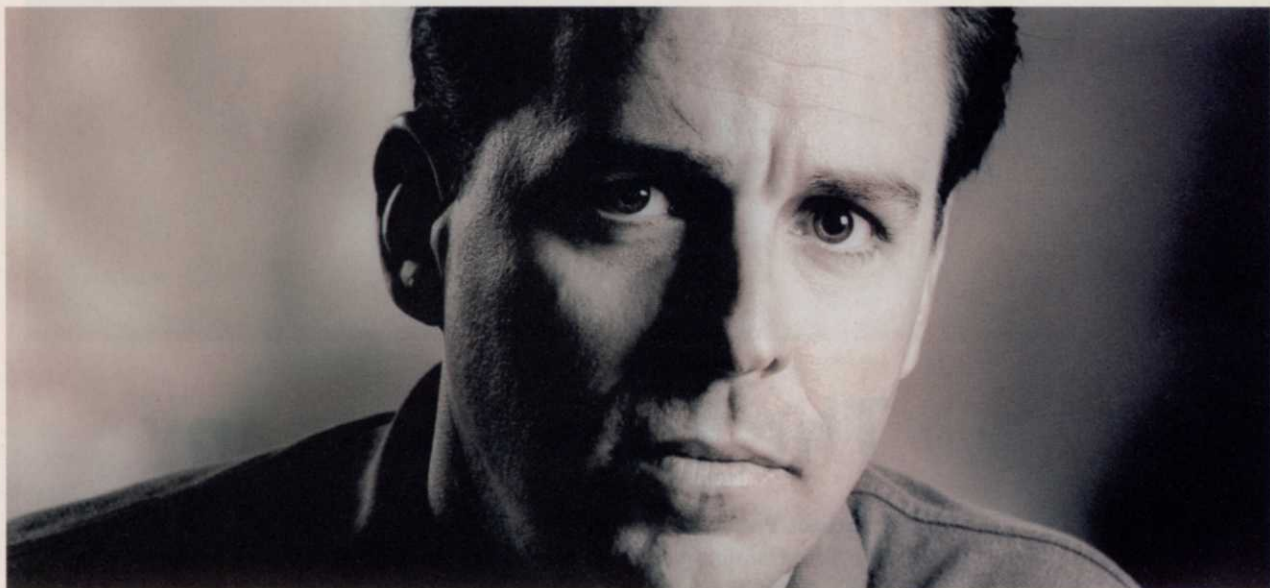
1973

Staff:

Bill L. Rose, president
Charlotte Flowers, general manager
Dr. Joe Duich, consultant
Rick Elyea, consultant

Photo description: Bill Rose, President of Tee-2-Green inspects a Penn A-4™ field near Hubbard, Oregon.

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including their own line of Terra Professional Products. And I can count on them for the kind of product information, agronomic advice and technical support that I can really use. Terra makes my job easier – my life simpler. One call is all it takes. I know I'll have the product I want and the answer I need.”



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1-800-831-1002
www.terraindustries.com

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The Toro Company

Product Focus:

The Toro Company offers one of the broadest lines of outdoor power equipment available for landscape professionals worldwide. Toro listens to contractor needs and translates them into innovative products designed to achieve the highest level of productivity. A Toro product signifies superior engineering, guaranteed service and a commitment to operator safety.

Manufacturing Facilities:

Toro's Tomah, Wisc. manufacturing plant, the main manufacturing facility for commercial products, has achieved the prestigious ISO 9002 certification for international quality consistency. This certification is tangible proof that Toro has a documented system and the long-term commitment to provide the level of process consistency and quality that customers expect.

Technical Support / Training:

Toro is supported by an exclusive network of highly-trained and knowledgeable distributors and dealers. This distribution network offers superb parts availability and convenient after-sale services. Every Toro product comes with owners and parts manuals. Also available are instructional videos for training employees in operating procedures and safety precautions.

Major Product Lines:

Toro offers a wide variety of product lines including: ProLine hydro- and gear-drive mid-size mowers, Z Master zero radius tractors, Groundsmaster outfront riding rotary mowers, Workman utility vehicles, as well as debris management and aeration equipment. All backed by Toro's exclusive technologies that increase productivity, operator safety and versatility.

The Toro Company

8111 Lyndale Ave. S.
Bloomington, MN 55420-
1196
(612) 888-8801

Fax number:

(612) 887-8258

Turf Merchants, Inc.



Product Focus:

TMI sources from private breeding programs the latest in improved turfgrass seeds. Our major focus is on improved turfgrasses for the professional markets of golf, landscaping and landscape architecture.

These include creeping bentgrasses, turf-type tall fescues, perennial ryegrasses and Kentucky bluegrasses. TMI also offers domestically-produced, warm-season grasses such as bermudagrass and zoysiagrass.

From its own conventional breeding program, to university sources such as Rutgers University and Texas A&M, TMI is looking forward to offering the latest technologically-advanced varieties available anywhere.

Manufacturing Facilities:

Turf Merchants, Inc. is located in the heart of Oregon: southern Willamette Valley, where over 65 percent of the world's supply of grass seed is grown.

Natural rainfall and expertise in production make the quality of Oregon grass seed the best in the world. TMI operates from three satellite warehouses located strategically around the valley with points north, south and west. This makes customer response an industry standard, with promptness and accuracy in shipments that are unparalleled. TMI has the ability to blend,

process and ship simultaneously from any of these locations where over 30 million pounds of seed are processed each year.

Technical Support / Training:

TMI has a variety of technical support through extensive trial systems, product literature and data bases. Results from turf trials in dozens of locations make the process of selling a simplified matter when comparative data is essential. Color slides of the production process and research add an additional dimension to the support available.

Major Product Lines:

Turf-type perennial ryegrasses including Affinity, Manhattan 3, Rodeo II, Allaire II, Patriot II, Evening Shade, Nomad (spreading type), Pennfine II and VIP II.

Turf-type tall fescues include Bonsai 3, Twilight II, Taurus, TurfGem II, Adventure II, Micro, Earthsave, Avanti II.

Kentucky bluegrasses are Gnome, Cobalt, Sodnet, Rugby, Viva and Trueblue.

Creeping bentgrasses are Backspin and Trueline.

Zen zoysiagrass and Del Sol bermudagrass round out the warm-season lines.

Turf Merchants Inc.

33390 Tangent Loop
Tangent, OR 97389
(541) 926-8649

Fax number:

(541) 926-4435

Staff:

Steven P. Tubbs, president
Nancy Aerni, vice president
Frank Gill, vice president
Robin Mankle, secretary/
treasurer



Turf-Seed, Inc.

Technical Support / Training:

Turf-Seed sets the pace in providing information to distributors and consumers through technical publications, Turf-Seed Trends newsletter, variety and blend tech sheets, vis-a-vis trade show and seminar participation, plus the first and largest independent field day in the United States. This annual event, now in its 15th year, is held alternately at the Pure Seed Testing West 110-acre research farm near Hubbard, Oregon, or Pure Seed Testing East near Rolesville, North Carolina. The Oregon event, held the third Thursday in June during even numbered years, focuses on cool-season grasses, while the North Carolina event is Friday preceding ASTA, and features tall fescue, bermudagrass, and zoysia, and addresses humidity-induced disease pressures. For information, call 503/651-2130.

Major Product Lines:

Perennial ryegrass: Alliance Brand blend, BrightStar, BrightStar II, Catalina, Chaparral, Charger, Citation III, Manhattan 3, Navajo, QuickStart, Roadrunner, Sunrye (246). Tall fescue: Confederate blend, MowLess blend, Triathalawn blend, Apache II, Coronado, Coronado Gold, Eldorado, Matador, Murietta, Olympic II, Safari, Silverado, Tar Heel, Tomahawk, Wolfpack. Kentucky bluegrass: Galaxy Brand blend, Blacksburg, BlueStar, Challenger, Columbia, Livingston, Marquis, Midnight, Opti-Green, Unique, Voyager common Ky., Winterplay Poa trivialis. Fine fescue: Aurora, Discovery hard fescue, Shademaster II creeping red fescue, Seabreeze slender creeper, Shadow, Tiffany chewings fescue; Bighorn sheeps fescue, Seabreeze slender creeper. Creeping bentgrass: PennTrio blend, Pennway blend, Penncross, Penneagle, PennLinks, Penn A-4, Penn G-6, Seaside II. Wildflowers: Bloomers® wildflower mixture, Baby

Product Focus:

Turf-Seed, Inc. was founded in 1970 by Mr. Bill Rose, president, to market only premium quality turfgrass cultivars and blends, foragegrass cultivars and mixtures, plus wildflower mixtures through an established distributor network. Golf courses, sod production farms, athletic field managers, parks departments, and homeowners rely on Turf-Seed's

Research/Production/Marketing (RPM) program. Turf-Seed's industry-wide reputation for top-performing proprietary varieties developed by Pure Seed Testing, Inc., production by Roselawn Seed and select contract growers, plus systematic marketing managed by Mr. Tom Stanley complete the RPM cycle.

Manufacturing Facilities:

Turf-Seed, Inc. is located near Hubbard, Oregon, in the center of the fertile Willamette Valley, "grass seed capital of the world." Most of the production comes from this region, with its ideal growing conditions. Crops are cleaned by growers or in nearby seed conditioning plants where blue tags are attached, and delivered to the Turf-Seed warehouses. Blends and mixtures are made at this Turf-Seed facility on two blending lines. Turf-Seed's corporate offices are attached to the warehouse for efficient marketing communication and shipping coordination. Employees enjoy breaks and lunch on the grassed picnic area in the back.

Turf-Seed Inc.

P.O. Box 250
Hubbard, OR 97032
(800) 247-6910
(503) 651-2130

Fax number:

(503) 651-2351

Date founded:

1970

Staff:

Bill L. Rose, president
Gordon Zielinski, executive vice president
Darcy Loscutoff, general manager
Tom Stanley, marketing director
Duane Klundt, customer service
Vanessa Jensen, southeast marketing
Rick Elyea, golf course consulting

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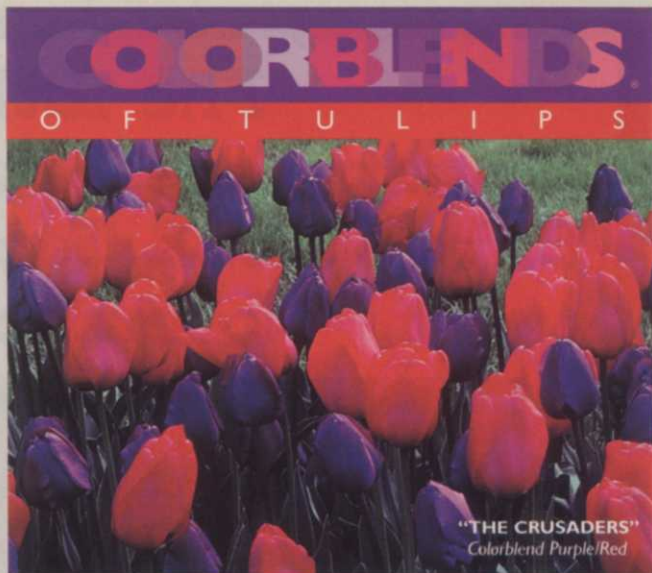
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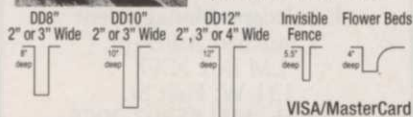
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ISSUES	CLOSING DATES
November 1997	10/8
December 1997	11/6
1998 DATES	TBA

(Please call Sales Rep to confirm dates.)

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Grab Bag

Consultant earns estimating certificate

James R. Huston recently received certification from the American Society of Professional Estimators as a Certified Professional Landscape Estimator. The certification follows an 18-month period of study (400 hours) in which applicants are required to submit estimating projects, take an extensive written exam on estimating knowledge and develop problems and test questions for future applicants. Huston is president of Smith Huston, Inc., Englewood, Co., a construction and services management consulting company for the green industry. He has written three books on landscaping estimating.

Practice ranges in demand

Maintenance of practice facilities is a growing challenge for golf course superintendents.

"The art of practice is becoming a sport in itself," says Doug Mahal of the Minikahda Club, Minneapolis. Golfers may only have an hour or two of free time, not enough time to complete a round, but they stop in for practice on the course range.

"They want to get the most out of their practice. They want driving ranges that are nice and well-equipped. They want target greens and bunkers," says Mahal.

Minikahda doubled the size of its practice facility, and management has plans for a \$250,000 development by improving the driving range, complete with covered stalls for practice in the rain.

Grab Bag features brief observations and prognostications throughout the green industry. If you have an unusual photo or comment you'd like to share with us, please send it in...



Travelin' in style

Perf-a-Lawn, Toledo, Ohio, gets its a lot of attention with this Model A Ford pickup which was used in movies like "The Untouchables" and "Hoffa". Company mechanic John Larde (shown here) keeps it in tip-top condition. He and his wife Karen enjoy driving it to special events in northwest Ohio and southeast Michigan. Company owner V. J. Huffman likes sharp vehicles says Larde. The company's shiny Dodge Ram service vehicles sport chrome wheels.

The 'what-if' of snow removal

"It is difficult because there can be almost no snow in a year or there can be 45 or 50 inches. As opposed to a little further north where you're always going to have some snow. In our location, you can be set up to go and then have almost zero income. If you've kept people on payroll or bought equipment, that's a pretty poor return on your investment."

DAVID GEORGE, EXTERIOR DIVISION MANAGER, ENGLDOW GROUP, CARMEL, IN.



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Now, more architects and designers incorporate the 'Penn Pals' from Tee-2-Green into their courses with outstanding results. Our bents contrast well when perennial ryegrass, Kentucky bluegrass or fine fescues are used in short and tall rough areas. It's no wonder today's turf

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In 1955 Professor Burt Musser, assisted by Dr. Joe Duich, released Pennncross creeping bentgrass as a seeded bent for golf course greens. For more than 40 years Pennncross has been specified for greens around the world and extended the boundaries of bentgrass adaptability.

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