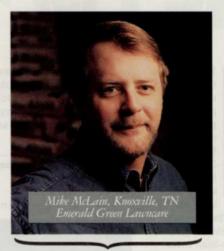
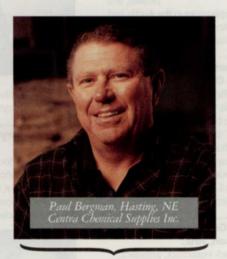


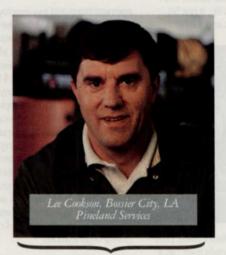
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THE LIVI 100



\$85,000. Now, Chapel Valley employs 175 people with projected 1996 revenues of \$10.5 million. CVLC has offices in Maryland and Dulles, Va., and a 35-

acre tree nursery. The company's focus is design/build/manage, emphasizing a start-to-finish service.

Clarence Davids and Company, Blue Island, III.

This is a full-service landscape company with branches in Plainfield and Ingleside, Ill. Founded in 1951 by Clarence Davids Sr., it has 50 fulltime employees and 120 sea-



sonal workers. William Davids, president, says the firm sells itself "as a one-stop shopping service." A frequent award winner, Clarence Davids and Company tops \$9 million in sales this year.

Clean Cut, Inc., Austin, Texas

Clean Cut has established itself, in just 13 years, as one of the fastest-growing landscape (installations and maintenance) companies in Texas with branches in Houston, Dallas, San Antonio, Corpus Christi. Now Clean Cut is looking beyond the state. Dennis Cautel, CEO, and Rex Gore, president, have this firm in high gear.

Clearwater Landscaping Company, Inc., Sun Valley, Idaho

This company, founded in 1975 by Ed Sinnott, employs 60-80 people in peak season. CLC knows how to use color and flowers in landscapes. It does everything from small residential landscapes to big jobs like a 22-acre sports complex it completed. CLC's employee safety record is enviable.

David J. Frank Landscape Contractor, Inc., Germantown, Wis.

An experienced, focused man-



agement team and low employee turnover make this Milwaukee-area

contractor special. Almost 37 years after beginning, Dave Frank heads a \$10 million company with about 240 employees doing first-rate design/build, maintenance (including lawn care), interiorscape, irrigation and snow removal. Employees are active in over 30 different trade, civic and com-

munity organizations.

Environmental Industries, Inc., Calabasas, Calif.

The '96 Olympics in Atlanta featured several examples of this land-scape leader's work, including the turf surface at the equestrian venue which drew unanimous praise from the demanding international horse crowd. Environmental Industries, with sales of \$267 million and 4,100 employees (over 1400 with the company more than five years), is becoming a nationwide presence.

Environmental Industries does it all in landscape and site development; everything from showcase projects for Disney to on-going landscape construction and/or maintenance in about 30 states. Burton Sperber started the firm in 1949 and heads a management team of Bruce Wilson, president of Environmental Care, Inc.; Richard Sperber, president of Valley Crest Landscape, Inc.; and Stuart Sperber, president of Valley Crest Tree Company.

Environmental Landscape Services, Inc., Houston

Environmental celebrates its 25th anniversary this year. Charles R. Racusin (shown) started the com-



pany with \$2,000 capital; today its client list includes properties of some of America's top corporations. ELS numbers 150 full-time employees, and

has operations in the Austin and San Antonio markets, too. ELS plans continued expansion.

Ground Control Landscape, Inc., Orlando, Fla.

The company celebrates turning 18 this year with a new 6,400-sq.-ft. office building and a separate 7,200-sq.-ft. shop. Combined, GCL's Construction and Maintenance Divisions employ 140-160 and will generate revenues over \$8 million. President Mark S. Yahn's company refuses to compromise on quality.

The Groundskeeper, Tucson, Ariz.

Jack Hasbrouck, president, started this company 20 years ago. The company is now employeeowned and provides about every conceivable landscape service throughout Arizona and Nevada. It employs about 500 full-time and reports annual sales exceeding \$20 million.

L&L Landscape Services, Inc., Sunnyvale, Calif.

L&L marks its 20th anniversary this year. Co-owned by Steve



Glover and Rob Zolezzi (shown) this northern California company has been growing at an annual 15%-20% clip, and will generate about \$7 million in revenues. L&L seeks "partnerships" with clients, vendors and employees.

Laflamme Services, Inc., Bridgeport, Conn.

This company, established in 1971, provides a full range of quality landscape services throughout Connecticut and New York. "We are recommended to others by the



clients we serve, and the result has been a continued rapid growth each year," says Edmond J. Laflamme, president (shown). LSI's reputation for delivering

customer-friendly service is well deserved. It employs 125.

Lied's Nursery Company Inc., Sussex, Wis.

Lied's was founded in 1945 by Delmar Lied, who at 83, remains its cornerstone. But son Tom, 62, longtime company president, has been its entrepreneurial spirit, building



the company to the \$10 million level. The next Lied in line for leadership is Tom's son. A key to this firm's success: "Understand your clients and your

markets...then realize it's a moving target," says Tom Lied (shown).

Minor's Landscape Services, Inc., Fort Worth, Texas

This 20-year-old Texas firm has won awards for construction projects for American Airlines, and for its maintenance at the J.C. Penney World Headquarters, GTE World Headquarters and other north Texas landmarks. David Minor is president and CEO. He's also 1996 president of ALCA.

Northwest Landscape Industries, Tigard, Ore.

About 285 NLI employees provide commercial landscape and irrigation installation as well as ongoing maintenance to customers in the Pacific Northwest. Rich Akerman



(shown) and Jim Wathey founded this company in 1973, promising to deliver professional service and quality products. They do. NLI has earned 47

awards for maintenance and construction over the past 20 years.

Pro Care Horticultural Services, Indianapolis, Ind.

The smallest firm on our list with sales just over \$1.5 million, but a quality operation that lives up to its motto—"Expect and Accept Only the Best." Founder Mort Rolsky is still active but sons Mitch and Lowell drive this 23-year-old firm that specializes in upper-end commercial maintenance.

Redwood Landscaping, Santa Rosa, Calif.

Redwood serves a 6-county region of Northern California. Lebo Newman (shown) guides this exceptional 24-year-old company which



opened a Sacramento branch this summer. Lots of leadership here. Dave Penry, vice president, becomes president of California Landscape Contractor's Associa-

tion in 1997. Lebo and Redwood's experienced staff make good things happen both for its 100-plus employees—and for its clients.

Ruppert Landscape Company, Ashton, Md.

Ruppert provides services in five eastern states and in the District of Columbia and Georgia, too. "Ruppert's goal is to hire for life; employees must want to stay at Ruppert



and they will if they are being challenged and rewarded." With revenues in excess of \$35 million, the company continues to grow. Brothers Craig and Chris Ruppert started this company about 25 years ago.

Thornton Gardens, Maineville, Ohio

Thornton marks its 50th anniversary this year. This Cincinnatiarea design/build and maintenance firm has the experience, the knowledge and the know-how to work with a developer a create a sense of community. At about \$3.5 million in revenues, there are larger companies but few in its class.

Yardmaster, Inc., Painesville, Ohio

Yardmaster has four offices in Ohio and dominates the Cleveland market. Kurt Kluznik (shown) started this firm in 1970. In 1976 Rick Col-



well became a partner. Yard-master is well-known for its design/build capabilities with 8 landscape architects, while its maintenance division is probably the largest

in Ohio. With 175 employees it will do about \$6 million in '96.

LAWN CARE COMPANIES

Agro Lawn Systems, Inc., Northern Virginia

Agro Lawn provides high-quality chemical lawn care programs and seeding services. Tom and Jean Spiers bought the company 1974. Since then they've concentrated on growing at a controlled, and profitable, pace. Today Agro Lawn employs about 30 people year-round, and about 45 during the season.

All Green Corp., Marietta, Ga.

All Green, with its 57 branches in 18 states purchased the 38 franchises of Nitro-Green, Fairfield, Calif. All Green's presence is now, literally, coast to coast. Ed Barant, chairman, and Paul Anderegg, president, formed All Green in 1987. Barant is the founder of TruGreen, and Anderegg its former vp of sales. Nitro-Green's Roger D. Albrecht is now the company's director of franchise development.

All-American Turf Beauty, Inc., Van Meter, Iowa

This company is the largest independent lawn care company in lowa with three offices serving over 7,000 customers. Daryle L. Johnson (shown) and his family started the



company in April 1976, and the family has been active in turf and lawn care industry activities ever since. Johnson is a former PLCAA board member, and

he—particularly his grin—is one of the most recognizable figures in the lowa turfgrass industry.

Atwood Lawn Care, Inc., Sterling Heights, Mich.

Tim Doppel bought this 26year-old company, a company he had worked for, in 1984. Since then, he has freely devoted time and energy on behalf of the industry while building a company offering premium services to over 4,000 clients in the Detroit area. Doppel gives credit to a core of excellent, long-term employees.

Barefoot Inc., Worthington, Ohio

This company, founded in 1975 by Marvin Williams, a former employee of O.M. Scott & Sons Co., expects sales of about \$130 million this season. Patrick J. Norton (shown) is President and CEO of Barefoot. He joined the firm in 1979 as director of finance, became gen-



eral manager in 1981 and president in 1985. Barefoot is the second largest lawn care company in the United States and continues to grow, primarily through

acquisitions. At season's start, the company had 53 company locations and 46 franchise locations.

The Davey Tree Expert Company, Kent, Ohio

Davey was founded in 1880 by John Davey, the founder of tree surgery. In 1979 it became employee owned. About half its 5,800 peak-season employees own some of the company that provides professional tree and lawn care nationwide. "I think Davey's leadership ability comes from out technical expertise in research and technology, our employees, and our ability to please the customer," says Doug Cowan, president and CEO.

FirstService Corporation, Toronto, Canada

Four company names operate under the FirstService banner—Chemlawn (in Canada), Green Lawn Care, Sears Lawn Care, and American Green Lawn Care. Combined, they generated about \$25 million in revenue in 1995 and served 135,000 customers, mostly residential and mostly in Canada. But American Green Lawn Care is growing in New York State, and the company wants to build its South Florida business too. FirstService also offers lawn care franchises through Nutri-lawn Lawn Care.

J.C. Ehrlich Co., Reading, Pa.

In 1926 Julius C. Ehrlich started out, basically, in pest control. By the 1950s his company had added an ag division and, by the mid-1960s, vegetation management. Today about 150 full-time Ehrlich "Green Team" employees provide lawn and tree care services out of 12 of

THE LIVI 100

Ehrlich's 36 offices in Pennsylvania, Maryland, Delaware, New York and Virginia.

Lawn Care of Wisconsin, Inc., (dba Barefoot Grass), Madison, Wis.

Terry Kurth started his operation in 1978 with 275 accounts. Today his Madison location has about 5,000 customers and his Fox Valley location about 3,000. Kurth also has major interests in lawn care operations in central Illinois and Lexington, Ky. His philosophy for delivering service is simple but effective: "Under promise; over deliver."

The Lawn Co., Inc., South Dennis, Mass.

This company was started by Ed McGuire in 1979 as a part-time operation. That changed two seasons later when he signed up lots of customers on Cape Cod. The Lawn Company is one of the few remaining significant independents in that part of the U.S. Not too many years ago, three or four firms battled for market share there. McGuire's firm provides lawn and tree care services to about 14,000 properties in eastern Massachusetts.

Lawn Doctor, Inc., Holmdel, N.J.

Lawn Doctor signed up its first lawn care customers in 1964 when Tony Giordano and Robert Magda formed a company called Auto-Lawn. In 1967 they changed the name to Lawn Doctor, and it grew to become the largest lawn care franchiser in the nation, starting on the East Coast and spreading west. Lawn Doctor franchise holders now operate out of 320 locations in 33 states. Is it still growing? And how, says Ed Reid, national director of sales.

Lawn Masters, Hawthorne, N.Y.

Lawn Masters provides services to nine counties in the lower New York, Hudson Valley. William Carey joined the 27-year-old company in 1974 and assumed sole ownership in 1980. He opened a second branch in 1986 and in 1987, following a sizable acquisition, a third. With the upswing in the Northeast's







economy in recent years, Lawn Masters is on a growth track again and exceeds \$2 million in sales in 1996. Carey (shown top left) is president;

Cyndy Carey and Joseph Potrikus serve as vice presidents.

Lawn Ranger Inc., Spotswood, N.J.

Lawn Ranger is in its 17th year of business. It was founded by Norman Berman and Joel Levy who remain, respectively, president and secretary/treasurer. Lawn Ranger has 35 employees, many with 8-10 years experience. That's a big reason why the company's service is high quality, and its cancellation rate is low.

LawnLife Corporation, Salt Lake City, Utah

This company, founded 1977, is owned by the company's first two employees. One of this company's strengths is the ongoing training each of its 51 employees receives. LawnLife provides lawn care to 11,000 customers along the



Wasatch Front in Utah, and also offers landscape maintenance services, including snow removal. How's this for a great company motto?—"LawnLife knows Utah from the ground up."

Leisure Lawn, Dayton, Ohio

Leisure Lawn is a lawn care in-

dustry pioneer with companyowned operations in Ohio's major markets, and others in Chicago, Detroit, Indianapolis, St. Louis, Atlanta, and DC/Northern Virginia (and an allied company in Fort Wayne, Ind.), Leisure Lawn will generate revenues of about \$20 million this season.

NaturaLawn of America, Frederick, Md.

NaturaLawn, founded in 1987, continues to add franchise operations. Last year it grew by 25 percent, with similar growth expected in 1997, says company spokesman Randy Loeb. New franchises are being readied in Colorado, California, Texas, Virginia and Maryland, he says, which will give the company—which has four company locations—a presence in 20 states. He attributes the company's growth to its stated goal of being an alternative to traditional, chemical lawn care, and to its competitive pricing.

One Step Tree and Lawncare, North Chili, N.Y.

Robert E. Ottley's company, provides premium service to nearly 4,000 customers in the Rochester, N.Y., market. Ottley (shown) started



the company in 1976 and, through his willingness to work on behalf of lawn care issues, helped define professional lawn care in New York State

Perma-Green Lawn Co., Boise, Idaho

Perma-Green has seven locations in Idaho, Utah, Nevada and Washington. Founded in 1977 by Jim and Karen Marria, it's now owned and operated by their son



Craig and Mike Spicer (shown) who serves as its president. With 115 employees, Perma-Green offers lawn care, tree care, landscape services, shrub bed weed control and vegetation management.

Prograss, Inc., Wilsonville, Ore.

Prograss, now 18 years old, has added services such as tree care, mowing/maintenance and construction, but remains one of the top lawn care firms in the Pacific Northwest. With offices in Portland and Eugene, Ore., and in Seattle and Concord, Calif. (near Oakland), Prograss has over 10,000 lawn care customers.

Robertson Lawn Care, Springfield, III.

Jack Robertson (shown) can point to 20 straight years of uninterrupted growth. Robertson bought



this company just after graduating from Western Illinois University, and he and his small staff have been delighting Springfield-area customers with service ever

since. Few firms know how to "talk" to their customers like Robertson Lawn Care.

Senske Lawn & Tree Care, Kennewick, Wash.

Senske keeps growing after 50 years. This Spokane-area company chalked up sales of over \$5 million in 1995. Just over half came from lawn/tree care and weed control, and about 18 percent from services like mowing, pruning, and irrigation repair. More than 115 employees work out of three Senske branches.

Southern Lawns, Inc., Montgomery, Ala.

Southern serves about 7,000 customers from two offices in Alabama and one in Columbus, Ga. Southern Lawns began in 1978, says General Manager James Bartley, the company's first employee 18 years ago. Few companies tackle lawns with as many different grasses—St. Augustine, zoysia, bermuda and centipedegrass—as Southern Lawns.

Spring-Green Corp., Plainfield, III.

Spring-Green was started in 1977 by Rick Gretz and the late Bill Fischer, the 1985 PLCAA president.



They helped develop franchises in the Chicago area. Today there are about 100 Spring-Green locations, most in the Midwest but some in the East and in the

Pacific Northwest, too, says Tom Hofer (shown), a former franchise owner himself. He's been a part of the corporation since 1980.

TruGreen-ChemLawn, Memphis, Tenn.

This is the world lawn care sales leader. In 1995 it reported serving 2.5 million customers and generating revenue of \$578 million through its 260 locations. Last year

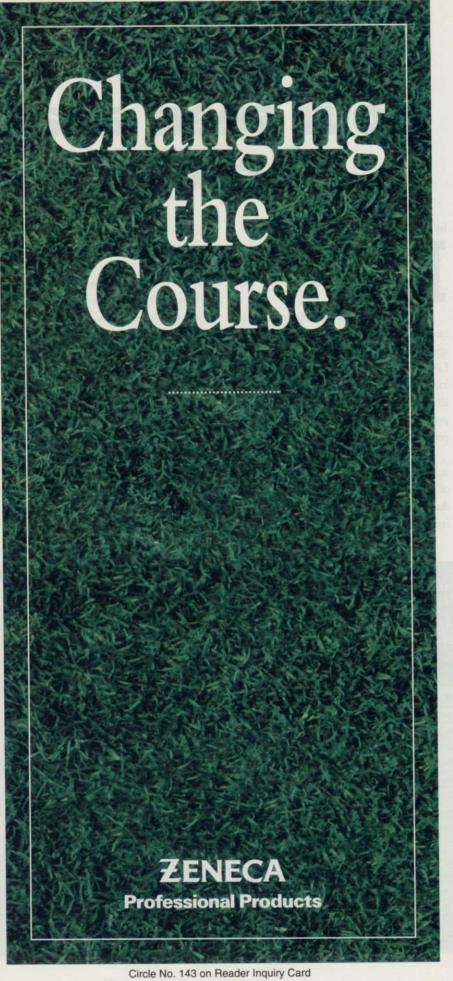


David Slott took over as president and COO, replacing Don Karnes (shown), who became group president for Lawn Care and Pest Control Services in Consumer Ser-

vices of The ServiceMaster Company, Downers Grove, Ill. Service-Master acquired TruGreen from Waste Management in 1990 and a few years later bought ChemLawn from EcoLab, and successfully merged the two.

The Weed Man, Mississauga, Ontario

The U.S. market looks appetizing to this long-time Canadian lawn care leader. A group of investors opened a Weed Man operation in Albany, Ore., with other U.S. markets being prepared. Des Rice started Weed Man in Canada in 1970 and began franchising in 1977. At last count there were 128 dealers throughout Canada. Weed Man sales should be about \$50 million this year. **LM**



LOOK FOR

low seed availability through spring

by JERRY ROCHE / Editor-in-Chief

t will not be easy to find the exact seed you might want this fall, if reports from the turfseed industry are accurate.

"For a variety of reasons, the industry is no longer in a seed surplus situation on any specie of turfgrass," notes Art Wick of Lesco. "Added to the low inventories and low production acreage is the high price of alternative crops like wheat, which competes with turfrass seed producers for new production acres.

"Added to this are the costs of eliminating open field burning, reduced availability of some pesticides critical to the clean production of grass seed, and unusual weather conditions in the Pacific Northwest."

With a late harvest, Wick expects a bot-

tleneck at the cleaning plants. "Expect potential delays," he further notes, "with some varieties."

Kentucky bluegrass yields are good the best in 10 years, according to Turf Merchants' Steve Tubbs—and supply is good, but the crop burning restrictions affect the market deeply.

John Zajac at Zajac Performance Seeds says that common bluegrass fields are especially good. "Proprietaries are pretty much as expected," he notes.

Tubbs reports a good perennial ryegrass crop. "But demand [for perennial rye] is very strong, and there is no carryover," he says. Pickseed West's Dr. Jerry Pepin agrees: "There is a huge demand for the product, so you can expect significant price increases."

Tom Peters at Barenbrug USA believes "perennial rye should completely sell out."

In the tall fescue market, a short crop of Ky-31 and insufficient acres have "driven prices to a sold-out, high-priced situation," Tubbs notes. "1997 should end this shortage," adds Pepin.

Fine fescue acres have been dramatically reduced over the past three years due to the influx of Canadian creeper, which is significantly less expensive than American varieties.

Pepin says that there will exist a "good availability" of bentgrass varietes, even though "late heat stress reduced the yields somewhat."

Here is a complete rundown of the marketers' most requested cultivars:

KEY (AVAILABILITY):

A=expected surplus; B=adequate supply; C=limited supply.

KEY (PRICE):

H=higher prices than last season; S=stable prices, generally the same as last season; L=lower prices than last season.

CULTIVAR	MARKETER	AVAILABILITY	PRICE
Kentucky Bluego	rass		
Adelphi	Advanta	В	5
Alpine	Pickseed West	В	5
America	Pickseed West	В	S
Aspen	Medalist America	В	S
Award	Jacklin	C	-
Barcelona	Barenbrug USA	В	5
Baronie	Barenbrug USA	В	5
Bartitia	Barenbrug USA	В	S
Caliber	Peterson	С	new
Cannon	Advanta	C	S
Canterbury	Cascade Internationa	l C	Н
Challenger	Turf-Seed	В	5
Chateau	Fine Lawn Research	В	L
Classic	Peterson	В	5
Cynthia	Advanta	С	Н

CULTIVAR	MARKETER	AVAILABILITY	PRICE
Dawn	Lesco	В	5
Dellwood	Zajac Performance	С	S
Dragon	Zajac Performance	C	S
Eclipse	Peterson	В	5
Fortuna	International Seeds	В	S
Gnome	Turf Merchants	Α	L
Haga	Burlingham	В	5
Jefferson	Cascade International	C	Н
Kelly	Medalist America	В	5
Liberty	Zajac Performance	В	L
Limousine	Roberts	В	Н
Marquis	Roberts	В	Н
Midnight	Turf-Seed	В	5
Nublue	Medalist America	В	5
NuGlade	Jacklin	C	-
Opal	Burlingham	C	S
Rugby	Roberts/Turf Merchan	ts C	Н
Shamrock	Lesco	Α	S
Sodnet	Turf Merchants	C	Н
SR 2000	Seed Research	C	S
SR 2100	Seed Research	В	S
SR 2109	Seed Research	C	S
Total Eclipse	Jacklin	C	

CULTIVAR	MARKETER AVA	LABILITY	PRICE
Touchdown	Pickseed West	В	5
Unique	Turf-Seed	В	5
Washington	Cascade /Burlingham	В	H/S
Wildwood	Lesco	A	5
	Lesco		
Perennial Ryegrass		-	
Accent	Medalist America	В	Н
Advantage	Lesco	A	S
Advent	Jacklin	С	Н
All*Star	Advanta	С	Н
APM	Jacklin/Medalist America	C/B	Н
Assure	Lesco	A	S
Brightstar	Turf-Seed	С	Н
Calypso II	Roberts-	В	Н
Champion G.Q. blend	Seed Research	В	Н
Chatham	Cascade International	C	Н
Cutter	Pickseed West	В	Н
Derby Supreme	International Seeds	С	Н
Dimension	Advanta	C	Н
Envy	Zajac Performance	С	Н
Excel	Burlingham	В	Н
Fiesta II	Pickseed West	В	Н
Finelawn 240	Fine Lawn Research	C	Н
Futura blends	Pickseed West	В	Н
Gettysburg	Cascade International	В	Н
Greenland	Barenbrug USA	В	Н
Legacy	Lesco	A	5
Navajo	Turf-Seed	C	Н
Omega 3	Zajac Performance	C	Н
Pennant II	Burlingham	C	Н
Pinnacle	Barenbrug USA	В	Н
Precision	Advanta	C	Н
Premier II	Barenbrug USA	C	Н
Prizm		C	H
	Zajac Performance Turf-Seed		
Quickstart		С	H
R-2	International Seeds	C	Н
Riviera II	Roberts	С	Н
Sherwood	Cascade International	C	Н
SR 4010	Seed Research	В	Н
SR 4200	Seed Research	В	Н
Stallion Select	Fine Lawn Research	В	Н
Stallion Supreme	Fine Lawn Research	С	Н
Target	Medalist America	В	Н
Tophat	International Seeds	C	Н
Wizard	Burlingham	В	Н
Turf-Type Tall Fescu	ie i i i i i i i i i i i i i i i i i i		
Amigo	Medalist America	С	Н
Apache II	Turf-Seed	C	Н
Arid	Jacklin	С	Н
Barlexas	Barenbrug USA	С	Н
Benton	Cascade International	C	Н
Bravo	Lesco	B/C	5
Coyote	Zajac Performance	С	Н
Crossfire II	Pickseed West	В	5

CULTIVAR	MADVETED AVAI	I A DU IT	N PRICE
			Y PRICE
Duke	Cascade International	С	Н
Era	International Seeds	С	Н
Falcon II	Burlingham	В	Н
Finelawn Petite	Fine Lawn Research	В	Н
Finelawn 88	Fine Lawn Research	С	Н
Finelawn 5GL	Fine Lawn Research	C	Н
Gazelle	Zajac Performance	C	Н
Guardian	Roberts	В	Н
Jaguar 3	Zajac Performance	C	Н
Houndog 5	International Seeds	C	Н
Lancer	Lesco	Α	S
Leprechaun	Roberts	C	Н
Montauk	Cascade International	C	Н
Mustang II	Pickseed West	C	S
Phoenix	Barenbrug USA	C	Н
Pixie	Jacklin/Medalist America	C	Н
Regiment	Advanta	C	S
Renegade	Burlingham	C	Н
Safari	Turf-Seed	C	Н
Shortstop II	Pickseed West	C	5
Southern Choice	Burlingham	C	Н
SR 8200	Seed Research	В	Н
SR 8210	Seed Research	В	Н
SR 8300	Seed Research	В	Н
Tomahawk	Turf-Seed	C	Н
Trailblazer II	Lesco	A	5
Tulsa	Advanta	C	5
Vegas	Barenbrug USA	C	Н
Wrangler II	Medalist America	C	Н
Fine Fescues			No.
Aruba creeping red	Medalist America	В	S
Aurora	Turf-Seed	В	A
Bardure hard	Barenbrug USA	В	Н
Bargena creeping red		В	5
Bridgeport chewings	Barenbrug USA	В	5
Brittany chewings	Lesco	В	5
Camaro chewings	Fine Lawn Research	C	Н .
Cindy creeping red	International Seeds	В	Н
Dawson	Advanta	В	Н
Defiance hard	Lesco	C	5
Dover chewings	Medalist America	В	5
Eureka hard	Fine Lawn/Int'l. Seed	C	H/S
Flyer creeping red	Fine Lawn/Int I. Seed	C	H/S
Jasper creeping red	Pickseed West		
K-2 chewings	Burlingham	С	H
Koket chewings	Burlingham	C	H
MX-86 sheeps	Jacklin	C	Н
Longfellow chewings	International Seeds	C	
Nordic hard			Н
The state of the s	Zajac Performance	В	Н
Raymond	Advanta	В	H
Rescue hard	Jacklin/Med. Am.	C	H
Salem creeping red	Cascade International	С	H
Scaldis Shark	Advanta	В	Н
Shade Mark	Lesco	В	5

CULTIVAR	MARKETER	AVAILABILITY	PRICE
creeping red			NAME OF THE PERSON OF THE PERS
Shademaster	Turf-Seed	C	Н
Shadow	Turf-Seed	C	Н
Southport chewings	Cascade International	В	Н
Spartan hard	Pickseed West	C	Н
SR 3100 hard	Seed Research	В	Н
SR 3200 blue	Seed Research	В	Н
SR 5100 chewings	Seed Research	В	Н
Treazure chewings	Zajac Performance	C	Н
Victory chewings	Pickseed West	C	Н
Vista creeping red	Zajac Performance	В	Н
Warwick hard	Cascade International	C	Н
Bentgrass			
Bardot	Barenbrug USA	В	S
Cato	Pickseed West	В	L
C/C blend	Pickseed West	В	S
Cobra	International Seeds	В	S
Golf Star	Jacklin	C	S
18th Green	Zajac Performance	В	5
Lopez	Fine Lawn Research	В	S
Mariner	Pickseed West	С	S
Penn G-2	Lesco	Α	S
Penncross	Tee-2-Green	В	S
Penneagle	Tee-2-Green	В	S
Pennlinks	Tee-2-Green	В	S
Princeville	Lesco	A	S
Providence	Seed Research	В	S
Putter	Jacklin/Medalist Ame	rica B	S
Regent	Barenbrug USA	В	S
SR 1020	Seed Research	В	S
SR 7100	Seed Research	В	S
Syn 92-1	Burlingham		*
Syn 92-5	Burlingham	*	*

CULTIVAR	MARKETER	AVAILABILITY	PRICE
Tracenta	Advanta	A	L
Trust dryland	Cascade Internationa	C	**
Viper	International Seeds	В	S
Other Seeded Cultiv	ars		
Baby Bloomers	Turf-Seed	В	S
(wildflowers)			
Barkoel prairie	Barenbrug USA	C	Н
junegrass			
Bloomers	Turf-Seed	В	S
(wildflowers)			
Cheyenne bermuda	Seeds West	С	5
Cody buffalograss	Native Turf Group	В	L
Jackpot	Jacklin	C	S
Primavera bermuda	Seeds West/Seed Res.	C/B	5
Pyramid bermuda	International Seeds	С	5
Sabre II Poa trivialis	International Seeds	С	S
Sahara bermuda	Seeds West	С	S
Sonesta bermuda	Seeds West	C	5
Sultan bermuda	Seeds West	С	5
Sundevil bermuda	Jacklin	С	5
Sundevil II bermuda	Medalist America	C	Н
Sunrise zoysia	Jacklin/Med.Am.	С	S/H
Sunstar bermuda	Lesco	В	5
Supina bluegrass	Fine Lawn Research	В	S
Tatanka buffalograss	Native Turf Group	C	L
Traveler zoysia	Seed Research	В	S
Yuma bermuda	Seeds West	С	5
Zen 300 zoysia	Fine Lawn Research	C	S
Zen 400 zoysia	Fine Lawn Research	C	5

^{*}Available for turf trials and observation from Burlingham until their commercial release.

Turf for low maintenance: prof's calculations say so

"Contrary to what many people think, getting rid of mowed grass and replacing it with groundcovers, mulches and wildflowers will not reduce landscape maintenance," reports Dr. Don Williams of the University of Tennessee, Knoxville. "My extensive studies document that mowed grass does not deserve its 'high maintenance' label and, in fact, other forms of groundcover will almost always require more maintenance than lawns."

To calculate actual time and cost comparisons, Dr. Williams conducted a number of site-specific experiments, including one in which he timed students as they handweeded a 6,600 sq. ft. English ivy bed. His results showed that one weeding required more time than it would take to mow the same area 20 times a year for 60 years.

Using his "maintenance time per unit hour" calculation method, Dr. Williams reports that at the low end of the productivity scale, one 19-inch push mower will cut 7 sq. ft. of turf per second while a 60-inch commercial mower would cover 30 sq. ft./second and highway rights-of-way mowers move at 70 sq. ft./sec.

Thus, a one-acre park could be cut in less than half an hour with a 60-inch mower while 100 acres of roadside would take 17.28 hours to mow with a large, tractorpowered unit. Even if mowers only work at half efficiency, they mow 1 sq. ft./sec. over the course of a year.

"What other type of landscape maintenance can be done at one second per square foot per year?" he asks.

Williams also determined that using geotextiles and mulch would cost more than \$11,500 an acre for materials and labor. However, investing that \$11,500 in the bank at 6 percent interest would yield \$690 per year—more than enough to pay for 18 contracted mowings a year at \$38 per mowing.

"When it comes to low maintenance, lawns are hard to beat," the Tennessee turf prof concludes. □

^{**}Free samples are being offered for overseeding on a limited basis by Cascade International.



equipment of all: you.

Considerations in pesticide selection

You must understand your pest problems, observe the environmental concerns where they're being used, and know the pesticide's characteristics to make the right choice.

by RICK L. BRANDENBURG, Ph.D. / North Carolina St. Univ.

esticide selection can be frustrating. But it is nonetheless a very important process:

1) Pesticides are an essential tool for maintaining quality turf. In some parts of the country, pesticides are also a sizable portion of the overall maintenance budget.

Our society is concerned with potential environmental hazards from pesticide use.

Several criteria are important in making the right pesticide choice. Examples contained herein will be associated with insecticides, but many of the same rules hold true for weed and disease control products.

Cost and effectiveness

How quickly a product works and how long it lasts can often be two different, separate functions.

Effectiveness is often associated with how quickly a pesticide will kill the pest, but in the case of a persistent or recurring pest, residual action may be critical. For example, Dylox (trichlorfon) works quite quickly for controlling white grubs, but pro-

vides little residual control. For some pests, such as mole crickets, residual activity may be as important as initial control because mole cricket egg hatch and nymph emergence takes an extended period of time.

Cost is always important, but must be figured in light of residual activity. A less expensive product—that has short residual activity, but will have to be reapplied more times than a more expensive, longer-lived product—may not end up being less expensive.

Many factors enter into cost: overall effectiveness, need to re-treat, application equipment, labor, the time of year to apply, and the actual cost per 1000 sq. ft. or acre.

Formulations

Some formulations may be more expensive than others. But the real cost of a product becomes more obvious once you factor in other considerations. Are they easier or quicker to apply, are they more effective or safer, or more effective against a particular pest? Which one can you put out most easily, accurately and effectively?

As a general rule, granular formulations are not "activated" until irrigation or rainfall occurs, which is necessary to move the active ingredient into the soil. Sub-surface application equipment is becoming more popular and available, and various forms are available for both liquid and granular formulations of insecticides (see photo).

Selectivity

Most conventional insecticides have a relatively broad spectrum—that is, they kill most (if not all) of the insects, bad and good alike, found in the turf. A few insecticides—particularly the biological materials such as entomogenous nematodes, fungi and bacteria—are more selective.

Some turf managers prefer a label that covers a broad spectrum of pests. However, a single application will not necessarily get all 20 different insects listed on a label. Some insects may require a higher rate. All the insects that appear on a label are rarely active simultaneously, even at low levels. And often the application technique varies with the pest. (For example, a treatment for white grubs would need to be watered in immediately, while the same application for armyworms would need to dry on the foliage.)

Many types of equipment are available for sub-surface application of insecticides in turfgrass. This unit places liquid formulations below the soil surface using low-pressure sprays into small slits created by the Coulter wheels.

