

"The new alignment of this corporation expresses our complete dedication to the lawn and turf industry," Scag said. "The same strong commitment to serve the industry exists in Ransomes, Inc."

"The market for mid-size, full-capability tractors is growing at a healthy rate," he added. "We want to offer each distributor the opportunity to concentrate his efforts on building a strong and solid dealer network within a realistic and manageable territory."

"Right now we have a good supply of pre-emergence herbicides," he said, "but it's going very rapidly. In the past three years we have had some problems in getting the product to the lawn care operator and I can see the

"We built up an inventory off of some older costs so we were able to hold our prices down," marketing manager Bob Person said. Cost of Finn's 800-gallon, truck-mounted

# LAWN CARE INDUSTRY

Serving lawn maintenance and chemical lawn care professionals.

DECEMBER 1980 • VOL. 4, NO. 12 • An HBJ Publication

Dix also said the effective date of

to page 21

Results to this survey are based upon 53.6 percent response to 500 questionnaires mailed to readers of the magazine recently. For a copy of the complete report, contact: Bob Earley, editor/publisher, LAWN CARE INDUSTRY, Harcourt Brace Jovanovich, Inc., 757 Third Ave., New York, NY 10017.

1979 average gross receipts	\$117,089
Projected 17% 1980 increase	\$136,994

Source: 1980 LCI survey.

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For a  
page 1  
technic  
his job  
readers





Enkamat, a soil reinforcement webbing from American Enka Co., was recently installed at the Rose Bowl in Pasadena, Calif. Already in use at Miami's Orange Bowl and several other college stadiums, Enkamat is a three-dimensional webbing made of nylon monofilament fused at the intersections.

In addition to the installations in the United States, it has been tested and used successfully on European playing fields for 12 years.

The product helps scarred turfgrass heal itself while protecting against compaction and wear. It also holds turf together, minimizing damage from tearing divots as athletes make their cuts and pivots.

## LAWN CARE INDUSTRY

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## MEMOS

**Keep it simple.** Robert Coyner, vice-president of Pascoe Equipment Co., Pittsburgh, Pa., says lawn care operators should avoid purchasing highly sophisticated turf care equipment and stick to basics.

"My advice is to keep your equipment as simple as you can," he says. "Also, if you're having someone custom build your equipment, make sure that you can get repair parts for it in a fairly short time. Or have the parts on inventory so you can do the work yourself if something goes wrong."

**Disease control made simple.** Dr. H. B. Couch, professor of plant pathology, Virginia Tech University, Blacksburg, Va., made some interesting comments about turf diseases at last year's Virginia Turfgrass Conference. A review of some of his observations follows:

- **Powdery Mildew:** "The fungicide for controlling powdery mildew is expensive, but it does a nice job of controlling it. The area greens up again within a week after applying the fungicide, so you can sell a lot of clients by controlling the disease."

- **Dollar Spot:** "Dollar spot is another disease that responds well to fungicide treatment. It's easy to diagnose and you can bring the grass back within about seven days with a dollar spot fungicide."

- **Rust:** "Ryegrasses are extremely susceptible to rust. In fact, the Lord created ryegrasses so rust could have something to kill."

- **Slime Molds:** "This is one disease that anyone can control. Slime molds do not have any cell wall so you can go out on a lawn and say something derogatory to it and it dies. Of all the problems that are caused by fungi, this is one I guarantee you can control. You can spray it with just about anything and get pretty good control."

**Lawn chemical market grows.** Consumers will spend \$1.2 billion for lawn, garden and houseplant chemicals in 1980, according to preliminary results of a new survey by C. H. Kline & Co., Fairfield, N.J. The survey states that growth has been spurred by new products, the popularity of home gardens and higher prices.

The report indicates that the lawn, garden and houseplant chemical business is very competitive. More than 250 companies sell these products through retail outlets under their own names. However, a large portion of the business is controlled by a relatively small number of companies. O. M. Scott, the overall leader, has more than 10 percent of the total market, followed closely by Chevron (Ortho), S. C. Johnson, Esmark (Swift) and Sterling Drug. The lawn care industry should have a definite impact on these companies as professional lawn care grows in popularity in the coming years.

**Identifying shade tree insects.** Insects can seriously damage valuable shade trees on landscape sites. In an attempt to help landscapers and lawn care personnel cope with this problem, the University of Wisconsin-Extension recently released a new publication entitled, "Recognizing Common Shade Tree Insects."

Written by entomologists Phil Pellitteri and Charles Koval, the six-page, full-color brochure describes various shade tree insects and the damage they can cause.

A slide-tape program entitled, "Maintaining Your Shade Tree's Health," is also available and provides more detailed information on shade tree insects. Both the brochure and the slide-tape program are available from the University of Wisconsin-Extension, Department of Agricultural Journalism, 440 Henry Mall, Madison, WI 53706, or call 608-262-1461.

**Vegetation plays energy role:** Trees, shrubs and other vegetation serving as windbreaks could save homeowners 10 to 25 percent of fuel bills for heating, says a top Agriculture Department official.

Well-placed trees could trigger added savings in summer, says Robert Hartung, by cutting down on cooling costs. These savings, he says, are possible in average homes with imperfect insulation. These are figures your customers perhaps should know about.

**Housing Starts:** Housing starts increased 12 percent in August to an adjusted annual rate of 1,399,000 units, marking the third consecutive month of recovery, government figure officials said. But industry economists warn that high mortgage rates already above 13 percent in most parts of the country may have already started a relapse.



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# MEETING DATES

**Ohio Turfgrass Conference and Show,** Ohio Center, Columbus, Ohio, Dec. 2-4. Contact: John R. Street, Cooperative Extension Service, The Ohio State University, 1827 Neil Ave., Columbus, OH 43210.

**New Jersey Turfgrass Expo '80,** Cherry Hill Hyatt House, Cherry Hill, N.J., Dec. 8-11. Contact: Dr. Henry W. Indyk, general chairman, Soils & Crops Department, P.O. Box 231, Cook College, New Brunswick, NJ 08903, 201-932-9453.

**VPI & SU Turfgrass Short Course,** Turfgrass Research Center, Blacksburg, Va., Dec. 8-12. Contact: John R. Hall, extension specialist, VPI & SU, 426 Smyth Hall, Blacksburg, VA 24061, 703-961-5797.

**VPI & SU Turfgrass Small Engine Repair Minicourse,** Turfgrass Research Center, Blacksburg, Va., Dec. 15-17. Contact: John R. Hall, extension specialist, VPI & SU, 426 Smyth Hall, Blacksburg, VA 24061, 703-961-5797.

**21st Illinois Turfgrass Conference and Regional Show,** Prairie Capital Convention

Center, Springfield, Ill., Dec. 16-18. Contact: Illinois Turfgrass Foundation, P.O. Box 501, Urbana, IL 61801.

**Maryland Turfgrass '81,** Baltimore Convention Center, Baltimore, Md., Jan. 5-7. Contact: Dr. Peter Doerneden, Agronomy Department, University of Maryland, College Park, MD 20742, 301-454-3715.

**The Institute for Agricultural Irrigation,** California State University, Fresno, Calif., Jan. 5-16. Contact: The Irrigation Institute, 13975 Connecticut Ave., Silver Spring, MD 20906, 301-871-1200.

**Nebraska Turfgrass Conference and Show,** Holiday Inn, 72nd and Grover, Omaha, Neb., Jan. 12-14. Contact: Paul Bergman, 2428 W. 11th, Hastings, NE 68901, 402-463-5055.

**Southeastern Pennsylvania Turf School & Trade Show,** Westover Country Club, Jeffersonville, Pa., Jan. 13-14. Contact: Dr. William H. White, Philadelphia County Cooperative Extension Service, SE Corner

Broad & Grange Streets, Philadelphia, PA 19141, 215-424-0650.

**Michigan Turfgrass Conference,** Kellogg Center, Michigan State University, Jan. 13-15. Contact: Thomas M. Smith, 323 Agriculture Hall, Michigan State University, East Lansing, MI 48824, 517-353-4417.

**North Carolina Turfgrass Conference,** Royal Villa Hotel, Raleigh, N.C., Jan. 13-15. Contact: Leon T. Lucas, Department of Plant Pathology, Box 5397, North Carolina State University, Raleigh, NC 27660, 919-737-2751.

**27th Rocky Mountain Regional Turfgrass Conference,** Lory Student Center, Colorado State University, Ft. Collins, Colo., Jan. 15-16. Contact: D. Butler, Department of Horticulture, Colorado State University, Ft. Collins, CO 80523, 303-491-7070.

**Virginia Turfgrass Conference & Trade Show,** John Marshall Hotel, Richmond, Va., Jan. 20-22. Contact: John R. Hall, extension

specialist, VPI & SU, 426 Smyth Hall, Blacksburg, VA 24061, 703-961-5797.

**Western Pennsylvania Turf & Grounds Maintenance School & Trade Show,** Howard Johnson Motor Lodge, Monroeville, Pa., Jan. 20-22. Contact: Philip L. Sellers, Allegheny County Cooperative Extension Service, 311 Jones Law Building Annex, 311 Ross Street, Pittsburgh, PA 15219, 412-355-4275, or George Morgan, Wildwood Golf Club, 2195 Sample Road, Allison Park, PA 15101, 412-487-1234.

**Turf and Landscape Conference,** sponsored by the New York Turf Landscape Association and the Long Island Gardeners Association, in conjunction with the Hudson Valley and Long Island Cooperative Extension Service, Tappan Zee Inn, Mountain View, Ave., Nyack, N.Y., Jan. 28. Contact: Frank Claps, 136 Laurel Ave., Larchmont, NY 10538, 914-834-6846.

**National Landscape Association/Garden Centers of America Management Clinic,** The Galt House, Louisville, Ky., Feb. 1-4. Contact: Robert S. Fortna, 230 Southern Building, Washington, DC 20005, 202-737-4060.

**ALCA Annual Meeting & Trade Exhibit,** Hyatt Regency, New Orleans, La., Feb. 8-13. Contact: John Shaw, executive director, Associated Landscape Contractors of America, 1750 Old Meadow Road, McLean, VA 22101, 703-893-5440.

**American Sod Producers Association Mid-Winter Conference,** Sahara Tahoe Hotel, Lake Tahoe, Nev., Feb. 16-18. Contact: ASPA, 9th & Minnesota, Hastings, NE 68901, 402-463-4683.

**Capital Area Turf & Ornamental School,** location to be announced, Feb. 18-19. Contact: Harold E. Stewart, Dauphin County Cooperative Extension Service, 75 South Houcks, St., Suite 101, Harrisburg, PA 17109, 717-652-8460.

**Professional Grounds Management Society Workshop,** "Business Management Techniques for Professional Grounds Managers," Holiday Inn, Jessup, Md., Feb. 18-19. Contact: Alan Shulder, PGMS, 7 Church Lane, Pikesville, MD 21208, 301-653-2742.

**Connecticut Groundskeepers Association Conference,** Hartford Civic Center, Hartford, Conn., Feb. 25. Contact: Glenn S. Moore, Connecticut Groundskeepers Association, P.O. Box 3926, Amity Station, New Haven, CN 06525.

## COMPANIES

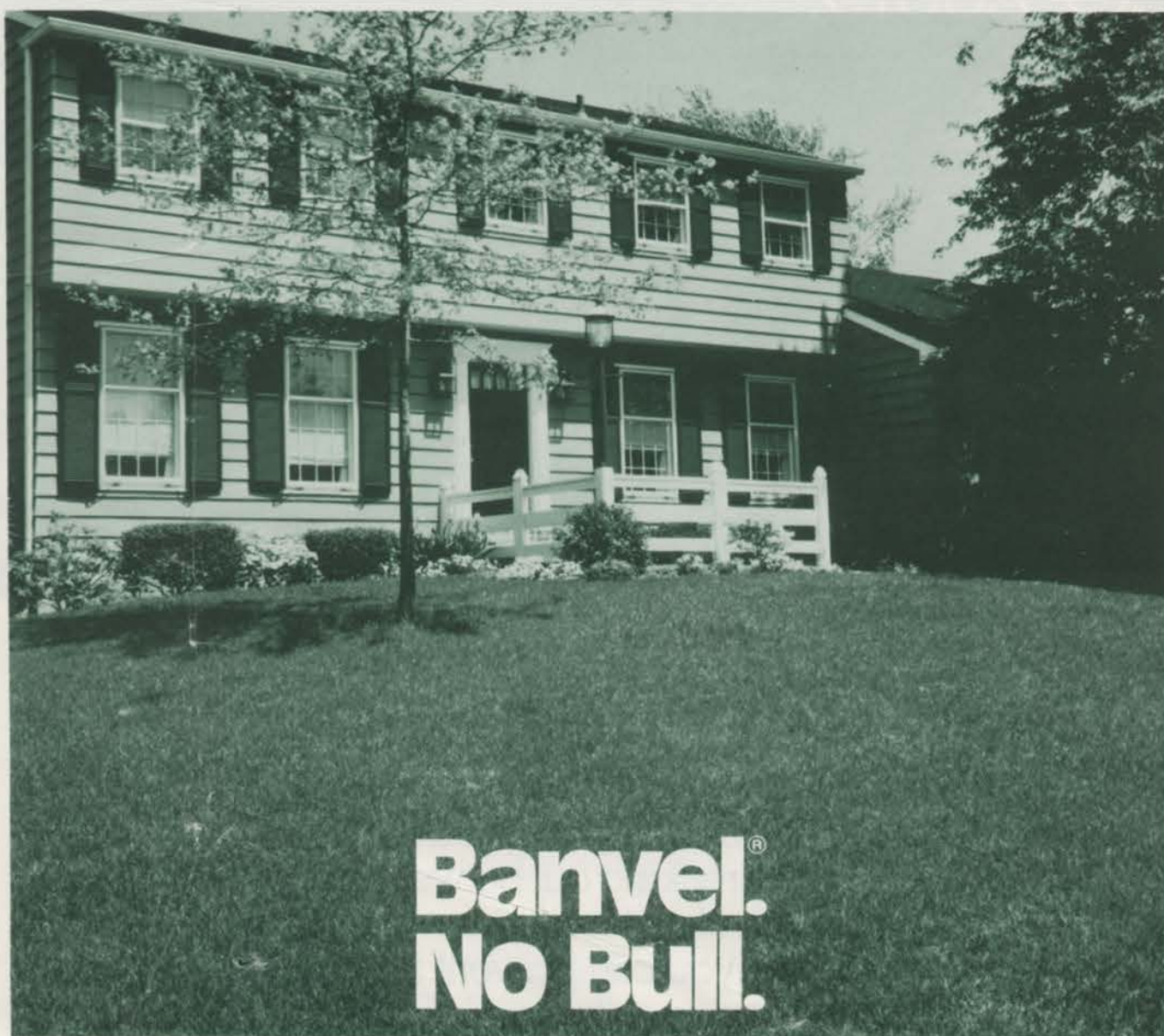
### HMC yard blower wins product design award

The Model 600 electric yard blower, from HMC/The Green Machine, was selected 'Best in Product Design' by an international panel of judges at the recent Art Center Alumni Awards Contest in Los Angeles, Calif. The company is located in Long Beach, Calif.

## COMPANIES

### Honda names new engine distributors

American Honda Motor Co., Gardena, Calif., recently expanded its engine distributors network with the addition of Power Products Plus, Pasadena, Texas; Northcoast Power Products, Inc., Pleasant Hill, Calif.; Specialty Equipment Co., Inc., Minneapolis, Minn.; APSCO, Inc., Allegan, Mich.; and A. J. Vel, Ltd., Latham, N.Y.



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Before using any pesticide read the label.

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# LAWN CARE INDUSTRY

Just fill in card... (all items must be completed before inquiries can be processed).  
Check one box in each category

- 1** Check one that best describes your business:  
Lawn care service business involved primarily with:  
11 ☐ Residential  
12 ☐ Both  
13 ☐ Primarily mowing/maintenance service  
14 ☐ Landscape Contractor/Lawn Service Co.  
15 ☐ Pest Control/Lawn Service Co.  
16 ☐ Nursery or Garden Center/Lawn Service Co.
- 2** Check one which best describes your buying responsibility:  
21 ☐ Purchase  
22 ☐ Specify or recommend purchase
- 3** If your business sells its services to homeowners, commercial or institutional accounts please answer the following:  
**3A/ Estimated gross annual receipts from lawn service operations in current year:**  
31 ☐ Up to \$25,000  
32 ☐ \$25,000 to \$50,000  
33 ☐ \$50,000 to \$100,000  
34 ☐ \$100,000 to \$250,000  
35 ☐ \$250,000 to \$500,000  
36 ☐ \$500,000 to \$1,000,000  
37 ☐ Other: \_\_\_\_\_
- 3B/ Approximate # accounts serving in current calendar year:**  
37 ☐ Up to 100  
38 ☐ 100 to 500  
39 ☐ 500 to 1,000  
40 ☐ 1,000 to 2,500  
41 ☐ 2,500 to 5,000  
42 ☐ 5,000 to 10,000  
43 ☐ Other: \_\_\_\_\_
- 4** If you are a grounds care manager (not selling lawn care services) estimate the following:  
51 ☐ # acres you're responsible for: \_\_\_\_\_ acres  
Annual expenditures for:  
52 ☐ Chemicals \$ \_\_\_\_\_  
53 ☐ Fertilizers \$ \_\_\_\_\_  
54 ☐ Equipment \$ \_\_\_\_\_  
55 ☐ Irrigation \$ \_\_\_\_\_  
56 ☐ Plant Materials \$ \_\_\_\_\_

- 5** For more information about products displayed in this issue, print the reader service number in the spaces provided below and check out A, B, C, or D for specific information needed:  
61 ☐ Need Catalog literature  
62 ☐ Need more price info  
63 ☐ Interest in Purchasing  
64 ☐ Have specific problem—have salesmen call.

91	First Initial	Middle Initial	Last Name
92	Your Title		
93	Company Name		
94	Mail To:		
95	City	State	Zip Code
96	Phone: Area Code	No.:	

97 Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
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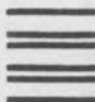
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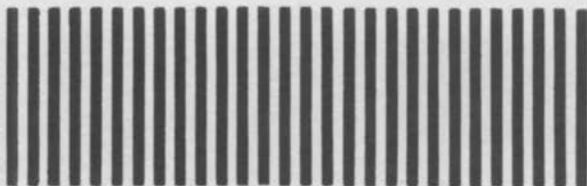
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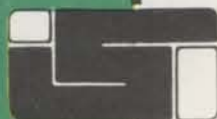
Merit was also lauded for its excellent spring color in tests at several locations.

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- Five-year New Jersey trial — Merit out-ranked Baron, Nugget, Kenblue, Park, Delft, Windsor and Geronimo.
- New York trial — Merit ranked above Baron, Kenblue and Park.
- Three-year Ohio trial (two locations) — Location # 1, Merit rated above Nugget, Fylking and Kenblue. Location # 2, Merit's ratings superior to Baron, Nugget, Kenblue and Fylking.
- Four-year Missouri trial — in season-long turf-quality ratings, Merit highest in a field which included Baron, Bristol, Fylking, Nugget, and Bonnieblue.

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# Winter fertilization reduces occurrence of turf stress

Winter fertilization of lawns can reduce the incidence of turf stress caused by excessive nitrogen applications in the spring, according to Dr. Roy Goss, agronomist, Western Washington Research and Extension Center, Payallup, Wash.

Goss, speaking at an Ornamentals Northwest Seminar in Seattle, said, "Normally, turfgrasses green up in the spring with increasing soil temperatures. Additional nitrogen may produce a stress through the growth of excessive leaves at the expense of the root system.

"So instead of promoting tender, fast growth in the early spring which stresses the roots, I encourage a slow drawdown of nutrients with applications of more fertilizer when the turf appears to need it."

**Winter fertilization.** Traditionally, lawn care operators in the Northwest make their final fer-



Dr. Roy Goss, agronomist, Western Washington Research and Experiment Center, Payallup, Wash., advocates winter fertilization to reduce the occurrence of turf stress in the spring. Goss made his presentation at the recent Ornamentals Northwest Seminar in Seattle, Wash.

tilizer application no later than August 15. However, Goss contends that the nitrogen is absorbed long before winter ends in this type of program.

"It is very important to have root storage of nitrogen so the grass can grow during thaw periods," he said. "I believe that one application in the late fall or early winter will get nitrogen into the soil for early spring utilization. With winter fertilization, spring applications can be delayed until the turfgrasses show the need."

Goss recommends a winter fertilization program of at least one pound available nitrogen per 1,000 square feet of turf. "If there is a need for potassium and phosphorus, a 3-1-2 NPK ration is suitable."

The late fall or winter application is followed by a second application as late as June 1, and a third fertilization between August 15 and September 15. "A program such as the one described would result in a total nitrogen application of three to four pounds of available nitrogen per 1,000 square feet for the year.

"We are talking about a low maintenance program," he added. "Those of you dealing with more

discriminating clients may have to apply at higher rates, but one to one-and-one-half pounds nitrogen will provide a good minimum program."

Eight pounds of nitrogen per 1,000 square feet produces the highest quality turf, while four pounds per 1,000 square feet is sufficient for a quality lawn, according to Goss.

**Leaching.** Soil types often determine the success of a fertilization program. "The heavier the soil type, the better it will hold nutrients against leaching," Goss said. "Sandy soil can leach nutrients quickly."

That is one reason Goss recommends applying lower levels of nitrogen. "During the first 15 years of our research programs we recommended nitrogen levels up to eight pounds per 1,000 square feet, formulated in a 3-1-2 ratio with phosphorus and potassium.

"Without a doubt, this produced lush green lawns," he added, "but there was also an element of waste involved through leaching of nitrogen.

**Grass clippings.** During these times of soaring fertilizer costs, Goss also recommends leaving grass clippings on turf. "When the clipping's yield for a lawn over an entire year is computed, the amount of nutrients removed from the soil . . . is significant."

In fact, one clipping's analysis has shown nutrient content to be as high as three to five percent nitrogen, two to three percent potassium and .25 to .5 percent phosphorus.

To illustrate his point, Goss currently has two test plots receiving the same care except for mowing practices. One is mowed with a mulching mower which incorporates the clippings into the turf, while the other is mowed by a rear-bagging unit which picks up the clippings. Not surprisingly, the plot with the mulched clippings is significantly greener, according to Goss.

"Clipping removal . . . is more of an aesthetic factor than any other reason," he said. "Lawns should be mowed a minimum of once per week and preferably twice during the fastest growing season.

"Less tissue will be removed by more frequent mowing. There will also be less injury to the turfgrass plant and short clippings will filter into the lawn and not be too noticeable."

**Thatch accumulation.** Opponents of mulching argue that clippings contribute to thatch development. Goss disagrees. "The effect of thatch development on the lawn is near zero," he said. "People commonly believe that thatch is caused by clippings, but it is the stems, crowns, leaf sheaths and roots that cause thatch. Clippings generally recycle within a year."

**Effect on turf diseases.** Although there are a number of

advantages to lower fertilizer rates, there are also several disadvantages.

"One of the best means of dealing with red thread and leaf rust diseases is applications of nitrogen," Goss said. "Both of these diseases affect the leaves, and with an adequate growth rate the infected portions of the leaves are cut and new tissue, without infection, dominates." Therefore, if grass is growing very slowly, the effects of both red thread and leaf rust are accentuated.

Excessive levels of nitrogen also stimulate greater infection from *Fusarium nivale* and *Helminthosporium*, according to Goss. "It would be wise, therefore, to adopt a medium nitrogen application program," he said. "One that will stimulate adequate growth, but not trigger epidemics of those diseases that respond to higher nitrogen treatments."

Goss added that potassium and sulfur are two of the most impor-

tant elements in controlling turfgrass diseases. "Grasses well supplied with both potassium and sulfur have less disease, particularly *Fusarium* patch, red thread and *Helminthosporium*."

**Conclusions.** High quality turf can be maintained with a maximum of five to six pounds available nitrogen per 1,000 square feet per year, according to Goss. A moderate quality turf can be maintained at three pounds per 1,000 square feet per year. Further, soil tests can be employed to determine phosphorus and potassium needs of particular soils.

"Judicious timing of fertilizer applications and maintaining only the rates that are required for normal growth will result in good quality lawns," Goss said. "Your daily management of mowing, watering, weed control, thatch control and possibly disease control are the other important factors that go into quality turfgrasses."

## COST CUTTINGS

### Do you need electronic data processing?

Lawn care businessmen unable to afford a computer of their own can still benefit from electronic data processing systems by investing in a service bureau.

"The business of a service bureau is to process your data and produce the reports you require," John D. Caley, senior consultant, Lavenhol, Krekstein, Horwath & Horwath, Phoenix, Ariz., said. "The types of services offered vary from city to city, and the number of service bureaus available also varies, depending on the size of the business population in the area."

In a typical arrangement with a service bureau, Caley said, source documents like checks, sales slips and receipts are delivered by or mailed to the service bureau on an established schedule. The service bureau staff key punches the transactions onto cards or tapes to be used as input to the computer. The computer then processes the input and prints the reports according to the programs written earlier by the service bureau staff.

Some lawn care businessmen use a service bureau for only one business function, while others may use it for a variety of reports. Could you benefit from working with a service bureau? Take the following test and find out.

### DO YOU NEED EDP?

How many of these do you have each month?	Give yourself these points	Your points
Number of checks written . . . . .	10 points for each 100	___
Number of employees (including salesmen) . . . . .	1 point per employee	___
Number of customers' accounts receivable . . . . .	10 points for each 100	___
Number of invoices you prepare . . . . .	10 points for each 100	___
Number of purchases or purchase orders . . . . .	10 points for each 100	___
Number of different items you carry in inventory . . . . .	10 points for each 1,000	___
Do you have very large items in inventory, such as trucks? . . .	10 points if answer is yes	___
Do you need help in keeping track of your inventory? . . . . .	10 points if answer is yes	___
Total points for your business . . . . .		

If you fill in the blanks honestly and your total comes to 100 or more, you would probably benefit from using a service bureau, according to Caley. Even if your total is less than 100, you might be able to benefit. But no simple test such as this can make the decision for you.



# Understanding the pros and cons of perennial ryegrasses

In the last five years there has been a tremendous increase in the use of perennial ryegrass as breeding programs have provided new, medium textured, improved cultivars. These new varieties have greatly expanded the capability of the professional turfgrass manager, as they are being used more and more frequently on golf courses, athletic fields and home lawns.

Speaking at the Ohio Turfgrass Conference, John R. Hall, III, extension specialist at VPI & SU, Blacksburg, Va. said it is extremely important for the professional turfgrass manager to be aware of the capabilities as well as the limitations of perennial ryegrasses.



Dr. John R. Hall III is an extension specialist at VPI & SU in Blacksburg, Va.

Some of the strengths of the perennial ryegrasses, according to Hall, include the fact that they are medium textured in blade width and blend well with Kentucky bluegrass, Hall said. "They have exhibited good traffic bearing characteristics and show a strong recuperative potential especially during the cooler periods."

Ryegrass may grow four to five weeks longer in the fall and green-up four to five weeks earlier in the spring than the Kentucky bluegrasses. This can be either an advantage or a disadvantage, Hall said. "In situations where the extended growing season is needed, it certainly is an advantage to have this extra growing period. However, in situations where this simply means eight to 10 more mowings a year, it certainly is an added cost."

The improved perennial ryegrasses appear to be able to survive at lower mowing heights than the Kentucky bluegrasses. In test plots at Blacksburg, Hall said perennial ryegrasses have been observed to survive for 18 months under Bentgrass putting green management at 4/16 inch of mowing height. "This ability to withstand low mowing height would, of course, diminish as heat and disease stress increased," Hall said.

"The improved perennial ryegrasses have exhibited good short term drought color," Hall continued. "During the 20 to 40 day

periods with limited water availability, they have maintained good green color in situations where Kentucky bluegrass has gone dormant. It is likely, however, that they have less ability to withstand a long-term drought, in that they lack rhizomes and the early warning dormancy capability of Kentucky bluegrass.

"The new ryegrasses have been very popular on athletic fields where they appear to develop a stronger root-soil bond than Kentucky bluegrass. There has been less flaking and shearing of the turf at the thatch-soil interface in situations where the perennial ryegrasses have been overseeded into Kentucky bluegrass athletic fields."

This characteristic, Hall said, has been an advantage to the lawn maintenance industry in that it has made possible the successful overseeding of semi-thatchy areas. "In the past the limited seedling vigor of Kentucky bluegrass made it difficult, if not impossible to successfully introduce new turf varieties into lawns where thatch depth exceeded one quarter of an inch."

Hall said the new ryegrasses have been excellent for overseeding bermudagrass tees, fairways and home lawns. "While their quick germination and desirable texture and color have provided excellent winter quality, their ability to persist into the summer provides a smoother transition back to bermudagrass than has been possible with annual ryegrass."

Some of the weaknesses of perennial ryegrasses, which Hall said have been observed in the Virginia test plots, are disease susceptibility, non-uniform upright growth habit, lack of mowing quality, slow lateral growth habit and a lack of seedling winter-hardiness.

During hot weather, the perennial ryegrasses appear to be extremely susceptible to *pythium* spp. and *Rhizoctonia solani* activity. Hall mentioned unpublished data of Dr. H. B. Couch of Virginia Tech, which indicates that there is a range of varietal resistance to these disease organisms, but stated that as a group of grasses, the perennial ryegrasses appear to exhibit less resistance to these hot weather diseases in the field than the improved Kentucky bluegrasses.

Ryegrasses are also susceptible to *Helminthosporium sativum* and *Corticium fuciforme* (Red Thread). Disease resistance is therefore a major concern in breeding programs of improved perennial ryegrasses. At this point, disease susceptibility is the major drawback in the use of the improved perennial ryegrasses, according to Hall.

Mowing quality is still considered poor on the perennial ryegrasses, Hall added. "In early spring and late fall the ryegrasses exhibit rapid and relatively upright elongation rates which necessitate more mowing in bluegrass-rye-

## A generalized comparison of the improved Kentucky bluegrasses and the improved perennial ryegrasses.

Characteristic	Kentucky bluegrass	Perennial ryegrass
Establishment rate	poor	excellent
Heat tolerance	fair	poor
Spring green-up	fair	good
Shade tolerance	fair-poor	fair-poor
Disease resistance	fair	poor
Low mowing tolerance	fair	excellent
Thatch buildup potential	good	?
Mowing quality	good	poor
Short-term drought color	poor	good
Long-term drought survival	good	fair
Divot-healing potential	good	poor
Root to soil bond	fair	good

grass mixtures, than in straight bluegrass stands." Of the ryegrasses, Hall mentioned Citation and Diplomat as having the best season-long mowing quality.

Hall mentioned another study conducted at the University of Maryland in the summer of 1975 that suggests that ryegrasses do not exhibit the lateral healing growth habit of the Kentucky bluegrasses. "In this study, cup-cutter size divots were removed and the soil replaced in such a manner as to allow normal healing of the divot. Fifty days after the cut had been made, the percent of the divot that was healed was recorded." In this study, Hall noted, the Kentucky bluegrasses exhibited much better healing potential than the perennial ryegrasses, with Merion bluegrass recorded at 89 percent healed as compared to the NK-200 variety of ryegrass at

only 13 percent.

Since the perennial ryegrasses exhibit summer disease susceptibility in transition-zone climates, it is of major concern that they have shown a tendency to be extremely aggressive in certain situations when mixed with Kentucky bluegrass, Hall said. "The degree of aggressiveness is dependent on several factors including what variety of ryegrass is mixed with what variety of bluegrass."

However, Hall said, in studies seeded at Virginia Tech in April of 1972, containing 87.5 percent Merion Kentucky bluegrass and 12.5 percent Manhattan perennial ryegrass, (bluegrass: ryegrass seed ratio of 69 to 1) the ryegrass made up 58 percent of the ground cover by April of 1977.

"While this does not appear to be a serious problem where rye-

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## TOOLS, TIPS & TECHNIQUES

### Reducing foaming during agitation

One tablespoon of kerosene added to 100 gallons of solution will effectively reduce foaming in spray tanks during agitation, according to Jeff McKinney, regional agronomist for ChemLawn Corp., Columbus, Ohio.

McKinney, speaking at the Pennsylvania Turfgrass Conference, said, "There are many products you can put into a tank mixture that will decrease foaming, but we found plain old kerosene to be very effective."

Excessive foaming is one characteristic of chemical incompatibility, but it certainly isn't the only characteristic. Others include sludge formation, salting out and unstable mixtures.

The first step in preventing incompatibility, according to McKinney, is to read product labels carefully. Secondly, lawn care operators should label all products clearly, particularly when buying in bulk.

"I don't know how many times I have been called in on a situation where an applicator has filled his vehicle with the wrong products," McKinney said. "So please label these products very clearly and precisely."

Yet another suggestion for preventing incompatibility concerns mixing products in the proper sequence. McKinney said if products are mixed out of sequence they may not go into solution correctly. Therefore, he suggested the following mixing sequence:

- Add water and liquid fertilizer.
- Start agitation.
- Add wettable powders.
- Add flowables.
- Add water solubles.
- Add emulsifiable concentrates.

Regarding mixing flowable lime in tank formulations, McKinney said, "You have to keep in mind that lime has an extremely high pH, so you should think twice before mixing it with a pesticide. If not, you could run into some serious problems with degradation of the active ingredient."



## NEWSMAKERS

Stephen G. Stys has been appointed sales manager by **Rockland Chemical Co., Inc.**, West Caldwell, N.J. He has spent the past 23 years selling pesticides to the lawn and garden industry, the last eight years as an area sales and marketing manager with Rockland. He is a graduate of University College, **Rutgers University**, and is a member of the executive board of the Passaic County Board of Agriculture, and a member of the New Jersey Pesticide Association.

Dennis A. Himschoot has been



Stevenson



Talach

named manager of contract production for the Western Division of **Oseco, Inc.**, Brampton, Ontario, Canada. The division is headquartered in Edmonton. He is a graduate in agriculture from the University of Alberta with a specialization in agronomy. He has worked in seed multiplication for Oseco since 1978. Also, the company has named Zeb Talach sales manager. He comes to Oseco from Pfizer C & G, Inc., where he held a number of management positions in their agricultural chemical and seed corn divisions.

William Lee Stevenson has been named director of engineering for **Ransomes, Inc.**, Johnson Creek, Wis. The company manufactures the Bob-Cat lines of lawn and turf equipment. In the past, he has functioned as project engineer in the design and development of tractor equipment and mowers. He has a degree in agricultural engineering from Iowa State Univer-

sity and is a registered professional engineer.

Randall M. Kersten, Jr. is owner of **Randall M. Kersten, Jr. Landscape Management Co.**, Anaheim, Calif. Jaime S. Torres is general superintendent. The company offers mowing/maintenance and both liquid and granular chemical lawn care.

W. S. Blunschi, Jr. is president of **Lawn Control, Inc.**, Smyrna, Ga. The company offers liquid chemical lawn care.

Norman Berman is president of **Lawn Ranger, Inc.**, East Brunswick, N.J. Joel Levy is secretary/treasurer. The company offers both liquid and granular chemical lawn care.

Robert C. Lane and Randy L. Lane are co-owners of **Pro-Lawn Liquid Lawn Care Co.**, Monticello, Ind. The company offers liquid chemical lawn care and tree and shrub care.

Calvin Sanders is owner of **Calvin Sanders Landscape Maintenance**, Hillsboro, Ore. VaLynn Sanders is co-owner. The company offers mowing/maintenance and both liquid and granular chemical lawn care.

Dean Squier is president of **Techniturf, Inc.**, South Berlin, Mass. Alan Bebka is logistics manager and James Fothergill is fulfillment manager. The company offers both liquid and granular chemical lawn care.

Juris P. Gutmanis is owner of **Wisconsin Tree Service**, Milwaukee. The company offers mowing/maintenance and both liquid and granular chemical lawn care.

Dr. Robert M. Barry, operations manager for **R. W. Collins, Inc.**, a Florida-based company with chemical lawn care and household pest control divisions, has announced the promotions of Mike Steele to St. Petersburg, Fla. lawn service branch manager and Larry Gluck to Fort Myers, Fla. lawn



(Left to right) Chin Chi Hsu, Honda Power Products planning and marketing manager, Elmer Barbettini, Eastside Gardeners Association president and Mike LeMarie, Honda Power Products sales representative discussed the design, development and manufacture of Honda's general purpose engine at a recent meeting of the Eastside Gardeners Association.

service branch manager. Dr. Barry also announced that Robert Jacobs, a recent **Auburn University** graduate, has joined the company as pest control specialist in the Indian Harbour Beach, Fla. branch.

C. W. McCormack is general manager **Quality Pest Control, Ltd.**, Don Mills, Ontario, Canada. The company offers both lawn care and pest control services.

Robert Snow is manager of **Lawn Pro, Inc.**, Charlton, Mass. The company offers both lawn care and pest control services.

Philip T. McCabe is president of **Yard-Tech, Inc.**, Atlanta, Ga.

Glenn Childs, manager of the California Distribution Center of **Gravely, Inc.**, Clemmons, N.C. has announced a number of new Gravely tractor dealers:

**S & S Power Equipment Inc.** has been appointed Gravely dealer for the Seattle, Wash. area. Jack Lewis is owner of the company.

**Gravely Sales & Service**, formerly **Gravely-Oregon**, has been appointed a dealer for the Portland, Ore. area. Gordon Shannahan is company owner.

**Motor Cultivator Co.** has been named Gravely dealer for the Los Angeles area. Dan Nevitt is owner of the company.

**Toro Pacific Distributing**, City of Industry, Calif. has been named Gravely dealer for the greater Los Angeles area. Co-owners of the company are Richard Danielson and Dennis Schmid.

**Fallbrook Tractor & Equipment Co.** has been appointed Gravely dealer for the Fallbrook, Calif. area. Owner of the company is F. W. Jarnot.

**Bar-Hein Co.** has been appointed Gravely dealer for the Sacramento, Calif. area. Josephine Mysicka is owner and John

Mysicka is general manager of the company.

C. S. Johnson is president of **Amcare Grounds Maintenance, Inc.**, Houston. H. S. Martinez is operations manager and J. D. Perwin is vice president. The company offers mowing/maintenance and both liquid and granular chemical lawn care.

James Comrada is president of **Biome Complete Yard Care**, Bainbridge Island, Wash. The company offers mowing/maintenance, landscape gardening and both liquid and granular chemical lawn care.

Kenneth A. Balson is owner of **Canadian Valley Lawn Services**, El Reno, Okla. The company offers mowing/maintenance and granular applications of fertilizers and pesticides.

Warren E. Jackson is president of **Chemat-Phy Research, Inc.**, Port Arthur, Texas. The company offers both liquid and granular application of chemicals, and also does tree work.

David Schodde is president of **Enumclaw Landscape Maintenance, Inc.**, Enumclaw, Wash. The company offers mowing/maintenance and granular application of chemicals.

Bert Braman is president of **Fox Valley Professional Lawn Care, Inc.**, Neenah, Wis. Alan Nees is branch manager, Karen Braman is secretary/treasurer, and Brad Eastman is vice president. The company offers liquid chemical lawn care, and is a **ChemLawn Corp.** franchise. ChemLawn is based in Columbus, Ohio.

Donald W. Metzger is president of **Saginaw Valley Lawn Care**, Flint, Mich. William J. Sprague is secretary/treasurer and David J. Richvalsky is supervisor. The company offers liquid chemical lawn care and hydroseeding.

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# New warm-season turfgrasses score well in California tests

Two new warm-season turfgrasses—'Adalayd' and 'Futurf'—show good potential for use in Southern California landscapes, according to studies conducted by University of California researchers.

Although neither variety is likely to replace currently popular warm-season turfgrasses, both possess characteristics that warrant their inclusion in listings of turfgrasses suitable for southern California conditions and turf management practices.

**Establishment.** 'Futurf' and 'Adalayd' are both selections of *Paspalum vaginatum* that were found in Australia during the 1970's. *Paspalum vaginatum*, native to tropical and subtropical America, is primarily used in the United States, South Africa, Australia and New Zealand as a salt-tolerant turf.

*Paspalum vaginatum* spreads mainly by thick stolens and to a lesser degree by dense networks of smaller rhizomes. It is unable to withstand long periods of sub-freezing temperatures.

Studies of the two new warm-season turfgrasses were conducted at the University of California South Coast Field Station near Santa Ana, Calif. Observation plots were established in October 1976.

'Futurf' and 'Adalayd,' along with 'Santa Ana' hybrid bermudagrass were stolonized in separate 12- by 40-foot plots at the rate of three bushels per 1,000 square feet. Five pounds of ammonium phosphate per 1,000 square feet were incorporated into the top two inches of soil in each plot and a light topdressing of soil was spread over the stolons before they were pressed into the soil with a planting roller.

The plots were kept uniformly moist by sprinkler irrigation and fertilized monthly with ammonium sulfate (one pound of actual nitrogen per 1,000 square feet) until the grasses completely covered their individual plots.

Although the two *Paspalum* varieties showed quicker greening after planting, the 'Santa Ana' hybrid bermudagrass covered its designated plot area sooner. Overall, it took four months for full establishment of 'Santa Ana' and almost five months for the *Paspalum* varieties.

However, if planted in the spring or summer, properly maintained *Paspalum* plantings could be expected to become fully established within two or three months.

**Treatments.** Among the objectives of the research was to determine whether 'Futurf' and 'Adalayd' were better suited to low or high mowing, and to establish the amount of nitrogen fertilizer required to maintain a quality turf.

Reel type mowers were used in the research with ½ and 1½ inch mowing heights. Clippings were removed from the plots at the time of the mowing.

Annual nitrogen treatments totaled two, four, six and eight pounds of nitrogen per 1,000 square feet. Table 1 shows the fertilizer application schedule for each of the four rates used in the study. Each application was made at a rate of one pound of actual nitrogen using ammonium sulfate. Treatments were started in February 1977.

**Measurements.** Regular monthly turf quality evaluations began in August 1977. A zero to 10 rating system was used with zero representing totally dead turf; one to three, unacceptable and unrecoverable turf; four to six, unacceptable but recoverable turf with proper maintenance; and seven to ten, acceptable turf quality. The scores were the average of at least two observers' monthly ratings.

**Results:** Overall turf quality scores during the first 15 months of the study showed the three grasses under study produced acceptable turf.

As indicated in Table 2, mowing height did not affect turf quality during the first 15 months of the study. Further, reports from Australia indicate *P. vaginatum* performs well at cutting heights as low as one-quarter inch.

The research also showed that nitrogen fertilization enhanced the turf quality of all three grasses (Table 3). However, the two pound nitrogen treatment resulted in significantly lower turf quality scores for all grasses than the higher rate treatments.

A suitable yearly nitrogen fer-



Dr. Victor A. Gibeault is one of four University of California researchers who studied 'Adalayd' and 'Futurf' warm-season turfgrasses.

tilizer rate appears to fall within the four to six pound range. Results from the study indicate the need to look more closely at the timing of nitrogen applications, because the higher (six to eight pound) rates included fertilizer applications during the summer on the plots most troubled by scalping injury in late summer.

The study also indicated that seed head production was markedly reduced during the evaluation period at the higher nitrogen levels. Visual observations indicated that the *Paspalum* varieties were less prone to unsightly seed head production when regularly mowed than was the 'Santa Ana' hybrid bermudagrass.

Further, the research indicated scalping injury rose in the grasses as the nitrogen fertility rate increased. Particularly noticeable was the tendency of *Paspalum* varieties to show more scalping injury when subjected to summer nitrogen fertilization (six to eight pounds per year). Results from the study strongly indicate that timing nitrogen applications to avoid summer growth can greatly reduce scalping during summer.

**Thatch production.** *Paspalum* varieties produced approximately 30 percent less thatch than the 'Santa Ana' hybrid bermudagrass. This finding indicates that the *Paspalum* varieties require less

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Table 3. Mean turf quality scores for 15 months for grasses treated with four nitrogen fertility levels

Grass	Quality at following nitrogen rates (lb N/1,000 sq ft/yr)			
	2	4	6	8
'Adalayd'	6.0a	6.3b	6.5c	6.9d
'Futurf'	5.6k	6.5e	7.0m	7.1m
'Santa Ana'	6.1x	6.5y	6.8z	6.9z

\*0 to 10 rating scale: 10 = best quality.

Table 2. Mean turf quality scores for 15 months for three grasses mowed at ½-and 1¼ inch cutting heights

Grass	Quality at following cutting heights*	
	High	Low
'Adalayd'	6.4	6.4
'Futurf'	6.6	6.5
'Santa Ana'	6.6	6.5

\*0 to 10 rating scale: 10 = best quality

Table 1. Schedule of nitrogen applications, by month

Schedule at following nitrogen rates (lb N/1,000 sq ft/yr)			
2	4	6	8
			February
	March	March	March
May	May	May	May
		June	June
		August	August
September	September	September	September
	November	November	November
			December

## MONEYWISE

### Changes proposed for Subchapter S corps.

Small corporations such as lawn care companies should gain from changes proposed for Subchapter S corporations.

Private concerns electing c overage by that tax-code section keep corporate form, but get taxed like partnerships: Taxes apply mainly at the shareholder, not the corporate level. Now the staff Congress' Joint Taxation Committee has proposed simplifying the complex law to widen its use and remove "tax traps" and "unintended benefits." A spokesman for the Committee said: "There's too much gamesmanship in it now, we want to make it work in a reasonable way."

The long-pending plan reflects ideas from tax accountants and lawyers and the Treasury. The proposals include raising and permitting number of holders to 25 from 15 and removing the eligibility limit on passive investment income. Others would liberalize rules on passing through income to holders for tax purposes, carrying forward losses, and making distribution to holders.

The changes probably won't come this year because of the limiting time remaining for Congress. Subchapter S companies don't pay corporate income tax; the shareholders are taxed as if they were partners. Stockholders can also apply losses from business operations to personal income, as in partnerships. The recommendations would also end the right of new shareholders to terminate a company's Subchapter S status.



# Lawn care businessman's guide to labor problems

by Richard I. Lehr, attorney

The increasing prominence of the lawn care industry in American business will no doubt lead to labor problems which were perhaps unforeseen when the typical lawn care employer sprayed his first lawn.

New and prospering industries, such as the lawn care industry, regularly attract unions which seek new sources of revenue. When the lawn care employer reaches the magic number of 15 employees, he then should be concerned about his equal employment obligations.

Wage and hour matters are complicated in the lawn care industry, as the typical lawn care businessman tries to work through the myriad exemptions and requirements for paying his employees properly.

Finally, the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) are working as a tag team to focus on the invisible hazards in the workplace, such as the insecticides and other pesticides sprayed by lawn care companies.

A sensible approach for reducing the possibility of labor problems that could affect lawn care employers' profitability and peace of mind is to know the new developments in the labor law area and respond to these developments by taking the necessary steps to avoid labor conflicts.

This issue marks the initial publication of a monthly column concentrating on labor relations matters that affect lawn care businessmen.

Though the subjects discussed will vary according to recent legislative, administrative and judicial developments, I hope to include new developments in the unioni-

zation, equal employment, occupational safety and health and wage and hour areas. Besides informing lawn care businessmen about new labor relations trends and developments, labor questions from lawn care employers will be answered in this column.

## UNIONIZATION

**Discharge of supervisor for union activity.** The National Labor Relations Act does not protect supervisors from discharge or discipline for participating in union or concerted activity. The employer has the privilege to discourage such activity among his supervisors, and may discharge a supervisor who is not loyal to the management objective of avoiding or defeating union activities. The employer does not have the same prerogative with non-supervisory employees; discharging those individuals for union activity is generally illegal and may result in reinstatement and back pay for the discharged employees.

In the recent case of DRW Corp., the National Labor Relations Board held that an employer unlawfully terminated a supervisor who engaged in union organizing activities among the employer's employees. The supervisor had played a significant role in the union organizational campaign by hosting union meetings in his home and passing out union authorization cards.

While noting that the employer has the privilege to terminate supervisors for union activity, the Board distinguished this case from that general rule because the employer terminated a non-supervisory employee at the same time he terminated the supervisor, and publicized the fact that both employees were terminated be-

## MARKETING IDEA FILE

### Lawnmark sweeps customers off their feet

Marty Erbaugh, president of Lawnmark Associates, Peninsula, Ohio, is constantly searching for new ways to improve his company's winter cash flow through ad-on services, and two years ago he came up with one of the all-time winners—chimney sweeping.

"It's a small component of our sales compared to the lawn care business," Erbaugh said, "but it increases our contact with lawn care customers throughout the year."

Called 'Mr. Sweep,' Lawnmark's chimney sweeping service is currently available in four cities—Cleveland, Akron, Milwaukee and Rochester. Because peak season for chimney sweeping is late fall and early winter, the service is well suited for the lawn care industry, according to Erbaugh.

"We had been looking for a service we could provide to lawn care customers for which the demand peaked at the opposite time of the year," he said, "and we came across chimney sweeping. We actually start doing it in August and September, but the demand peaks in October, November and December."

A second advantage is both services utilize the same customer base—upper middle class suburban families earning between \$20,000 and \$30,000 annually.

"The chimney sweeping market is identical to the lawn care market," Erbaugh said. "The only difference is chimney sweeping is a safety sale, while lawn care is an aesthetic sale."

"Our primary source of work still comes from lawn care clients," he added, "but we're starting to get a lot more inquiries from non-lawn care customers as the service becomes more popular."

"Often times the same guys that are involved in lawn care are involved in chimney sweeping," he added, "and they seem to enjoy it. They wear top hats and tails and I know the customers get a kick out of it."

Cost of the service is about \$45 per cleaning, although the price varies from job to job. During peak season, the average sweeper cleans four to six chimneys per day and 20 to 30 chimneys per week. "For every fully productive unit out there we can average about \$1,000 a week in billings," Erbaugh said. And that has to help the winter cash flow.

cause of their union activities. The practical significance of the case is that the employers may still terminate supervisors for their union activities, but employers should not publicize the termination in a way which would imply to non-supervisory employees that they could also be terminated for union activities.

## EQUAL EMPLOYMENT

**The Equal Employment Opportunity Commission suggests alternatives to laying off employees.**

Lawn care businessmen may be laying off employees as the end of the lawn care season approaches, or in response to a poor economic climate nationally.

The Equal Employment Opportunity Commission (EEOC) has suggested alternatives to the permissible practice of "last hired, first fired." The Commission has found that laying off according to seniority generally means that many of the last hired individuals who were female or black are the first to be laid off.

The Commission encourages employers to consider work-sharing programs, such as reduced hours and schedule flexibility for all employees, so the economic burden is shared equally and no employee loses his job. To promote this flexibility, a federal bill has been introduced which would encourage state unemployment compensation to cover shortened employee work weeks, so while no employees would be laid off, all employees would be eligible for unemployment benefits to compensate them for their reduced hours.

The EEOC suggestions are not legally binding; they are merely recommendations for alternatives to the traditional method of laying off according to seniority. The lawn care businessman who must lay off employees could do so by following the EEOC suggestions, seniority, or some system distin-

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guishing employees according to merit, such as productivity. The latter system is the most difficult and time-consuming; the seniority system approach has been upheld by the courts as a permissible method for basing lay off decisions, even though it may have a disproportionate impact on newly hired women or minorities.

**Increase in age discrimination suits.** The Age Discrimination in Employment Act prohibits discrimination on the basis of age against individuals between ages 40 and 70. Age is the fastest growing equal employment area, exceeding sex and race. It is anticipated that the number of age discrimination cases brought this year will double last year's total.

The squeeze of inflation, better health of old people and the social interchange and mental stimulation provided by work are prompting older workers to forego early retirement and stay on the job longer. Older employees are bringing age discrimination suits in situations where employers show a preference for younger, less experienced employees. Lawn care businessmen should continue to document employment decisions. If an older employee alleges that the employer discriminated against him because of age, the employer then can explain the non-discriminatory reasons for the way the older employee was treated.

The prolonged productivity of older workers and age discrimination prohibitions are slowly bringing age neutrality into critical personnel policies, such as hiring, separation, paying benefits, performance appraisal, career counseling and training and development.

**Equal pay award against the federal government.** As an example of failing to "practice what you preach," the federal government has been ordered to pay approximately \$16 million to 324 women who charged that the Government Printing Office discriminated against them in violation of Title VII of the 1964 Rights Act and Equal Pay Act. The 324 women who sued performed jobs which were essentially the same as those performed by men who were paid 70 percent more than the women were paid.

#### WAGE AND HOUR

**Employee wage deduction rule.** Internal employee theft of equipment and money increases during economically difficult times. Employers who deduct the money or the value of equipment from employees' wages are in violation of the law if those deductions bring the employee's average hourly wage rate below the current minimum of \$3.10 per hour (which will rise to \$3.35 per hour January 1). These situations of illegal deductions most frequently occur in service industries, such as the lawn care industry, where employees either handle financial transactions or have independent access to equipment and supplies.

#### OCCUPATIONAL SAFETY AND HEALTH

**Nitrofin pesticides recalled in response to applicator risks.** The Rohm & Haas Co., according to the EPA, accepted cancellation of its

registrations for herbicide TK (nitrofin) until the company develops application procedures which satisfactorily provide for the safety of the applicators. The company agreed to cancel the registration of its pesticides when the company was unable to engineer applicator exposure controls which were acceptable to federal and state regulators.

While on the subject of applicator exposure controls, careless work practices in California in the handling and application of the herbicide 2,4-D are suspected as the cause of severe nervous disorders in seven people in California. According to the California hazard alert system, the affects of 2,4-D exposure on humans include nausea, numbness and sometimes paralysis, but typically occur only after heavy exposure. While there will be further research by the California Department of Occupational Safety and Health on 2,4-D's carcinogenicity, it is believed that poor work practices in the handling and application of the herbicide caused the nervous disorders listed above.

**House bill passes requiring flexibility in rules for small businesses.** On September 9, the House approved a bill (S. 299) which would require the OSHA and other federal agencies, when conducting rule-making proceedings, to analyze the potential impact of the proposed rule on small businesses.

Known as the "Regulatory Flexibility Act," the bill proposes to command regulatory agencies to recognize the impact of their rules on smaller businesses. Every federal agency would be required to publish a semi-annual regulatory flexibility agenda detailing those rules that it anticipates promulgating which can be expected to have a significant economic impact on smaller businesses. The bill would also require the agencies to give notice to smaller businesses about potential rules which would affect them economically, so the smaller businesses could reply and seek modifications before the rules become effective.



#### Jacobsen sponsors turf seminar

College students receive first-hand experience on using turf maintenance equipment during field day exercises at a recent turf seminar sponsored by Jacobsen Division of Textron Inc., Racine, Wis.

Attending the annual school were 47 students studying turf care and related subjects from throughout the United States and Canada. Tony Grygera (seated), product manager, Turf Products, explains operational controls on the company's 'Turf King' riding reel mower.

The seminar covers training on hydraulics, engines, mowers, mowing units and turf tractors through demonstration and student operation. Established in 1967, Jacobsen's seminar is the first and only company-sponsored program of its kind in the industry, according to Jacobsen.

Further, the company has been active in field and factory training for 25 years, and has trained more than 10,000 distributor and customer personnel.

## Fine Fescue

### What is it?

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You will find it in shade areas.

You will find it on poor soils.



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# Improving lawns in shade

Establishing and maintaining a healthy turf in heavily shaded areas has long posed problems for landscapers and those involved with lawn maintenance. Tree roots compete with turf for moisture, nutrients, light and space, the net effect being that the grass suffers. There are steps that can be taken, however, to help insure a dense, green turf even in shady areas, according to Dr. William H. Daniel, extension agronomist at Purdue University.

**Alter the situation.** The first question to ask yourself is "Will the tree really be missed if you were to remove it?" Is there another tree nearby that can provide the same view and shade? If you decide that the tree is needed, says Daniel, a possible suggestion

is to thin out the inside, smaller limbs. Keeping the basic shape of the tree, open the inside up as much as possible to increase the amount of light and air coming through the limbs to the grass.

Increased air passage is healthy for the turf, so consider thinning and pruning shrubs, or even replacing existing shrubs with dwarf types or better selections. Another suggestion is to vertically cut and weaken the competing tree roots with a sharp shovel, letting the tree depend on its deeper roots for nutrition.

**Treat the soil.** Spread an inch of loose peat and a double rate of turf-type slow release fertilizer. Then till and loosen the soil as deeply as practical (two to five inches). After using a shovel or

Increased air circulation is healthy for turf, so consider thinning and pruning shrubs, or even replacing existing shrubs with dwarf varieties. Another suggestion is to vertically cut and weaken the competing tree roots with a sharp shovel, letting the tree depend on its deeper roots for nutrition.

rototiller to remove broken and loosened roots, regrade and seed or sod, as desired. This treatment reduces root competition and increases water storage capacity.

**Sodding.** Although not always the perfect answer, says Daniel, you may want to consider "instant turf." Sod allows leeway in timing and competition for space and also permits immediate access to the area.

**Seeding.** Of the red fescues, the Wintergreen, Ruby, Oasis and Pennlawn varieties are newer and preferred, says Daniel. Normally,

red fescues tolerate shade, low nutrition and neglect better than bluegrasses. They respond well to fall fertilizing, high mowing and some watering and care.

The newer bluegrasses have improved disease tolerance and lower growth habit, which makes them more valuable. Glade, Nugget, Bristol, Bensun (A-34) are some of the better shade tolerant bluegrasses. Numerous new turf-type perennial ryegrasses are increasingly available, including Manhattan, Pennfine, Derby, Citation and Loretta.

Other grasses, although less attractive alternatives, may provide the answer to the shade problem. Creeping bentgrass will tolerate shade, medium cutting height and watering. It may be disease susceptible and require some dethatching, but can be considered as a last resort.

Removing broken roots reduces competition and increases the water storage capacity of turf.

In Indiana and other areas of the Midwest, tall fescue seeded thinly and replanted is an attractive option, since it is disease and drought tolerant. Use five pounds of seed for each 1,000 square feet and overseed annually as needed.

Nimblewill is a perennial spreading stolon grass which infests Midwestern lawns and tolerates shade as well as bentgrass. Although it turns brown with frost, new growth is started from nodes in the spring.

Poa annua is a profuse, seed producing, weedy grass which does well in shade, in wet locations and cool areas. No seed is sold, but spreading clippings favors seeding where desired. Poa trivialis is often sold in mixtures for wet, shady areas.

Moss is favored by shade and may do well where turf fails. Where moss does well, it can be increased by shredding or pressing small chips onto soil at intervals and topdressing with more soil. Early spring is the best time for spreading.

**Consider alternatives.** Daniel recommends trying a number of landscaping alternatives to grass, such as using a type of ground cover near trees like Baltic, Ivy, Myrtle, Ajuga, Purple leaf, Winter creeper or pachysandra.

Around shrubs, use bark or crushed stone mulch for effect and to reduce turf needs. Also consider spreading a layer of pea gravel over soil, creating patio-type areas, or bedding low shrubs and shade-tolerant annuals for color and contrast.

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### MTD Product Line

MTD Products, Inc., Cleveland, Ohio, recently introduced its 1981 line of outdoor power equipment at the company's annual sales meeting. (Above) Sales Manager Adam Schumacher and Chief Engineer Gunter Plamper discuss features of Lawnlite tractors to a group of sales representatives.

(Left) Sales Representative Woody Warren, of F. F. Tranchina Co., operates the Model 211-386 tractor/tiller with optional V-bar frame, depth gauge wheels and tiller-furrower on the rear and tractor-tread tires on the front.



**Pamper the turf.** Should you decide that turf is the answer to your landscaping needs, there are steps that can be taken to help the lawn along. For instance, mowing higher, skipping a mowing under trees and keeping leaves raked all favor grass.

When watering, double the rate for both turf and tree, Daniel recommends. An hour per setting with ample overlap is suggested. On banks and slopes, making holes and aerifying will help get more water into the soil. Soaker hoses and split applications can also improve results.

Fertilize liberally to insure that there is an ample supply of nutrients available to the grass. Feed the lawn a medium amount based on its disease tolerance and mowing survival. If the lawn is well fed regularly (2-4 pounds of nitrogen per 1,000 square feet yearly) that is sufficient, but if the turf still looks lean, double feed under trees to force growth.

New systemic, long-lasting fungicides can reduce powdery mildew and stripe smut as well as leafspot, if these diseases persist in spite of good cultural practices.

**Improve turf stand.** If there is some grass, good soil and contour, and a sufficient amount of lawn worth saving, the following improvement program may be of help under trees.

- Spread seed in mid-August. Start early.
- Spread some peat, compost, sand or clippings.
- Spike, slice, cut, punch; make openings to aerate soil.
- Hand-water to start germination.
- Water lightly and often—every sunny day.
- As seed germinates, fertilize lightly.
- Next month fertilize again to force growth.
- Mow high and as soon as needed.

### RYEGRASSES from page 7

grass is not exposed to hot weather disease, it could be serious in areas where high temperatures and excess humidity are present. This aggressiveness would significantly increase the probability of losing the ryegrass-dominated turf to summer disease."

"In areas where summer disease pressure is heavy, the perennial ryegrasses are going to be extremely limited in their ability to provide quality turfgrass over an entire growing season," Hall said. At this point in time, the improved perennial ryegrasses are not, in my opinion, capable of providing the level of season-long quality we associate with a good Kentucky bluegrass mixture."

Hall suggested that the perennial ryegrasses should be used primarily as a support or specialty grass in areas where summer disease potential is high. In these areas, they should be utilized with the realization that they will require a fungicide program and may require annual reseeding to thicken the turf, Hall said.

"When one compares Kentucky bluegrasses as a group of grasses with perennial ryegrasses as a group of grasses (see table), it is obvious that the perennial ryegrasses have provided us with

improvements in establishment rate, spring green-up, low-mowing tolerance, short term drought color and better root-soil bond. They have made a significant contribution to our ability to reproduce quality turf in the climatic transition zone.

*Perennial ryegrasses should be used as a support or specialty grass.*

"Hopefully, the breeding programs underway at several universities and companies will provide us with stronger perennial ryegrasses to use in our attempts to produce quality turf. Be prudent in your use of the improved perennial ryegrasses, realizing their strengths and weaknesses.

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# Inside the industry

## Lawn care operators to raise prices in 1981, but is ten percent enough?

by Dan Moreland  
Associate Editor

When you ask lawn care businessmen if they are going to raise prices in 1981, they laugh. Whether you're talking to them on the phone or standing directly in front of them, without exception, they all laugh.

And it's not an embarrassed kind of laugh characteristic of girl scouts and muffler installers who know they are charging too much for their products, but more of a resigned chuckle, devoid of remorse for the customer.

Now, this type of response is something that could give a fledgling editor a complex. After all, one is not at all accustomed to being snickered at for posing a perfectly legitimate question.

Perhaps a run through the 'Rolodex' file will produce a serious-minded individual with a track record of success who will provide a legitimate answer. Here we go—Tom Brune, Atwood Lawn Spray, Sterling Heights, Mich.—phone number 9 . . 3 . . 9—3 . . 6 . . 3 . . 6.

"Tell me Mr. Brune, do you plan on raising prices in 1981?" After climbing back into his chair and regaining his composure, Brune said there is no question he is going to raise prices in the coming year. It's just a matter of how much.

**Is ten percent enough?** "I don't see how anybody can get by on raising prices only ten percent a year," Brune said. Atwood raised its prices about 12 percent in 1980 and the company still experienced difficulty in absorbing ever-escalating operating costs.

"Knowing that our costs were going to be increased this year, we raised our prices," Brune said, "but the increase really didn't get it."

And it's the same story this year. Brune, like most lawn care businessmen, is paying more for everything from insecticides to fungicides.

On the average, the cost of turf-related products has increased about 20 percent, according to Brune. "Fertilizers are a good example," he said. "What we paid \$3,000 for last year, we paid \$4,000 for this year."

"I would think if you're able to deal on anything for a 20 percent increase, you're doing all right," he added.

**Keeping prices down.** Although Turf Doctor, Inc., Framingham, Mass., has not yet announced its

1981 prices, owner John Kenney said he is doing everything he can to keep prices down.

"It's my opinion that there are an awful lot of lawn care operators running around saying something is going to go up ten percent, so why don't we raise our prices and stay ahead of the game."

"Others absorb as many price

pound it might have meant \$50 for the whole year.

"Now, a two cents a pound increase means a lot of dollar bills. Therefore, I think as we get larger, we are less likely to absorb the impact of a price increase from the manufacturer."

**Materials costs.** Increased material costs aren't only affecting lawn

increased," Shelton said. "Now we buy in ten ton lots so we get a price break."

**How far can you go?** Deborah Crawford, co-owner of Pennturf Lawn Care, Clinton, Pa., is concerned about keeping her company's price increases at the ten percent level.

"Last year our prices went up ten percent and it seemed pretty easy for people to swallow," she said, "but I just got my new prices from our supplier and the increases are so incredibly large that I don't think I'll be able to keep our increases down to ten percent."

Crawford, like many lawn care operators, is concerned that customers will not accept more than a ten percent annual price increase.

During the past decade, the cost of lawn care services have advanced at a five to ten percent annual rate. However, since 1978 prices have skyrocketed as petroleum-based turf care products have increased in cost.

As prices continue to escalate, the obvious question is how many price increases can the market bear? "It really is a valid question lawn care businessmen are going to have to start asking themselves," Brune said. "How much can you increase prices until the customer gets totally turned off and walks away from the service." Brune paused several seconds and said, "I really don't know."

Crawford said lawn care may already have become too expensive for some lawn care customers. "Lawn care used to be quite a bargain, but I don't know how many price increases the lawn care customer is willing to swallow," she said. "However, I do think it's getting to the point where lawn care is a little bit too expensive for some people."

**Shift in customer attitudes.** Brune already perceives a shift in customer attitudes, particularly in the Detroit metropolitan area where unemployment has reached 25 percent in the past year. Brune's company, Atwood Lawn Spray, is located in Sterling Heights, Mich., just eight miles outside of Detroit.

"We're in an area of extremely high unemployment," he said, "so customers are reluctant to spend money on lawn care."

Brune said this general reluctance on the part of the consumer to spend money is reflected in many areas of business including



**"Our (company's) philosophy is you better keep pace with price increases because it's too difficult to get it all back in one chunk from the customer if you get behind one year. You have got to keep pace. If you don't, you're going to suffer. — Gordon Ober, general manager, Davey Lawnscape, Kent, Ohio."**

increases as they possibly can and don't raise prices until they are forced to because they are afraid of losing customers."

What is Turf Doctor's philosophy? "I'd like to say that we have a real hard line concerning increasing prices and that we prosper terrifically from that hard line," Kenney said, "but I'm not going to say that, because we don't."

Kenney attributes his company's pending price hikes to increased material costs. "Raw material prices have a much greater impact on us as we become a larger company," he said. "A couple of years ago if someone raised their prices two cents a

care operators. Landscapers are also suffering. Larry Shelton, owner of Classic Landscapes, Raleigh, N.C., said mulch prices have increased from \$1.75 a bail to \$2.50 in the past 12 months. That is a substantial increase when you're purchasing 4,000 to 5,000 bails annually.

Further, grass seed and fertilizer prices have increased. "Grass seed in 1979 was about 29 to 31 cents a pound," Shelton said, "and now it has gone up to 36 to 41 cents a pound."

"Fertilizer prices have also gone up five to six percent, but that hasn't affected us too much because we've been able to buy in larger quantities as our acreage has



the lawn care industry. "People have been burned by the economy in the past and they're not going to forget that very quickly," he said. "We already see a bit of an upturn in automobile production and yet there is a certain amount of consumer reluctance in the dealerships. That consumer reluctance is also going to be reflected in our business in the 1981 season."

Even if the unemployment situation improves in the near future, Brune is not optimistic. He is concerned that consumers will put off purchasing a lawn service until they are sure the economy has fully recovered. "The lawn care operator lives off discretionary income," Brune said, "and I think a good deal of the consumer's discretionary income is going to be put away in the next several months. This further delays the benefit to the lawn care industry."

"And even if there is a sudden and positive upturn in the economic circumstances of this country it's not going to be enough to do us any good at the beginning of the 1981 season," he added. "It's too short a period of time and there are too many heavy expense items in there—like Christmas for example."

Because of this reluctance on the part of the consumer to spend money, Brune said he will be pleased if his company merely retains its current customer base. "We have approximately 3,000 accounts," he said, "and I will be very happy if we maintain our current enrollment."

**Others see growth in accounts.** Surprisingly, other industry representatives predict substantial growth in 1981. Davey Lawnscape, Kent, Ohio, predicts a 30 percent increase in accounts in the coming year, and Turf Doctor, Farmingham, Mass., predicts a 50 percent increase.

Davey currently has branches in 11 cities including Indianapolis, Milwaukee, Minneapolis, Detroit, Akron, Cleveland, Pittsburgh, Buffalo, Rochester, Philadelphia and Newark.

Production Manager Richard Foote said the company expects slow growth in its older markets like Cleveland and Pittsburgh and rapid growth in its newer markets like Indianapolis and Minneapolis. "We've had a steady increase in business," he said, "although not quite as much as we expected, but we have been able to maintain our profit margin even with the lower volume."

Foote said Davey also plans to expand its customer base by expanding into one or two new markets in 1981, although he refused to divulge which markets Davey is interested in.

**Cancellations up slightly.** Cancellations have not been a serious problem for most lawn care operators, even during these trying economic times. "I think our

discontinuations are up a fraction over what they were a year ago," Turf Doctor's Kenney said. "However, even though cancellations are up, there seems to be a new impetus to take a service like ours because people are beginning to realize that their property values are increasing very rapidly. We lost some customers whose pocketbooks were being squeezed, but on the other hand, we had some people scurrying to keep their properties looking as good as possible."

Pennturf Lawn Care, Clinton, Pa. also experienced a slight increase in cancellations in 1980. "I'd say we lost maybe five percent of our customers this spring," Crawford said. "People would write on their cards that they loved our service, but just couldn't afford it anymore."

She added that other customers would skip one or two applications in an attempt to save money without cancelling the service. "I was scared last year because I anticipated our cancellations were going to be worse than they actually turned out to be, but as it turned out we still doubled our accounts."

Unlike others, Atwood Lawn Sprays did not experience an increase in cancellations in 1980. "The fact that we did not service a greater number of customers this year was due to the fact that there was a greater than usual unrenewed customer segment," Brune said.

"We began to feel the shock waves last September and August when we began to see a precipitous drop in enrollment. Whereas, normally we might experience a 12 to 13 percent drop in enrollment due to people who don't renew, this year we probably experienced a 20 percent decline. That accounts for the reason we're not doing any more business."

**Coping with declining enrollment.** Brune made a number of adjustments in his business to combat the problem of declining enrollment. These included:

- Wages were frozen.
- No bonuses were awarded.
- Product purchases were carefully screened.
- A general manager earning \$30,000 per year was not replaced when he quit.
- The company's benefit package was not expanded.

**Can't get behind.** The key to coping with price increases during a recessionary period, according to Davey Lawnscape General Manager Gordon Ober is to keep pace with inflation. Ober said customers will accept a 10 percent annual price increase, but many will balk at anything more.

"Our philosophy is you better keep pace with price increases because it's too difficult to get it all back in one chunk from the customer if you get behind one year."

"You have got to keep pace. If you don't, you're going to suffer."

## Herbicide and fertilizer prices increase, seed costs stabilize

PRICE INCREASES from page 1

tank is currently \$5,710 and its 1,200-gallon tank is \$6,240. Other costs include \$1,000 for a truck bed, \$150 for hose and \$650 for a hose and reel unit. An additional \$600 to \$700 is charged for mounting all the components on a truck.

Person said the company's inventory glut is the result of a slump in forecasted sales. "What it boils down to is the market didn't follow through on the 1980 sales forecast."

**Mowers.** Excel Industries, Hesston, Kan., reports about an eight percent increase in the cost of its 72-inch, out-front riding mowers (Hustler 275, 285 and 295). The Hustler 275 will run about \$7,000 in 1981, the 285 about \$7,800 and the 305 about \$9,200.

Excel Industries also plans to introduce two new diesel units (Hustler 305 and 602) in 1981, according to Marketing Manager John Harrison. "The 305 is nothing more than our conventional Hustler with a diesel engine," he said, "and the 602 is our previous 402 hillside unit with a diesel unit in it." The 305 will cost about \$9,000 and the 602 will run "upwards" of \$17,500.

Harrison attributes his company's price increases to inflation and the fact Excel Industries is a non-union shop. "We're trying to hold prices down," he said, "but we still have to give our people pay raises and benefits offered in union shops."

**Turfseed.** One segment of the lawn care industry which plans no price increases in 1981 is the turfseed market. Last year, prices escalated rapidly because of poor crop yields. However, a solid 1981 crop year relieved the shortages and ample supplies of Kentucky bluegrasses, ryegrasses and fine fescues should be available.

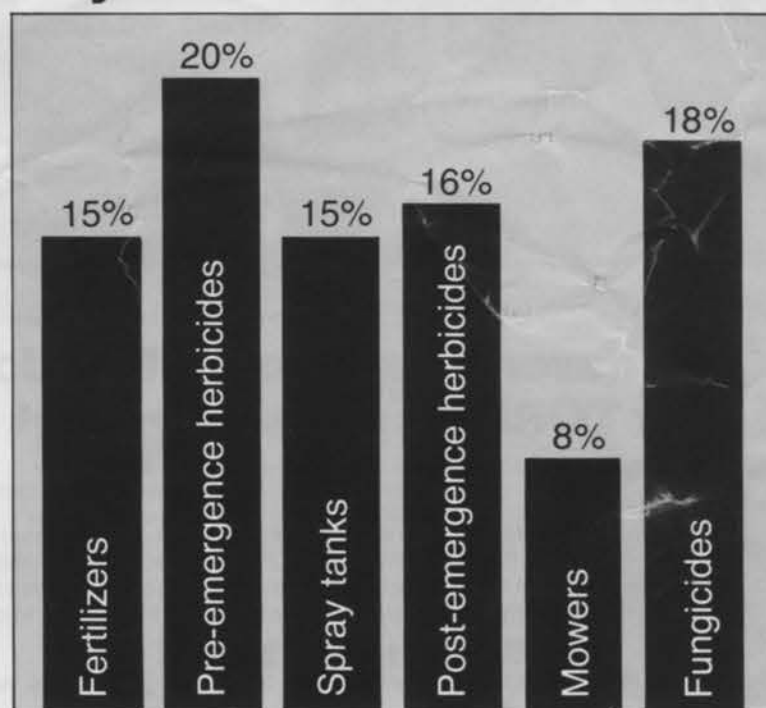
Harry Stalford, of International Seeds, Inc., Halsey, Ore., said after Kentucky bluegrass prices skyrocketed last year (\$2.20 per pound from \$1.50) many lawn care businessmen turned towards turf-type perennial ryegrasses and fine fescues as alternatives. The result was these varieties also increased in price as demand escalated.

"However, this year prices will remain stable because there are adequate quantities of seed," Richard Hurley, of Loft's Pedigreed Seed, Bound Brook, N.J., said. "Now that prices have stabilized I expect them to remain constant throughout the winter and spring."

"Then prices will firm up as some spot shortages show up in certain proprietary varieties," he added. "But basically, the big move down has already taken place and prices should stabilize."

Hurley said if there are any spot shortages in 1981 they would most likely occur late in the lawn care season. "Towards the middle and the end of the season some varieties may run a little short, but there are other varieties that could be substituted which would give equivalent performance. However, on the whole, there should be no problems with the consumer getting proprietary varieties."

### Projected 1981 Price Increases





## Engine maintenance for spring start-up

Preparation of small engines for storage over the winter is not a difficult job. Probably the hardest thing about it is to make the management decision and then follow it through.

There are many good reasons for setting up a fall engine maintenance program, says Miles H. Lovingood, assistant professor of agricultural engineering at VPI & SU, Blacksburg, Va. In addition to saving time in the spring, the busiest months for lawn care businessmen, a properly designed fall maintenance program will protect the engine from corrosion, gum deposits, moisture, dirt and dust, and physical damage that might occur during the months the equipment is idle. This contributes to the life of the engine as well as making start-up in the spring quicker and more reliable, says Lovingood.

The first step in a good maintenance program is to try to evaluate the general condition of each item of equipment. Should it be replaced, overhauled, tuned-up or just winterized? While you may well want to do more than just winterize small engines, Lovingood says, the following steps deal with the minimum of maintenance items necessary to prepare an engine for storage. While maintaining a small engine may not be extremely hazardous, says Lovingood, observe safety rules for handling gasoline and make sure the spark plug wire or spark plug is removed whenever rotating the engine by hand.

- Siphon or drain all but a small amount of fuel from the tank.
- Operate the engine until it runs out of fuel and choke it as it dies to empty the carburetor. This will prevent formation of gum from stale gasoline.
- Remove and check the spark plug. While the plug is out put about a tablespoon of oil through

the spark plug hole into the cylinder. Slowly rotate the engine a revolution or two to distribute the oil. Leave the piston at TDC (Top Dead Center) with both valves closed. Replace the spark plug. The oil will coat engine parts and with the piston at TDC on the compression stroke the cylinder will be sealed from moisture entry.

- Drain the oil from the engine while it is still warm.
- While the oil is draining check and replace the air cleaner if necessary.
- Add fresh oil to the proper level.
- Remove the blower housing and clean all dirt and dust from the fins of the engine.
- Clean and repaint any parts that might rust.
- Cut a sheet of plastic, cover the engine and tie the plastic around the base with a string or wire to protect the engine from moisture.
- Store in a dry place safe from vehicles or falling objects.

A more comprehensive program would include tune-up parts, replacement of worn belts and chain and sharpening of blades. However, even a simple winterization program will pay big dividends next spring when time is short and reliability must be high.

## DISEASE

### Fighting tree infections through proper pruning

Proper pruning is necessary when fighting tree infections that cause cankers or branch blight, according to Charles C. Powell, Jr., a research plant pathologist at The Ohio State University, Columbus, Ohio.

Canker-causing fungi often invade wounds on branches or tree trunks. After infection, the fungus grows and the canker may completely surround the tree branch. The cankers or dead branches are unsightly and should be pruned to remove the pathogen and prevent



### Briggs & Stratton offer electric car

Whether humming along the highway in a car of the future or mowing your lawn with a conventional ground tractor, the power for the trip may be from the same source. The Briggs & Stratton experimental car combines an 18-horsepower gasoline engine and an electric motor, giving the car a performance flexibility beyond that of the usual electric car.

The same Briggs & Stratton 18-horsepower engine powers the Simplicity Model 6118 garden tractor. The electric car can be driven by either, or a combination of its power sources, to produce variable gas mileage from 25 to 150 miles per gallon at speeds of more than 60 miles per hour.

it from producing spores, Powell said.

The best way to prevent more cankers from forming is to increase tree vigor. In these cases, it is especially important to reduce drought stress and soil compaction. Fertilization may also help, according to the plant pathologist.

**Fireblight.** Fireblight is a highly infectious bacterial disease that must be managed directly by pruning. Apple, crabapple, pear, mountain ash and hawthorne are particularly susceptible to this disease. Infection can occur in tiny wounds or through leaves or flow-

ers. The disease is spread by water splashing from shoot to shoot on a tree.

The secret to successful disease control is to prune well below any obviously diseased area, Powell said. The approach is similar to that used by medical doctors when removing tumors from humans.

Powell suggests lawn care operators cut down far enough on blighted branches to get all the diseased wood. You may have to cut through diseased tissue and get bacteria or fungi on the pruning tool. Therefore, to avoid spreading disease, clean or disinfect the tool between each cut with 70 percent alcohol solution.



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## COMPANIES

### ADCO to market root contact fertilizer packs

ADCO Works, Hollis, N.Y., has acquired the marketing rights in 13 northeastern states for Eesy Grow Root contact fertilizer packets, from Specialty Fertilizer, Inc. The product originally developed out of research at the University of Wisconsin and Michigan State University.

The fertilizer packets work by placing them unopened next to or among plant roots when planting, according to company President Robert A. Russell. Water vapor in the soil enters micropore holes in the packet walls causing a slow release of nutrients for up to eight years, depending on the packet size. Thus, fertilizer waste from leaching is almost completely eliminated.

For further product information contact ADCO Works, P.O. Box 310, Hollis, N.Y. 11423.



## Jacobsen introduces new training program

A new training certification program has been established by Jacobsen Division of Textron Inc., Racine, Wis. The training program instructs students in turf care equipment and maintenance and design.

Further, students are awarded certificates and distinctive product patches when they successfully complete the courses.

There are three proficiency levels that students can attain in the certification program, with each succeeding level more advanced than the preceding one.

The first training course is for new mechanics and introduces them to Jacobsen's product lines. By completing the initial course, a student obtains a patch designating him a technician.

A second course emphasizes in-depth study of equipment and its actual disassembly, repair and assembly. Completion of the course earns a student a patch identifying him an advanced technician.

If a student meets the requirements of the first and second courses and satisfactorily participates in the third, there is a patch to recognize him as a master technician. This indicates he has specialized in certain phases of the Jacobsen product line.

"Using the patches will motivate our students to higher achievement levels," Ralph Sylvester, Jr., Jacobsen product training manager, said.

"The sophistication of equipment entering the market requires that training not only include, but go beyond basic instruction," he added, "and also means that distributor mechanics must broaden their knowledge in order to keep turf equipment in service-ready condition and extend its life."

Field and factory training has been a primary activity of Jacobsen

for 25 years, with more than 10,000 distributor and customer personnel participating in the company's programs.

Typical training offers classroom instruction and hands-on laboratory experience with such equipment as hydraulic systems, hydrostatic transmissions, mowers and diagnostic testing apparatus. Courses are conducted during a four-and-one-half day period at the Jacobsen product training center.

## IA plans expansion of short course program

The Irrigation Association has announced a major expansion of its short course program with the establishment of two-week institutes for the technical training of industry personnel.

The Institute for Agricultural Irrigation will be held Jan. 5-16 at California State University in Fresno, and the Institute for Landscape Irrigation will be held on March 23-April 3 at the University of California in Riverside.

Future plans also call for further expansion of the Institute program through cooperation with leading universities in various regions of the country.

The intensive two-week agricultural course, designed for personnel of manufacturing, contracting and consulting firms, consists of 11 days of instruction and field trips. Some of the topics to be covered include:

- General principles of soil/water/plant relations.
- Basic hydraulics and water distribution.
- Pumps and controls.
- Surface and sprinkler irrigation, sprinkler testing, evaluation and design.
- Linear move and pivot system.
- Drip irrigation systems, design and control.

Fees for the agricultural course are \$750 each for ISA members and their personnel and \$850 for non-members. Fees include admittance to all instructional sessions, field trips and tours, all course materials, lodging at an off-campus motel hotel, transportation to and from the campus, as well as 12 luncheons and two banquets.

The Institute for Landscape Irrigation will be similar in nature to the agricultural course, with the same course fees.

Enrollment is limited to 50 students on a first-come, first-served basis. For further information and registration materials contact: The Irrigation Institute, 13975 Connecticut Ave., Silver Spring, MD 20906, or call 301-871-1200.

## COMPANIES

### Boots adds MCPP to product group

Boots Hercules Agrochemicals Co., Wilmington, Del. has announced that technical acids of 2,4-DP and MCPP will be offered in addition to Nitroform slow-release fertilizer, as part of its line of turf and horticultural products.

MCPP and 2,4-DP are produced by The Boots Co., Ltd., of England. Nitroform ureaform nitrogen (38-0-0) has been manufactured and marketed by Hercules, Inc., for the turf and horticultural industry for 20 years.

Boots Hercules was formed in early 1979 in a joint venture between The Boots Co. and Her-

cules.

Ian McKinnon, vice president for Boots Hercules marketing, made the announcement.

## AG CENSUS

### Hort services double in four years

Horticultural services are on the increase, according to statistics released by the Agricultural Services Census.

The recently released 1978 census indicated \$2.6 billion gross receipts for that year, which is nearly double the amount reported in 1974. Part of this increase, however, is undoubtedly due to more complete reporting in 1978, the report said.

More than 36,000 landscape planting and maintenance service firms whose major source of income was lawn and garden services reported gross receipts of \$1.4 billion. Over 19,500 arboricultural firms reported gross receipts of \$106 billion; and 5,228 landscape planning and counseling services reported \$180 million in gross receipts for 1978.

Landscape and horticultural services are expected to become increasingly important in the future, the report said. These services are recognized by more homeowners as professional ones. With increasing limitations on the pesticides homeowners may use, these and other professional services will be in greater demand in the future, the report concluded.

### Ideal Heights-Of-Cut For Lawn Grasses


Variety	Full Sun (inches)	Shaded Area (inches)
Common Bermudagrass	1½	
"Tif" Bermudagrasses	1	
Kentucky Bluegrass	2	2½
Buffalograss	2	
Centipedegrass	2	2½
St. Augustinegrass	2	3
Tall Fescue	2½	3
Zoysiagrass	2	2½

## SAFETY REGS from page 1

the regulation falls in the middle of the industry's normal production year. Therefore, lawn care operators will be offered a choice between complying and non-complying mowers in the marketplace for the 1982 mowing season.

"For mowers that comply with the standard, the consumer will be faced with paying in current dollars an additional \$40 to \$60 for units equipped with a clutch device, and \$70 to \$90 for those with an electric re-start," Dix said. The CPSC estimates the safety devices will add about \$35, on average, to the price of mowers.

"The industry has been hit hard by weather conditions and the recession this year," Dix added, "and next year doesn't look much brighter. The timing of the effective date of the standard couldn't be worse. I don't see how some of the present lawn mower manufacturers are going to survive."



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# PRODUCTS

## Rear-discharge tractor

MTD Products, Inc. introduces a rear-discharge tractor for mowing next to trees, shrubs, flower beds and other tight areas. The Classic Model 131-786 features twin counter-rotating blades that swirl cut grass into a center chute, dispersing the clippings neatly behind the tractor.

The unit also features a single-point hitch as standard equip-



ment, enabling the tractor to pull an optional lawn sweeper or other accessories. Further, cutting height can be adjusted from the tractor seat to any of five different settings.

Other features include a 16-horsepower, twin-cylinder Briggs & Stratton engine, independent blade engagement lever, hydrostatic drive, pivoted front axle and tubeless tires.

Write 704 on reader service card

## New fine fescue variety resists powdery mildew

Shadow, a new variety of chewings type fine fescue which is resistant to powdery mildew, is available in limited quantities from Turf-Seed, Inc.

The new variety was developed by Turf-Seed's Dr. William Meyer, who worked with many germ plasm sources to create the newest of the chewings type fine fescues.

The breeding program began

with germ plasm collected from old turf areas throughout the northeastern United States and two European locations.

As seedlings, the plants were screened for powdery mildew resistance in the greenhouse. The powdery mildew resistant seedlings were then planted in a field and attractive, productive plants were selected.

Two additional selection cycles for seed production and *Puccinia crandallii* resistance were conducted in field tests. From these tests, clones of the most attractive, disease resistant clones were selected and allowed to interpollinate in isolation to produce the breeders seed for Shadow.

In turf trials in New Jersey, western Oregon and England, Shadow has shown improved resistance to leaf spot and powdery mildew. In shade trials in Hubbard, Ore., it has also shown much better shade tolerance and powdery mildew resistance than Banner and Jamestown.

Write 708 on reader service card

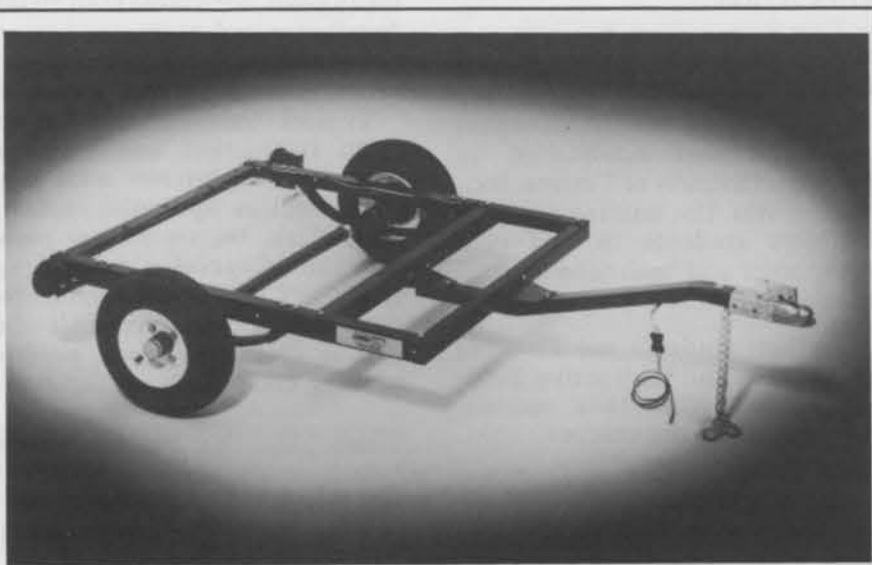
## New spinner spreader features unique design

Avco New Idea introduces a tractor-mounted, pto-driven spreader with a unique double cone design that combines good capacity (14 cubic feet or 900 pounds of granulated fertilizer) with steep sides to ensure constant material flow, and a low, easy-to-fill hopper.

The twin spinners can be set to broadcast in a wide arc or just to the left or right. A new shutter control allows for precise adjustment of spread rate, even from the driver's seat, with the aid of an optional hydraulic linkage.

Stainless steel hopper blades resist material clogs whether spreading fertilizer, seed, or even salt during the winter months. An oilbath gearbox and convenient adjustments help reduce maintenance time.

Write 701 on reader service card



## Easy-to-assemble trailer kit for transporting turf care equipment

The 'Mighty Might' trailer, from Owens/Classic, Inc., is ideal for transporting riding mowers and other turf care equipment between job sites. The model 1001 trailer kit features a 49-inch by 72-inch, bolt-together frame with a 1,000-pound distributed payload capacity.

The kit also includes lights, wiring, safety chain, two-ply tires, springs and a ball coupler. Further, a cambered axle improves tire life and towability.

Optional accessories include fenders, corner posts, metal floor and loading ramp. All trailers and accessories come pre-punched so options can be added anytime.

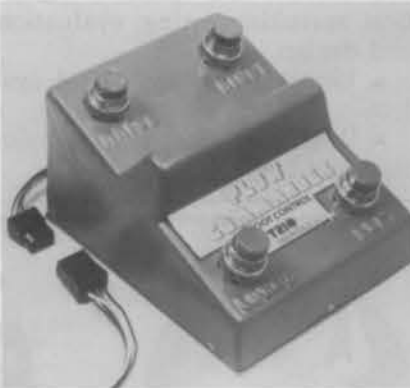
Owens/Classic also offers a 40-inch by 48-inch trailer kit (model MM 1000) with all the features of the model MM 1001.

Write 700 on reader service card

## Reduce plowing time with snowplow control

A foot-operated snowplow control which reduces plowing time by as much as 30 percent is available for lawn care operators who offer snow removal services during the winter.

Designed for four by four vehicles, the automatic control unit frees the driver's hands for steering and shifting, an important feature in bad weather.



Write 710 on reader service card

## XL Xtra Life replacement engine for rotary mowers

Tecumseh Products Co., Engine Divisions announce the development and release of a new XL Xtra Life four-horse power engine to be sold to original equipment manufacturers as a replacement engine.

Xtra Life features on the 10.5 cu. in. TVS105XL include rugged cast iron cylinder liner, steel-backed bronze main bearings with hardened crankshaft journals, STELLITE® faced exhaust valve and seat, solid state ignition system and KLEEN-AIRE PLUS® two stage poly air filter.

The engine has an extended 18-month warranty, and comes with a "Bearing Gard" positive pressure oil pump lubrication system, "Stay Power" mechanical governor, two quart fuel tank, field removable recoil starter, dual system float type carburetor with manual primer deluxe muffler and full complement of optional features.

Write 711 on reader service card

## Mulch or bag: mower offers you a choice

The Lawnflite Model 131-412, a new rear-engine riding mower from MTD Products, Inc., combines the traditional advantages of a rear-engine mower with the additional option of either gagging or mulching grass clippings.

An optional Mulcher Kit includes a mulching blade, discharge chute baffle, and necessary hardware to give "turbine action"

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## New brochure highlights Echo's power blower line

A new, four-page color brochure is available from Echo, Inc., outlining their complete line of power blowers and sprayers, including the company's two newest homeowner models and a back-pack sprayer-duster.

Each model is equipped with the internationally recognized Kioritz two-cycle, air-cooled engine and is backed by Echo's reputation for dependable service.

Individual model highlights, special features, specifications and use applications are included in the brochure, along with vivid color photographs of each model.

Write 712 on reader service card

## Wood posts enhance beauty of landscapes

Redi-Curb landscape partitions,

from B & M Wood Products, enhance the beauty of landscaped



areas around homes, businesses and factories. For long-term performance, Redi-Curb wood posts are pressure-treated with creosote from the Koppers Co.

Write 706 on reader service card

## Abrasion-resistant lawn mower hose

Abrasion-resistant Duravent lawn mower hose from Dayco Corp., Plastic Products Division, pro-

vides long service life and puncture resistance from glass, sticks and other foreign objects.

The hose is resistant to gasoline and oil deterioration, with an abrasion resistance that exceeds rubber compounds and can be used in temperature ranges of minus 60 to plus 180 degrees F. Multi-ply elastomer, high tensile wire reinforced construction adds strength and lightweight flexibility for offmower vacuum applications.

Duravent hose is available in IDs ranging from 1½ to 8 inches (other IDs available on request) and lengths up to and including 20 feet.

Write 713 on reader service card

## Lightweight mower hews the line

Coming at a time when homeowners and lawncare businessmen are switching to larger, agricultural equipment to cope with their

large lawn problems, the Sidewinder Flail Mower from the FMC Corporation will meet a growing demand. Weighing only 350 lbs and adaptable to tractors ranging from 13 to 20 horsepower, the Sidewinder cuts a 46 inch swath and can be set to leave grass as much as four inches high or as closely cropped as one-half inch. The mower has 108 freeswinging, overlapping blades, so every swath cut looks like it has just been manicured.

An optional item for each of these blades is a set of end plates which, when bolted on, converts the blade into a box scraper for cleaning out barns or moving sand or dirt. For someone who already has a light tractor, as do many lawn care businessmen, these blade options can be used to level out the yard preparatory to landscaping and any number of other tasks for which there never seems to be enough time.

Write 720 on reader service card

ADALAYD from page 9

thatch removal, a costly and time-consuming maintenance practice, and also have less tendency to lose vigor, restrict water penetration, and harbor the insect pests and fungus pathogens that are often associated with heavy thatch accumulations.

Neither mowing height nor nitrogen rate resulted in any significant difference in thatch accumulation for the three grasses, according to the research. Normally, one would expect thatch to increase as nitrogen levels increased.

**Rooting.** Rooting, measured in January 1979 was visibly greater under 'Santa Ana' hybrid bermudagrass than in the upper six inches of soil under 'Futurf.' Both the *Paspalum* varieties and hybrid bermudagrass produced roots down to and beyond the five-foot depth.

**Winter color.** The 1977 and 1978 winters were relatively mild at the South Coast Field Station and the 'Santa Ana' hybrid bermudagrass and *Paspalum* varieties held moderately good green color throughout the cold periods. The winter of 1979 was considerably colder and included two periods of subfreezing temperatures. The *Paspalum* varieties went totally dormant about three weeks before 'Santa Ana.' Further, the grasses did not fully green up until late March 1979.

**Pest activity.** No disease problems or insect damage was observed in the *P. vaginatum* plots. However, light to moderate *Poa annua* invasion was noticed, along with some broadleaf weeds during the summer months. Overall, the *Paspalum* varieties seemed to be able to compete well enough to prevent any serious weed invasion.

Based on the results of the study, *P. vaginatum* 'Futurf' and 'Adalayd' have proved to be suited to southern California turf maintenance practices. However, like all turfgrass species and varieties, they have their advantages and disadvantages in specific situations.

The research described in this article was conducted by J. Michael Henry, Victor A. Gibeault, Victor B. Youngner and Stanley Spaulding, all of the University of California.

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Because the job demands success, The Andersons has devoted 10 years to developing and refining our Tee-Time professional turf-care products. We have now established a network of qualified distributors and can make available to you the quality products we've been supplying to a limited market for many years.

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Our distributors, backed by our extensive technical knowledge, are qualified to assist you in tailoring your programs. Ask if your present supplier carries The Andersons Tee-Time products. If not, call us toll-free or write and

we'll give you the name of your nearest distributor. You'll be glad you did. Distributor inquiries welcomed.

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Write 102 on reader service card



## Two new flail mowers from the Kubota Corp.

Kubota Tractor Corp. introduces two new flail mowers which shred weeds and brush, mulch leaves



and even dethatch lawns. The mowers are available in 48- and 60-inch cutting widths and will fit the company's B- and L-Series tractors.

Features include a front deflector shield which directs dust and chaff away from the operator and also interrupts air flow, permitting grass to remain upright for clean cutting.

Further, the blades on the flail mower are free-swinging to resist clogging and reversible to extend service life. Three blade styles are available to meet a wide range of mowing conditions:

- Fine cut blades (standard equipment) for a clean, finely mowed appearance in rock and trash-free areas.
- Rock dodger blades which pivot side to side as well as front to rear to provide a smooth cut.
- Dethatching blades for cleaning out thatch in any type of turf.

For operator safety, Kubota mowers also feature a shielded final drive pulley and U-belt, unitized welded housing, shielded telescoping universal joint driveshaft assembly and flexible rear trash deflector.

Pictured is the flail mower being pulled by a Kubota L245, a 25-horsepower, three-cylinder diesel tractor equipped with turf-type tires.

Write 705 on reader service card

## New semi-sterilant herbicide kills weeds

New Crown Ground Semi-Sterilant herbicide, from Crown Chemicals is a water-based, non-selective vegetation killer that provides rapid knockdown of most weed species. Available in five-gallon cans and 55-gallon drums, the semi-sterilant is dilutable with water at a one to 10 gallon ratio of chemical to water. The herbicide has a three to six month residual life, and is extremely cost effective as it contains no petroleum distillates.

Write 714 on reader service card

## Toro offers two new walk-behind mowers

Two new 21-inch, walk-behind power mowers with four horsepower Briggs & Stratton engines and rugged 14-gauge steel decks are available from The Toro Co.

Model 23400, designed for general trimming applications, is a side-discharge rotary with optional bagging capability. Model 23450 is a rear bagging mower with a standard two-and-one-half-bushel bag. Model 23450 also features a dual element air cleaner with remote air intake.



Both models have one-quart gas tanks and top-mounted oil filling to prevent oil contamination. The side-discharge model features eight-inch wheels and the rear bagger has eight-inch wheels in front and two-inch wheels in the rear. All wheels on both models have greasable ball bearings.

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## The Perfect Mix

### Lescosan with LESCO Sulfur Coated Fertilizers

"For greener, cleaner turf, Lescosan and LESCO Sulfur-Coated Fertilizer is a perfect mix."

Ron Giffen  
Vice President  
National Sales



LESCO Products has combined Lescosan\* with high analysis fertilizer to make one application work twice as hard for you. The most effective pre-emergence crabgrass control on the market, Lescosan, will be available with a mix of immediately available nitrogen and sulfur-coated urea to provide excellent turf response in an evenly spreading granular product. Application of this new product,

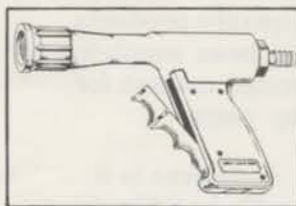
Lescosan with LESCO Sulfur-Coated Fertilizer, will save you time and labor and allow you to get out early in the spring.

\*Lescosan—Betasan registered TM Stauffer Chemical Co.

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LESCO PRODUCTS



LESCO is the national distributor for the patented ChemLawn gun

## New catalog outlines one-step turf program

A six-page, hydraulic mulching brochure from Conwed Corp. describes how a one-step turf establishment program, using the company's Hydro Mulch fibers can help produce quality turf at an economical price.

In addition to a comprehensive analysis of product benefits for commercial and residential lawns, as well as in other landscaping projects, the new four-color brochure features actual before and after photos, illustrating the effectiveness of Hydro Mulch fibers.

Write 715 on reader service card

## Unique plastic product protects young trees

Sav A Tree, from Mo-Ark-Mold, protects tree saplings from lawn-mower gouges, damage by children and teeth bites from small animals, giving them a better chance of reaching shade or fruit bearing years.

This easily-assembled, cylinder-shaped tree protector fits around the base of young trees, and is firmly anchored into the ground by two hollow stakes. The circular base is constructed to collect water and fertilizer which seeps into the ground through the hollow pegs, keeping the soil

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moist and warm as well as eliminating the necessity to trim grass around the sapling.

Sav A Tree is injection molded of Super Dylan™ high-density polyethylene that withstands extremes of temperature and other weather conditions in addition to physical damage.

Write 716 on reader service card

## New decorative stones beautify landscape sites

Aristone, a new line of decorative landscaping stones, is offered by American Pelletizing Corp. The



stone products come in eight different varieties including marbles, volcanics and a new stone which resembles tree bark.

Write 709 on reader service card

## Pennant ryegrass available nationally

Pennant ryegrass, recently recognized for its high standings in turf trials across the country, and ideal for golf courses, reclamation tracts and large landscaping projects is now available for nationwide distribution, from Agriculture Service Corp.

An improved variety in the areas of overseeding, shade tolerance, wear resistance and general performance, Pennant has proved to have above average resistance to common North American turf diseases such as large brown patch, brown blight, dollar spot and crown rust.

Its ability to maintain good turf color and quality late into the growing season also gives Pennant an advantage in transitional areas and seasons where summer heat and humidity create severe conditions for ryegrasses in general.

Write 717 on reader service card

## Residual herbicide for weed, brush control

Dozer brush and weed killer, from Hopkins Agricultural Chemical Co., is a new broadspectrum, non-selective herbicide specifically designed for control of trees, brush and deep-rooted annual and perennial weeds where a moderate residual herbicide is desired.

The herbicide, which is available in two formulas, a liquid concentrate containing 32.44 per-

cent of Fenuron trichloroacetate (TCA), and in a pelleted form containing 25 percent Fenuron TCA, is versatile as a spot or individual plant treatment used as a topical, basal or soil application.

As a topical or basal treatment of a plant or tree, the herbicide is readily absorbed in the plant system to inhibit the production of chlorophyll and photosynthesis.

As a soil treatment, it will penetrate deep into the root zone, killing roots as the active ingredient is dissolved by rainfall and moved downward. In dry soil, the herbicide will remain for months until sufficient moisture is available to make it active, having little tendency to move laterally, rarely more than a foot or two, even on a slope.

Write 718 on reader service card

## Mower manufacturer releases new catalog

Wisconsin Marine, Inc., manufacturer of Bob-Cat Lawnmowers, has developed a new brochure/catalog covering their riding and intermediate lawnmowers. The 8-page, 4-color brochure shows the 48-, 61- and 74-inch width mowers with the choice of a Briggs and Stratton 18 h.p. engine or an Onan 19.9 h.p. engine. Accessories include a snow blower, snow blade, vee plow, vacuum and road broom.

Write 719 on reader service card

## Gas-powered trimmer cuts heavy undergrowth

A gasoline-powered trimmer with a twin-line nylon cutting head for



trimming grass, and a four-point weed blade for cutting heavy weeds is available from the Beaird-Poulan/Weed Eater Division, Emerson Electric Co. The unit also comes with a 44-tooth saw blade for clearing heavy brush and undergrowth.

Powered by a high-performance 37.7cc engine, the 17-pound trimmer features a solid-state ignition for easy starting and low maintenance. It also comes with a

shoulder harness and adjustable guide handles for fingertip control.

Write 703 on reader service card

# KNOCK OUT Crabgrass

## ROCKLAND PROFESSIONAL Betasan®

Selective Pre-emergence Herbicide

ROCKLAND BETASAN now available in a new 8/16 mesh 7% granular plus three different strengths 12.5%G., 3.6%G. and a 4 lb. E.C.

(R) Betasan is a registered Trademark of Stauffer Chemical Co.

ROCKLAND has a complete line of granular insecticides, herbicides and fungicides for Professional Turf Maintenance.

ROCKLAND Fertilizers contain combinations of IBDU, NITROFORM and new SULFUR COATED UREA. Some available formulations — 25-5-15, 30-2-5 and 20-4-10.

All products are formulated with the highest quality ingredients and carriers.

## ROCKLAND PROFESSIONAL lawn and garden PRODUCTS CATALOG

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AT AN ECONOMICAL COST!!!



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1. Two stage pump provides high volume and low maintenance.



3. Tachometer pressure gauge and remote throttle assure accuracy.



2. Inductor allows you to mix chemicals one yard at a time.



4. Electric hose reel provides quick rewinding and proven service.

Your spray company is different than others so you need a sprayer tailored to your needs. That's why the Professional Turf Specialties system is used by lawn spray companies from Chicago to Texas. No other system can suspend large particles such as IBDU and nitroform and offer a separate tank that allows you to mix one product, one lawn at a time, through an inductor as well as these features:

- 1) A pumping system that can load or unload itself and other trucks.
- 2) Remote throttle tachometer and pressure gauge for finite accuracy.
- 3) Ability to suspend slow release nitrogen such as IBDU® or nitroform.
- 4) Can be mounted on your present equipment or on any new truck.
- 5) Optional compartmentalized tank, allowing you to fill one section from the other and custom mix chemicals on the job through an inductor.

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**RATES:** 40¢ per word (minimum charge, \$15). Bold face words or words in all capital letters charged at 60¢ per word. Boxed or display ads charged at \$40 per column inch (one inch minimum). Agency commissions will be given only when camera-ready art is provided by agency. For ads using blind box number, add \$5 to total cost of ad. Send ad copy with payment to Dawn Anderson, LAWN CARE INDUSTRY, 1 East First Street, Duluth, MN 55802.

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**TANKER, Chevy 1976 C-50,** 1200 gallon Bean 20-20 pump, 2 Hannay reels, hose and guns. Ready to spray. Excellent condition. Reasonable. 301-728-5885.

**1979 LAWN SPRAY TRUCK,** 750 gallon compartmentalized tank. 15,000 miles. Electric hose, reel. \$9,950 Like new. Call for photo & details. 216-357-8400.

**TRAILER SPRAYING RIG** 300 gallon spray tank, 55 gal. mixing tank, 300 ft. spray hose on Hannay electric reel. 3 hp Briggs & Stratton engine with Hypro pump. Also, 1978 John Deere 212 tractor with 25 gallon pull behind boom sprayer. All mounted and hauled on 16 ft. dual axle trailer. Used 1½ seasons. Unit can be pulled with pick-up truck. \$4500.00 or best offer. Call 301-848-1424.

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**LAWN SPRAYING BUSINESS.** Established Ohio liquid lawn care business for sale. 5000 accounts. Six figure selling price. Owner could assist buyer. Write LCI Box 29.

**CLEVELAND AREA OPPORTUNITY** — Landscape and lawn care business for sale. Turn key operation available with or without property and buildings. Sales exceeding one million annually. Terms available. Write LCI Box 28.

**800 GALLON REINCO Hydro-Mulcher EXCELLENT Condition.** (405) 787-8034.

**FOR SALE:** 1974 Jacobsen Turf King Reel Mower, 84" cutting width. 14 H.P. \$1600.00 or best offer. Phone 216-628-9981.

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**REGIONAL LAWN CARE MANAGER** — Lawn care management experience and an aggressive personality essential. Excellent salary, bonuses and benefits. For further information send resume. All inquiries held in strict confidence. Write LCI Box 37.

**HELP WANTED** — Looking for qualified person who is willing to invest small amount of money and work as partner in landscape maintenance business located in Virginia. Write LCI Box 32.

**SALES OPPORTUNITIES** — Lakeshore Equipment & Supply Co. is looking for persons knowledgeable in fertilizer and chemical use to work as technical representatives selling accepted LESCO Products such as Lescosan and LESCO Sulfur-Coated Fertilizers to lawn service and related turf and ornamental companies. We are also interviewing persons who would be interested in operating a LESCO sales Truck calling on golf courses in the East, Midwest and Southeast. Interested persons may call or send

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**EXPANDING EASTERN PENNSYLVANIA** lawn care company needs experienced manager. Excellent opportunity for individual willing to put in the effort. Background should be either chemical lawn care or in landscape maintenance. Individual will need strong supervisory background to take care of our growing operation. This is a ground floor opportunity with many possibilities for advancement. We currently service over 1600 accounts, with plans to double within 18 months. Write LCI Box 34.

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# How to get better turf next season.







We recently received a letter from one of our female readers who expressed concern about the growing wave of sexism in the lawn care industry. A review of some of her comments follows.

"I have enjoyed receiving LAWN CARE INDUSTRY and look forward to the information it contains. However, I am often disturbed by the use of terms in articles,

editorials and advertisements that imply this is a male only industry.

"I am a veteran of the golf course industry and was very turned off at many conferences and other meetings where this male only attitude prevailed. I would have difficulty counting how many speeches and seminars at turf meetings which began by flashing near naked pictures of women on a (slide) screen. This is completely unnecessary. Any person who is so bored with the proceedings that he needs to see some flesh to get him interested should not be there in the first place.

"I left the golf course industry primarily because of its sexist attitude and the unwillingness to believe a woman could be a good superintendent. I would really hate to see the new lawn care industry embrace the male only attitude of the turf world.

"Today I was filling out forms for the First Professional Lawn Care Conference (PLCAA). The first page of the mailing started out with a

cartoon depicting a man ogling a woman's legs with the heading, "Take Another Look." Come on! Do you really think this is going to get people's attention.

"Your magazine did help in forming the PLCAA and is the one piece of information that almost all lawn care people receive. Please do not foster the same type of attitude that excludes women and makes them feel uncomfortable."

Sadly, sexism has become a part of our business world and a part of our culture. The green industry is not the first offender and it will not be the last. However, all male-dominated industries should ardently guard against the infiltration of sexist attitudes.

*Dan Moreland*

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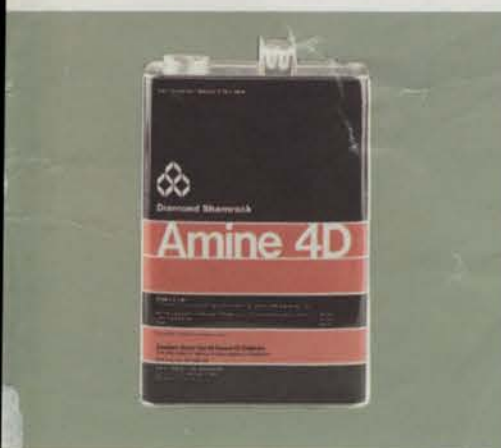
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"After 56 years in landscaping we've had some unusual requests. But never before had we been asked to landscape an exposed roof in the middle of a city.

"The roof was on the third story of the Renaissance Center in downtown Detroit. All the materials had to be lifted by crane. We had to create an artificial ground. We put over 1,000 tons of stone down . . . covered that with a matted fiber and topped it with 6" of topsoil. Then we laid almost 3 acres of sod up here. Of course a good irrigation system had to be installed.

"When we chose the grasses for the sod, there were several things we were looking for: First it had to be a great-looking grass. Then it had to be tough enough to survive under the artificial conditions. And we knew we'd have to keep good color, so it had to be disease resistant even with heavy fertilization.

"We chose to use Baron in our mix. And it's given us all we expected and more. We never expected this turf to be taking the abuse it is. Jogging, dancing, concerts, you name it. And since we maintain these grounds too, it's still up to us to keep it looking good. It's not easy under these adverse conditions, but it's a lot easier with Baron."



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