

## Chemical Sales To Up 25% Prices Could Jump 15%

For U.S. chemical companies, 1976 is starting off very well. Sales of organic chemicals could be up as much as 25 or 30 percent for the first half of the year, and inorganic chemical sales could be up 10 to 15 percent. Prices of all types of chemicals for all industries will be increasing this year, too, it was reported in *Business Week*. In organic chemicals, price increases could average as high as 15 percent; in inorganics, prices could go up an average of 10 percent.

Demand will help producers make such increases stick. The chief reason, however, for the chemical price increases expected will be increasing energy and raw materials costs, according to industry experts. The price of everything from natural gas to oil and sulfur is soaring. And power rates are also up at least 10 percent.

## New Franchise Distributor Announced by Rain Bird

Rain Bird, Glenmore, Calif. has appointed Century/Rain-Aid Supply Corp. as the new franchised turf distributor to serve the greater Chicago area market, northern Illi-

nois and northwest Indiana. Century/Rain-Aid Supply is a new division of Century Supply Corp. of Berkley, Mich.

According to Ernie Hodas, president of Century, the new division will stock and distribute the largest supply of Rain Bird sprinkler equipment and turf irrigation equipment in the Midwest. Century/Rain-Aid will also maintain a system design capability to assist in the installation of irrigation systems at golf courses, residences and commercial sites. The company is at 341 Lively Blvd., Elk Grove Village, Ill. 60007.

## Record 1975 Sales Results For Diamond Shamrock

Diamond Shamrock Corp., Cleveland, said it had record sales and earnings for both the fourth quarter and 1975 and that it sees "considerably better" results this year.

The company said fourth quarter net income rose 20 percent to \$32.2 million, or \$1.89 a share, from year-earlier \$26.7 million, or \$1.65 a share. Sales gained 8.5 percent to \$285.8 million, from \$263.4 million.

Chairman C. A. Cash said it was too early to estimate 1976 earnings. But he said, "with the new chemical and plastics capacity already in place and anticipated increases in oil and gas production, we are well-positioned to continue earnings growth in 1976."

## Herbicide Market Expansion Averaged 16% Last 5 Years

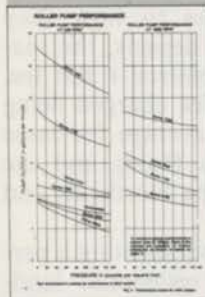
In the past five years, the herbicide market has expanded an average 16 percent a year in the United States and 26 percent abroad, according to a recent report in the *Wall Street Journal*.

Many analysts of the market say the herbicide market looks like the next possible market that might swing from shortage to oversupply, increasing price competition and substantial erosion of profit margins for the companies. "In our opinion, the days of rapid growth and high margins are coming to an end," says Jay J. Meltzer of Loeb, Rhoades & Co. in a recent review entitled, "Herbicide Suicide."

# Sprayer Pump Handbook... yours free.

18 pages of  
helpful information

Hook up  
diagrams  
for roller,  
centrifugal  
and piston  
pumps.



Graphs of  
pump outputs,  
flow through  
spray nozzles  
and pressure  
drop in hose.

How to  
select the  
right pump  
and sprayer  
components.



See your  
Hyprom  
dealer for  
your copy,  
or mail the  
coupon  
below.

**Hyprom** / **LSI**

A division of Lear Siegler, Inc.  
347 Fifth Ave NW, St. Paul, Minn. 55112

Send me a free handbook.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Town \_\_\_\_\_ State \_\_\_\_\_  
County \_\_\_\_\_ Zip \_\_\_\_\_

Circle 107 on free information card

**W.I.N.**  
with  
**NITROFORM®**  
and save!

W.I.N. with Nitroform® nitrogen . . .  
and save! On time and labor.

**Lebanon  
bags it!**

Turf and Horticultural Products  
Wilmington, Delaware 19899

STH76-18A

Circle 149 on free information card  
FEBRUARY 1976

## Landscape Fees the Subject Of an Industry-Wide Survey

While a large number of landscape companies charge a flat fee for commercial landscape design services, charging by the hour is more common, with the rate averaging \$17.80 an hour, according to a recent survey conducted by the National Landscape Association.

A total of 79 percent of the respondents indicated their firms offer residential landscape design services. The percentages reported by regions were relatively uniform, with the southern region having the lowest percentage offering such services. In response to how they charged for these designs, the majority of firms preferred a flat fee, with the average fee charged being \$108. The lowest average fee came from the Western Plains and the highest fee from the Northeast and Pacific regions.

For those firms indicating a per-hour charge for residential land-

scape design plans, the average was \$15.45 an hour. New England led with an average rate of \$16.60 and the Great Lakes was lowest with \$13.80. Of the firms responding, 70 percent indicated they offer partial or total refund of the design costs when they get the planting contract. The survey showed that this practice is more prevalent in the Great Lakes and Western Plains than in other regions.

Commercial landscape design services were provided by 66 percent of the firms. It was found members in the Northeast, Southwest and Pacific areas specialize to a greater degree in commercial plans than firms in other regions. While a number of firms charge a flat fee, as was mentioned, charging by the hour is more common. The average rate of \$17.80 for this ranged from \$14.40 in the Great Lakes to \$22.75 in the Northeast. Just over one-half refund a part or all of the design costs when the planting contract is signed.

In response to the questions regarding landscape estimate ser-

vices, only 22 percent said they provide such a service. This is done on both a flat-fee and per-hour basis, but the per-hour charge appeared to be more common. Average hourly rate indicated was \$17.40, with a range from \$12 an hour in the Great Lakes area to \$22.50 in the Northeast. Regarding refunds, 60 percent of the respondents reported they credit part of all of the estimating job if they get the planting contract.

Insurance estimate service was provided by 84 percent of the firms. This practice seems universal with very little difference in the range. The Pacific area had the lowest percentage with 78 percent, and the Western Plains had the highest with 89 percent. About three times as many of the firms charge a flat fee for insurance estimates as charge on a per-hour basis. The average flat fee was \$20.60 and the average per-hour rate was \$18.80.

Consulting service was offered by 74 percent of the responding landscape firms, with very little difference from region to region. The method of charging for these services was just opposite that for insurance estimates, the survey reported. About three times as many firms charge a per-hour rate as charge a flat fee. The average per-hour rate was \$19.40 and the average flat fee was \$32.65. There was greater uniformity from region to region in the hourly rate than in the flat fee. The Southwest had the lowest average per hour consulting fee at \$18. The Western Plains had the highest at \$22.

The regions are: Northeast — New England states, New York, New Jersey, Pennsylvania and the Canadian provinces to the north of these states; Southern — Atlantic and Gulf Coast states from Delaware to Alabama and Kentucky, Tennessee and West Virginia; Great Lakes — Illinois, Indiana, Michigan, Ohio, Wisconsin and Ontario; Western Plains — states north of Missouri, Kansas and Colorado and Alberta, Saskatchewan and Manitoba; Southwestern — Arkansas, Louisiana, New Mexico, Oklahoma and Texas; Pacific — Arizona, Utah, Idaho and those states to the west including Hawaii, Alaska and British Columbia.

## Choose the proven winterizer.

### Wilt Pruf now!

Your most effective winter kill protection is WILT PRUF NCF\*. Prevent excess water loss caused by drying winter winds. For pennies a plant, save many dollars in losses of shrubs, trees and roses. Eliminate burlap windscreens. For over 20 years, top nurseries in every state have successfully used WILT PRUF against excess water loss in all seasons. Approved for use on all growing edible products.

\*NCF—Non-Clog, not damaged by freezing.

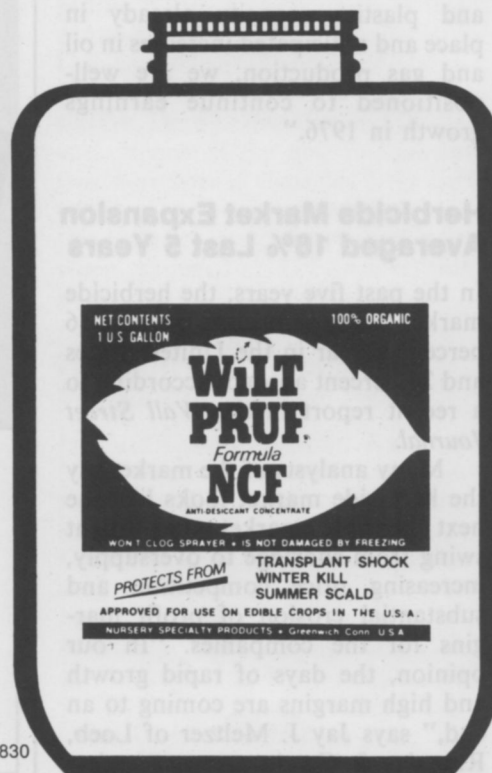
Available in 12 oz. aerosol, 1 qt., 1 gal., 5 gal., 30 gal. and 50 gal. (U.S.) sizes.

Write for technical information.

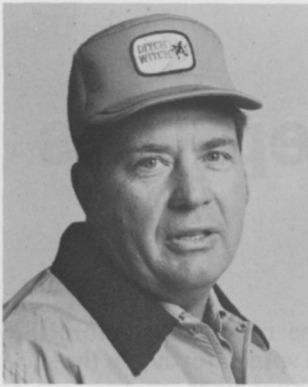
#### NURSERY SPECIALTY PRODUCTS

Division of J. A. Hartman Corp.

410 Greenwich Ave., Greenwich, Conn. 06830  
(203) 661-5840



Circle 102 on free information card



STRAIGHT TALK FROM YOUR DITCH WITCH MAN

# "Let's talk about the reasons we offer FREE TRENCHER DEMONSTRATIONS."

"We talk a lot about the many different jobs Ditch Witch can do. But we haven't forgotten many people need to dig trench and that's all. We know if trenching is all you need to do, you don't want to pay for features you won't be using.

If trenching is your business, Ditch Witch is for you! We built the world's first service line trencher and have been building the finest quality trenchers ever since. We have compact handlebar models, larger four-wheel drive trenchers and machines that can handle cross-country pipelines.

And wherever your work takes you, you'll find a Ditch Witch dealer nearby with a full inventory of parts, and the professionals to keep your Ditch Witch on the job.

We'd like to tell you more about our trenchers. Better yet, we'd like to show you what Ditch Witch can do. We'll bring one straight to your job for a free demonstration — no obligation.

"At Ditch Witch, we tell it to you straight!"

**Call (800) 654-6481 Toll Free for the name of the dealer nearest you.**



30-HP Model V30 — Trenching capabilities to 18" width, to 6' depth



18-HP Model J20 — 4 wheel drive, with three speed forward plus reverse transmission



30-HP Model R30 — Trenching depths to 6' plus Modularmatic versatility



Handlebar Series — Two different models available from 7-HP to 12.5-HP

**Ditch Witch . . . equipment from 7 - to 195-HP.**

**CHARLES MACHINE WORKS, INC.**

P.O. Box 66  
Perry, Oklahoma 73077



# Magic, myths and misconceptions

By WALTER E. MONEY, Guardian Tree Experts, Inc., Rockville, MD

... was the topic of the 1975 Fall Seminar of the Maryland Arborist Association. Approximately 20 arborists traveled to the Hubbard Brook Experimental Forest of the U.S. Forest Service in the White Mountains of New Hampshire to be with Dr. Alex L. Shigo and see first hand "CODIT:" Compartmentalization of decay in trees.

The group gathered on a Wednesday evening at a nearby resort motel and got an early start on Thursday with a sneak preview of a new Forest Service slide program that Shigo has put together on CODIT. (We understand this program and cassette narrative will be available in a few months.)

Most of Thursday and half a day on Friday was spent walking through the woods with Shigo and his trusty powersaw. Al would explain to the arborists that outward signs indicate the internal condition of the tree, the cambium could be "metered" for vigor, and the heart of the tree probed with the Shigo-

meter. Finally, he would fell the tree and dissect it with his Homelite "scalpel" and conclusively prove his points.

It was obvious that the more vigorous a tree was, the quicker it would wall off an attack by decay after wounding. Particularly, at the top and the bottom of the wound to keep the decay out of the crown and the roots. Also, the year after wounding the cambium develops a new type of tissue called the "barrier zone" to seal off the decay on the inside and allow the tree, with the succeeding annual rings, to develop clear healthy wood.

Some of the magic myths that Shigo's work has exploded are:

1. Tree paint: Only cosmetic; it appears to be of no help in preventing decay and insect attack. However, wound "treatments" that look promising are now under study.

2. Once a fungus gets into a tree wound, it moves throughout the tree: Fungus only moves in the wounded compartment. The tree

needs to be rewounded before the fungus will spread further in the succeeding annual rings.

3. Heartwood fungus moves at will: Same rules apply.

4. Frost cracks caused by frost: Caused primarily by old basal wounds that have healed improperly and exert pressure from inside.

5. Thoroughly clean out old cavities before filling: Actually, thorough cleaning prior to filling a cavity breaks the compartment wall on the inside where it is most vulnerable and allows decay to spread.

These and many other myths have been perpetrated over the years due to theoretical "scholarly" analysis that was not based on factual studies. Shigo's work has revolutionized the tree-care industry and has also provided, in the Shigo-meter, the "X-Ray" machine arborists have needed for so long to read the vigor and internal condition of the trees under care. □



**W.I.N.** with **NITROFORM** and save!

W.I.N. with Nitroform® nitrogen ... and save! On time and labor.

**Midwest Toro bags it!**

**HERCULES** Turf and Horticultural Products  
Wilmington, Delaware 19899  
STH76-21A

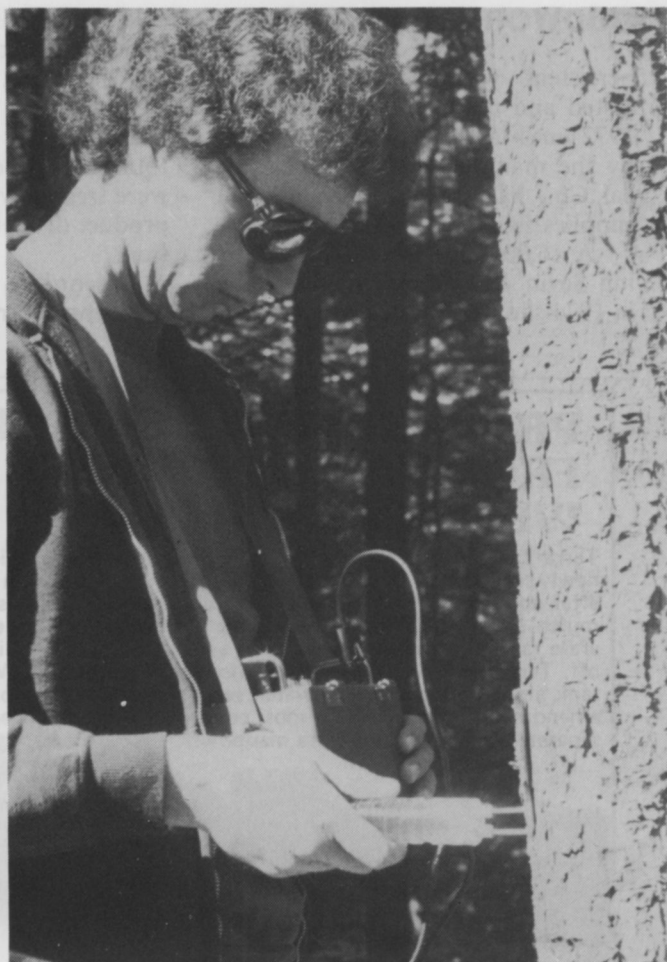
Circle 150 on free information card



A brief explanation of "CODIT" (compartmentalization of decay in trees) in the classroom before venturing into the research area.



*Remember that a tree walls-off and compartmentalizes its wounds. The following year the cambium puts up a barrier zone so that succeeding rings of new wood are clear and healthy.*



*One of the newer and probably best use of the Shigometer to the professional arborist is the way in which the cambium can be quickly metered and checked for vigor as Al Butler demonstrates.*



*Any tree the arborists picked was fair game to be dissected and analyzed.*



*Cutting sections and then lining them up was the easiest way to demonstrate decay.*

## BUDWORM (from page 20)

persistent weapons. Zectran was tested and used operationally from 1972 until last year, but production by the manufacturer, Dow Chemical Co., has been stopped and all supplies have now been exhausted.

A 16,000 acre pilot project testing Sevin 4-Oil carbaryl insecticide in 1974 showed "quite promising re-

sults," according to Dr. John Dimond, entomologist at the University of Maine. After receiving label clearance for spruce budworm in March, 1975, 500,000 acres of the total 2.2 million acre spray project were treated with Sevin 4-Oil, also a product of Union Carbide Corporation.

According to Jean Cartier, field development representative for the

company, "Sevin 4-Oil is a new oil-based formulation of Sevin carbaryl which provides long residual insect control and allows application as an ultra low volume aerial spray. A major advantage is its resistance to weathering or rain wash off on plant surfaces.

Sumithion, an organophosphate of the Sumitomo Chemical Co. of Japan, was also in large scale use and other chemicals and methods of control were tested.

"We've tried parasite releases," Chadwick states, "but they can't keep up with the epidemic proportions of the budworm population." *Bacillus thuringiensis*, a bacterial control agent is also being tested. Natural or biological control factors, though they may be attractive to the project's critics, appear to be ineffective against the massive epidemic proportions of the present spruce budworm infestation. Chemical spraying remains the only viable economic option the foresters have, and it has achieved good success with results generally in the 90% kill bracket.

A major hindrance in the spray program has been the instability of funding. The total apportioned to the project this year was eight million dollars, half of which was to come from the federal government, and the other half from the state, and private lumber companies. But in recent years, notably last year, funding has come through only at the last minute imposing problems for the project directors regarding procurement of the required amount of insecticides, aircraft and logistics.

The project itself is reminiscent of the Presque Isle airport's heyday as the debarkation point for World War II bombers. Many of the project staff moved into the airport barracks weeks before the spraying started to set up the necessary mixing, pumping, communications and transportation equipment. Many of the people involved have had experience with other large scale programs of this sort.

Forty-six pilots flying insecticide on the forest in the 1975 operation came from as far away as Oregon, Arizona and Georgia, and

(continued on page 50)

## PROTECT NEWLY SEEDED AREAS FROM WIND AND WATER EROSION WITH TERRA TACK

Terra Tack used in any hydrograsser or hydroseeder provides erosion control for newly seeded areas or any other soil surface needing erosion protection. Terra Tack after application forms a water insoluble gelatinous crust, locking the seed and mulch to the soil. This invisible crust is, however, porous enough to permit moderate rainfall or irrigation water to soak into the soil, while excessive water runs off. Terra Tack also reduces soil moisture evaporation. When added in the same tank along with a slurry of water, seed, mulch, fertilizer or other compatible soil amendments, Terra Tack, in most cases, eliminates the need for two applications, separate equipment and extra manpower.



### Versatile Terra Tack can be used with straw, hay or wood fiber mulch.

#### Straw or Hay Mulch

Terra Tack when applied as a direct spray to straw or hay mulch helps prevent wind and/or water displacement of the mulch and seed.

#### Wood Fiber Mulch

Terra Tack when combined with fiber mulch, seed and water acts as a complete binder helping to lock the protective mulch blanket to the soil.

#### Untreated Soil



#### Terra Tack Treated Soil



Grass Growers

P. O. Box 584-Plainfield New Jersey 07061e (201) 755-0923



**“... Gravely, long famous for what is probably the world’s most rugged small gear-type tractor drive.”** Popular Science Magazine  
May '75

When a leading magazine will make a flat-out statement like that, there has to be a lot behind it. And there is, the unique Gravely transmission.

It's a transmission engineered to combine a high level of performance with great durability. It's eight speeds of positive power with instant reversing action. It's all gear, all steel drive, all reliability...right down to Gravely-built attachments for mowing, snow removal, and gardening.

No other riding tractor gives you that...plus the toughest frame and pivoted front axle in its class; rear-mounted engine for extra traction; rack and pinion steering; choice of 10, 12, 16 or 16.5 HP; and options like hydraulic attachment lift, front and rear PTOs, and more.

Look in the Yellow Pages for your nearest dealer or write for our free catalog. Gravely Division of Clarke-Gravely Corporation, 3502 Gravely Lane, Clemmons, North Carolina 27012.

**GRAVELLY. LIKE NOBODY ELSE.**

# LEARN PROFESSIONAL LANDSCAPING



We prepare you to cash in on countless money-making opportunities in modern landscaping and show you how, by easy steps, to start your own business part or full time. You will learn latest developments in Modern Landscaping, including creative design—plant propagation—revolutionary new methods of growing in manufactured soils—practical soil testing—growth regulators—the low down on fertilizers—easy ways of plant identification—estimating and contracting. My unique home study course features easy to understand assignments with careful detailed illustrations. Certificate Awarded. May. I send FREE, and without obligation, my informative **BOOKLET?**

**LIFETIME CAREER SCHOOLS** Dept. A-45  
2251 Barry Avenue Los Angeles, Ca 90064

Circle 141 on free information card

## IT'S NO SECRET ...

We offer you two products, crownvetch, which we guarantee, and a vast amount of know-how; it's free.

Our agronomist will be pleased to consult with you on any problem areas, our prices are as follows.

### PENNGIFT CROWNVETCH

Crowns, 100 to 1000, 14¢ each; 1100 to 5000, 12¢ each; 5100 to 10,000, 8¢ each; 10,000 or more, 7½¢ each.

Crownvetch plants in peat cubes or peat pots, 100, 22¢ each; 600, 20¢ each; 1100, 19¢ each; 2600, 18¢ each; 5100, 17¢ each.

These prices include packaging and free delivery within a 500-mile radius. Beyond 500 miles, add 1 cent each on plants only.

For information on seed to meet state specifications and attractive brochure, write or call:

### ERNST CROWNVETCH FARMS

R. D. 5, Meadville, Pa. 16335

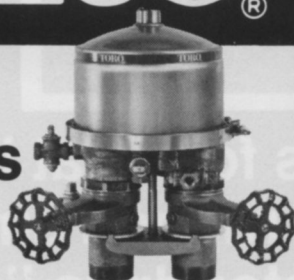
Phone: 814/425-7276 or 425-7897

Circle 104 on free information card

# TORO®

## Backflow Preventers

For Cross Connection Control



- ¾" through 4" sizes.
- Double check and reduced pressure principle models.
- Compact, lightweight, for fast installation.
- Modular construction for easy in-line servicing.
- Meet specifications of AWWA, ASSE, USC Foundation for Cross Connection Control. IAPMO listed.

Order from your irrigation supplier.

For more information contact: TORO Technology, Dept. WT, 1709 La Costa Meadows Dr., San Marcos, CA 92069. (714) 744-5650.

Circle 134 on free information card

## Meeting Dates

**Golf Course Superintendent's Association of America**, 47th international conference and show, Auditorium and Convention Hall, Minneapolis, Minn. Feb. 8-13.

**Midwestern Chapter**, International Society of Arboriculture, Sheraton-O'Hare Motor Hotel, Rosemont-Chicago, Ill., Feb. 10-12.

**Illinois Landscape Contractors Assoc.**, annual seminar, Villa Olivia Country Club, Feb. 12-13.

**American Society of Consulting Arborists**, 10th annual meeting, Vacation Village, San Diego, California, Feb. 12-14.

**Canada Chapter**, International Society of Arboriculture, Chateau Frontenac Hotel, Quebec City, Quebec, Feb. 12-14.

**National Arborist Assoc.**, annual meeting, Vacation Village, Mission Bay, San Diego, Calif., Feb. 15-19.

**Wisconsin Arborist Association**, annual convention, Midway Motor Lodge, LaCrosse, Wisconsin, Feb. 18-19.

**International Pesticide Applicators Association**, Successful Business Management Practices, Botanical Gardens, Denver, Colorado, Feb. 20-21.

**Southern Chapter**, International Society of Arboriculture, Myrtle Beach Hilton, Myrtle Beach, S. Carolina, Feb. 22-25.

**Shade Tree Short Course**, 19th annual, Scheman Continuing Education Center, Iowa State University, Ames, Iowa, Feb. 25-27.

**International Erosion Control Conference**, 7th annual, Downtown Sheraton Motor Inn, Portland, Oregon, Feb. 26-27

**Midwest Turf Conference**, Purdue University, W. Lafayette, Indiana, Mar. 1-3.

**Professional Turf and Plant Conference**, eighth annual, Saisbury Club, Eisenhower Park, East Meadow, L.I., N.Y., Mar. 2.

**Professional Turf and Landscape Conference**, sixth annual, Ramada Inn, North Haven, Conn., Mar. 3.

**Southern Turfgrass Conference and Show**, Cook Convention Center, Memphis, Tenn., Mar. 7-9.

**Canadian Golf Superintendents Association**, 27th Annual turfgrass show, Inn-on-the-Park, Toronto, Ontario, Mar. 8-10.

**Northeastern Forest Pest Council**, winter meeting, Copley Plaza Hotel, Boston, Mass., Mar. 10-11.



# THE UNDERCOVER WEED KILLER.

Weeds and roots under asphalt paving can cause tremendous damage. But you won't know they're doing it until it's already done. That's why you need CASORON, the Undercover Weed Killer.

CASORON is approved for use under asphalt, whether it's a recreational court, a golf path, or a parking lot. Applied over the subgrade, CASORON soon begins to emit a weed-killing vapor. This gas is trapped under the asphalt, forming a long-lasting protective blanket against weed breakthrough. Straying roots from ornamental plants bordering asphalt surfaces can't damage the surface because CASORON is a "root-inhibitor." The tips of the ornamental roots stop growing when they come in contact with the CASORON-treated soil, and no harm is done to the ornamental.

CASORON is also perfect for weed control around all kinds of ornamentals and trees. Use it in parks, beside buildings, along highways, in cemeteries, or almost anywhere to eliminate the need for costly, time-consuming close trimming and mixing. It effectively kills more than 65 perennial and annual weeds without harming ornamentals or sterilizing an area for future planting.



**THOMPSON-HAYWARD  
CHEMICAL COMPANY**

A NORTH AMERICAN PHILIPS COMPANY

P. O. Box 2383  
Kansas City, Kansas 66110

"STOP! All pesticides can be harmful to health and the environment if misused. Read the label carefully and use only as directed."

5-6860R



Planes are loaded with insecticide at this Presque Isle pumping station.

## BUDWORM *(from page 46)*

brought with them thousands of hours of flying time ranging from crop dusting, fire bombing and range spraying to stunt work in movies.

The forty-five planes used ranged from small chase or spotter planes which were used to guide the spray planes, to Generals MacArthur and Eisenhower's Constellations. TBM's, PV-2's and C-4's, familiar planes to many, were also in abundance. Also used were several helicopters for application on the difficult areas around towns and isolated forest land. Spraying was done in the early morning and early evening hours when wind caused drift would be minimized. The planes flew only 150 feet over the forest canopy spraying insecticide with the most accuracy possible.

Spraying was confined to only the most seriously affected forest land while avoiding lakes, fish ponds and farms. The pilot's accuracy, combined with the swift biodegradation of the insecticides used and detailed mapping out of the target forests had reduced the possibility of harmful environmental impact. State health officials however, were also in attendance doing follow-up research on the wildlife and watersheds in the area.

The outlook for the future however, is grim. Although control efforts have been highly successful, they do not approach the extent of the total budworm infestation. The spray projects are expected to continue for a number of years, but officials are hoping for a beneficial shift in weather patterns or insect population developments which will provide deterrent on the epidemic. □

# PRINCETON

EQUIPMENT FOR THE SOD INDUSTRY

*(Ask the Man Who Owns One)*

**PRINCETON MFG. CO.**

2625 Johnstown Road, Columbus, Ohio 43219  
Tel. (614) 475-8520

**Forest fires burn  
more than trees**



**WEEDS TREES and TURF**

For ad on following page Circle 112 on free information card ♣

## NEWS (continued)

### Reduced Quarter Earnings Announced by Northrup

Northrup, King & Co., Minneapolis, said inventory write-downs reduced fourth fiscal quarter earnings about \$1.3 million, or 13 cents a share.

For fiscal 1974's fourth quarter, the company reported net income of \$1.6 million, or 16 cents a share. In fiscal 1975's first nine months, net income was \$8 million, equal to 80 cents a share. Major inventory adjustments occurred in wheat, Bermudagrass, ryegrasses and alfalfa, the company said.

### Outboard Marine Corp. Announces 1975 Earnings

Outboard Marine Corp., Waukegan, Ill., parent company of Cushman-Ryan turf care equipment, has reported preliminary net earnings of \$20 million in fiscal 1975, a 20 percent increase from net earnings of \$16.7 million in fiscal 1974.

The preliminary net earnings, which are subject to final audit, are expected to be \$2.42 per share in fiscal 1975 compared to \$2.02 per share a year earlier.

### Hawaii Turf Distributor Moves Into New Facilities

B. Hayman Co., Inc., Honolulu a 100-year-old professional turf maintenance equipment and golf car distributor, has moved into new, 22,000-square-foot industrial space at 94-062 Leikane St., Waipahu.

### Beard, Nutter and Coats Head Southern Turf Show

Dr. James B. Beard, Texas A & M University, Dr. G. Euel Coats, Mississippi State University, and Dr. Gene C. Nutter, Lake City Junior College, Lake City, Fla. are headline speakers for the annual Southern Turfgrass Conference and Equipment Show, March 7-9 in Memphis, Tenn.

Association president Gene Baston of the Country Club of Birmingham, Alabama said the equipment show will bring the

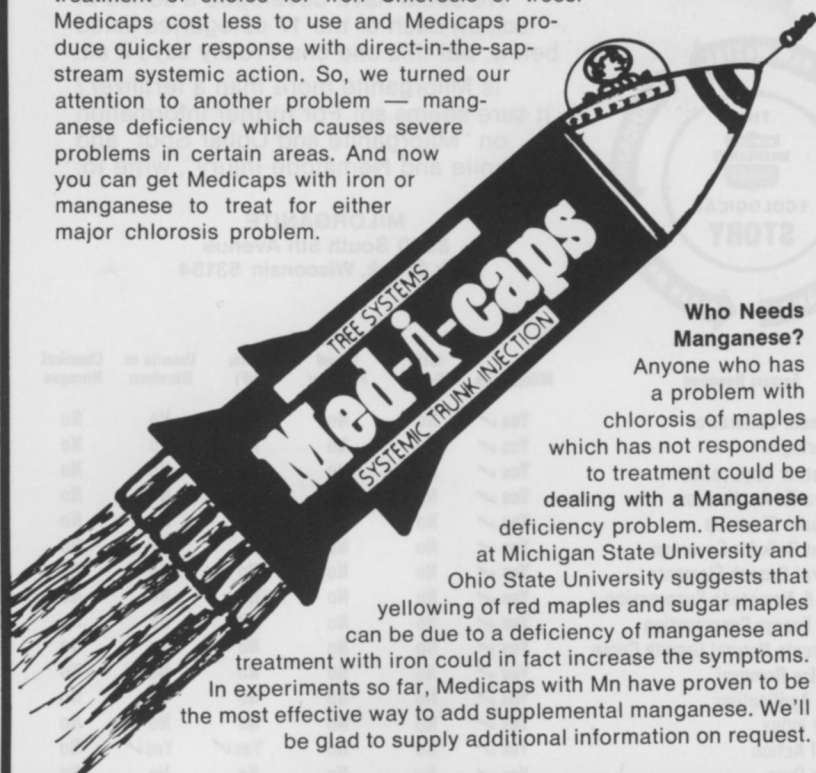
leading suppliers of turf equipment for this regional show that is one of the biggest turf shows in the country.

Other speakers include: E. Edward Bates, product manager, F. E. Meyers and Brothers Co., Ashland, Ohio; W. C. Bowle, superintendent at Memphis Municipal Golf Courses; Jim Bridges, superintendent at Creeks Bend Golf Course, Hixson, Tenn.; Roy Clark,

chief of the pesticide branch of the Environmental Protection Agency offices in Atlanta; Bill Hoopes, manager of the Professional Turf Institute, O. M. Scott & Sons, Marysville, Ohio; Palmer Maples, Jr., superintendent at the Standard Club, Atlanta, and president of the Golf Course Superintendents Association of America; and Shull Vance, superintendent at Country Club of Mobile, Alabama.

## We've added a Second Stage to our **MEDICAP Rocket** Now the best control for Manganese Chlorosis is available with MEDICAP MN

The people who know recognize Medicaps as the treatment of choice for Iron Chlorosis of trees. Medicaps cost less to use and Medicaps produce quicker response with direct-in-the-sap-stream systemic action. So, we turned our attention to another problem — manganese deficiency which causes severe problems in certain areas. And now you can get Medicaps with iron or manganese to treat for either major chlorosis problem.



#### Who Needs Manganese?

Anyone who has a problem with chlorosis of maples which has not responded to treatment could be dealing with a Manganese deficiency problem. Research at Michigan State University and Ohio State University suggests that yellowing of red maples and sugar maples can be due to a deficiency of manganese and treatment with iron could in fact increase the symptoms. In experiments so far, Medicaps with Mn have proven to be the most effective way to add supplemental manganese. We'll be glad to supply additional information on request.



### CREATIVE SALES, INC.

200 S. Main (402) 727-4800  
Fremont, Nebraska 68025

Circle 143 on free information card

**NEWS** (continued)

**Oregon Grass Seed Growers Threatened by State Law**

Oregon's 1,800 Willamette Valley grass seed growers are fighting to keep the \$65-million grass seed industry from being flushed out of the valley in one huge environmental sweep. State law, passed in 1971, gave the grass seed industry until last year to come up with a smoke-free way of sanitizing their grass seed fields.

The cultural practice of grass seed field burning has been carried out since the mid-1940s when it was determined that after-harvest burning of straw in fields killed insects and disease spores and rid fields of weed seeds. The 100-mile long, 50-mile wide valley has some 270,000 acres of grass seed fields producing virtually all of the ryegrass grown in the United States and a high percentage of the bluegrasses, fine fescues, bentgrass, orchardgrass and

smaller amounts of other turf and forage grasses.

Without burning, yields would drop as much as 50 percent in one year and serious problems of straw disposal and weed abatement would arise, say the growers. Costs in changing to new methods of burning would include purchase of a not-yet-perfected field sanitizing machine costing upward of \$10,000, plus propane, gasoline for pulling machinery and straw-gathering costs.

**Roots of Water Hyacinth May Be Harvested for Gold**

A geologist for a gold mining firm says his company may harvest the precious metal from the roots of the common water hyacinth. Manuel Bettencourt-Dias, a geologist for Gold Hill Mesa Corp., Colorado Springs, Colo., said his firm is interested in experiments now being carried on by researchers for the National Aeronautics and Space Administration (NASA).

Researchers for NASA are carrying out field experiments to determine the capability of hyacinths to absorb such metals as lead, mercury, silver and gold from water. "Though highly experimental, the program has produced some interesting results thus far," Bettencourt-Dias told WEEDS TREES & TURF. He said NASA estimates under a program of regular harvesting, an acre of hyacinths can yield silver at a rate of a pound every four days. Results of tests with gold are expected to be similar.

The primary intent of the NASA research is to develop an inexpensive and efficient process of removing toxic pollutants from the nation's rivers and streams, but Bettencourt-Dias said he sees possible commercial use. He said his firm might be able to recover gold from the old famous Cripple Creek mining tailings using such a process.

"Presently, the accepted and proven method of gold recovery — vat-leaching — can economically remove only about 60 percent of the gold," he said. "Hyacinths, as a secondary method, might be able to recover some of the remaining 40 percent."

**Factors to consider when selecting a fertilizer**

We could have developed a series of ads on each of the 17 categories listed below, but this one chart really says it all.

Is Milorganite more than a fertilizer? It sure seems so! For further information on "Milorganite and Dollar Spot" and "Milorganite and Nematode Injury", write to:

**MILORGANITE**  
8500 South 5th Avenue  
Oak Creek, Wisconsin 53154



Factors Required	Milorganite	IBDU (Swift)	Mixed Fertilizer	Scotts (UF)	Uramite or Nitroform	Chemical Nitrogen
No Spreader Calibration	Yes ✓	No	No	No	No	No
No Watering-In	Yes ✓	No	No	No	No	No
Bad Weather Application	Yes ✓	No	No	No	No	No
Heavy Traffic Application	Yes ✓	No	No	No	No	No
No Spreader Clean Up	Yes ✓	No	No	No	No	No
Sufficient Bulk for Coverage	Yes ✓	No	No	No	No	No
All-Natural Growth Elements	Yes ✓	No	No	No	No	No
Disease & Nematode Suppression	Yes ✓	No	No	No	No	No
Water & Energy Conservation	Yes ✓	No	No	No	No	No
Complements Natural Growth Curve	Yes ✓	No	No	No	No	No
Snow & Ice Removal	Yes ✓	No	No	No	No	No
Dormant Application	Yes ✓	No	No	No	No	No
Low Salt Index	Yes ✓	No	No	No	No	No
Bacterial Action	Yes ✓	No	No	Yes ✓	Yes ✓	No
Does Not Burn	Yes ✓	No	No	No	No	No
Long Lasting	Yes ✓	Yes ✓	No	Yes ✓	Yes ✓	No
Less Nitrogen Needed	Yes ✓	No	No	No	No	Yes ✓

**MILORGANITE...**

**the number One Naturally Organic Fertilizer**

Circle 142 on free information card