You don't become the world leader in turf care equipment without paying attention to what people want.

So we listen to our customers. To our distributors. To people who buy our equipment. To people who service it. And to the people who go out under the hot sun and use it.

Then we design our products with new features. Make sensible improvements. And bring out new models.

All to be sure that every product we offer to you is made to match your needs.

And then we back our products with the kind of service and parts inventory to keep the equipment running like it should.

Next time you're ready to order turf care equipment, ask your Jacobsen distributor for his recommendation. And why.

The more you listen to what he has to say, the more you'll know we've been listening.

We hear you.



Jacobsen Division of Textron Inc.

GREEN INDUSTRY NEWS

California contractors crack down on theft

Landscape contractors in California are fed up with job site burglary by thieves, "who know what they are doing." To stop the costly problem the California Landscape and Irrigation Council is offering a \$1,000 reward for information leading to the arrest and conviction of anyone stealing, vandalizing, or willfully misappropriating property belonging to members.

Trenchers, tractors, irrigation controllers, automatic valves, and plants are disappearing from job sites at an alarming rate. The Los Angeles area is the hardest hit so far, with one contractor losing more than \$50,000 in equipment this year.

CLIC Executive Secretary Joe Brazen set the value of stolen equipment and plants at more than \$3 million per year. "Our goal is to deter theft," said Brazen. "We've printed posters and decals and members display them all over job sites. Since we've started posting the warnings the incidence of theft has dropped substantially."

Contractors suspect there is a ring operating which steals and resells to unethical contractors, or uses them as an unlicensed contractor. The thieves take items only someone familiar with contracting would know as valuable.

"They know what they want when they break in," John O'Rorke of Pacific Irrigation Supply states. "We can't even replace stolen supplies fast enough to stay on the contractor's schedule."

In a recent front page news story, The Los Angeles Times said the losses to landscape contractors are just a portion of the \$62 million lost to theft and vandalism at construction sites in California each year. Ben Bartolotto, a member of the California Construction Industry Research Board, said 30 percent of construction sites suffer theft losses.

The "ring" also knows enough to break into warehouses for valves and couplings after taking controllers from job sites. "The thieves have technical knowledge. They don't use wire cutters, but unscrew valves," said O'Rorke. "They even tape off wire connections and leave the support base with the wire tied off neatly, as if to make it easier to replace."

Insurance fraud is also suspected. Some ethical contractors are being dropped by insurance companies after losses. Others suspect former employees or smaller contractors who got too far in debt. However, no one has been apprehended to date.

Dealing in hot merchandise can backfire, police warn. A fence will sell you hot goods one day, and come later to rob them back, knowing you will not report the burglary.

A non-profit crime prevention group in Sacramento estimates that an average of \$1,000 per \$50,000 of a home's purchase price pays for losses to theft and vandalism. It all adds up to millions and CLIC has decided it's time to act.

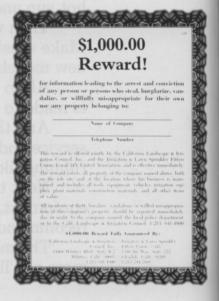
TREES

Jamboree set for Midwest arborists

A tree trimmer's jamboree featuring competitive events, prize money, and exhibitions will be held at the Morton Arboretum in Lisle, Ill., June 16. The jamboree is being co-sponsored by the Midwestern Chapter of the International Society of Arboriculture and the Morton Arboretum.

Competitive events include a work climb, rope throwline contest, log drop, and chain saw event. Those participating in all four events must pay a \$25 entrance fee. A \$10 fee will be charged to those participating only in the chain saw contest. Two \$500 prizes will be awarded, along with a \$150 prize, chain saw, trophy, and medals.

An exhibition of a tree trimmer's equipment will also be featured at the jamboree. Both the jamboree and



exhibition are free and open to the public.

To help individuals determine plant values a tree and shrub appraisal seminar will be conducted at the arboretum June 15-16.

Dr. L.L.C. Chadwick, emeritus professor of horticulture at Ohio State University and Dr. James Kielbaso, professor of forestry at Michigan State University, will jointly conduct the seminar.

Only 75 persons will be selected to attend the seminar on a first-come-first-served basis. The registration fee is \$50 which includes a noon luncheon on June 16. The fee should be sent to Dr. George Ware, the Morton Arboretum, Lisle, Ill. 60532.

Arborists elect Holkenborg president

The membership of the National Arborist Association, Inc., has elected Larry Holkenborg, owner of Holkenborg Nursery in Sandusky, OH, as president for 1979.

Holkenborg said he intends to



CUSHMAN PUTS TWO IN ONE.

Introducing the Two-Seater in the Runabout line.

Now, one of the most useful vehicles on your turf grounds is even more useful.

We've redesigned the Cushman® 18-hp Runabout vehicle and made room for two men, plus tools, equipment and supplies. So now, when the job requires an extra pair of hands, the Runabout brings them along.

But you still get all the features

that have made the Cushman Runabout a favorite with turf managers across the country.

You get the fuel-stingy, 18-hp OMC engine that gives you the power you need, the durability you demand and the economy you want.

You get Cushman Radial Frame construction for greater operator comfort, long life and easy serviceability.

You get wheel-type steering, a 3-speed transmission, exceptional maneuverability, and a big pick-up box with removable sides and tailgate. All standard.

And you get a total time- and money-saving vehicle that helps you

stretch your manpower dollars. The Runabout lets you move men, tools, materials, and equipment around your course quickly and economically.

Ask your Čushman Turf dealer to tell you more about the 12-hp one-seater or the 18-hp two-seater Runabouts. Or write us direct. And find out how we put two into one, and came out with twice the value.

CUSHMAN Turf-Care Equipment

OMC-Lincoln A Division of Outboard Marine Corporation P.O. Box 82409, 3343 Cushman Lincoln, Nebraska 68501 79-CUT-3

Circle 162 on free information card

focus on "employee development". Responding to a shortage of trained personnel, the Association will encourage development of two- and four-year college programs in tree care and orient more high school student to careers in arboriculture.

Other elections which took place at the Association's recent meeting

in Newport Beach, CA, are:

First Vice President Bruce M. Walgren, Walgren Tree Experts, West Hartford, CN.

Second Vice President Walter Money, Guardian Tree Experts, Inc.,

Rockville, MD.

Secretary Erik Haupt, Haupt Tree Co., Sheffield, MASS.

Treasurer Lee Lesh, Lee's Tree Surgeons, Saratoga, CA.

Board members elected were Robert Mullane, Alpine Tree Care, White Plains, NY; George Tyler, Consolidated Utility Equipment Co., Amherst, NH; Neil Engledow, Mid-Western Tree Experts, Indianapolis, IN; and Robert Bartlett Jr., F.A. Bartlett Tree Expert Co., Stamford, CN. Ken Kirk, Shield Shade Tree Specialists, Clayton, MO is past president.

SOUTHERN TURF

Centipede shade tolerance matches St. Augustine

Preliminary research by Dr. Earl Barrios, Jr., at the Louisiana Agricultural Experiment Station in Baton Rouge indicates that Centipede grass is as shade tolerant as St. Augustine grass.

In the three-year study centipede grew better in dense shade than Floratam and St. Augustine and as well as zoysia. St. Augustine has been damaged by a virus, St. Augustine decline(SAD) in much of the state. Barrios also noted that the centipede was not affected as greatly by chinchbugs, but is prone to Brown Patch disease like St. Augustine. The centipede did withstand low temperatures better than the St. Augustine.

EQUIPMENT

Jacobsen sells assets of Sod Master to Turfco

Turfco Manufacturing Inc., Minneapolis, MN, has purchased the assets of the Sod Master division of Jacobsen Manufacturing Co., ac-

Continues on page 19

Landscape Contractor News

Students compete at ALCA Field Day

More than 250 students from seven colleges faced off at Texas Tech University in March in a series of competitive events. Surveying, plant identification, landscape design, cut and fill estimating, back hoe operation, sales, business problem solving, trenching, tree climbing, and cross-cut sawing were the events. Students from Texas Tech, Mississippi State, Ohio State University, Ohio Agricultural Technical Institute, Richland College, and Oklahoma Tech were the contestants.

Texas Tech, with a home court advantage, grabbed the lead, Mississippi State claimed second, and Ohio State and Oklahoma State tied for

Texas Tech advisor Ron Smith said the great participation indicated increased interest in programs which teach the new generation of landscapers.

Landscape business growth expected

According to a survey taken by the National Landscape Association, managers of landscape businesses expect 1979 growth to match last year's growth with the exception of commercial renovation work.

Based upon survey data, landscape business should increase between 15 and 20 percent nationally in 1979. On a regional basis, the Pacific Coast landscapers expect nearly 30 percent more business this year. On the low end, landscapers in the western plains expect only an 11 percent gain. Managers in the Southwest predicted a 20 percent gain. Greak Lakes, Northeast, and Southeast managers all anticipate a 15

NLA qualified the response by saying that the survey is characteristically conservative and said 1978 estimates were lower than the ac-

tual results by five percent.

The commercial renovation market seems depressed however, especially in the Southwest. The Great Lakes region expects less growth in new commercial as well. Residential work seems to remain strong for both new and renovation work, with only a slight overall drop. Commercial work must reflect economic problems more than residential.

Disaster information service strengthened

The Council of Tree and Landscape Appraisers has beefed up a "Rapid Response" program to inform the public how to recoup financial losses from damage to landscapes caused by natural disasters.

Rapid Response sends news stories to media in affected areas so that the media can inform the public how they can recapture some of the financial losses incurred when plants and landscape are damaged by storms. The service also directs the public to tree, nursery, and landscape professionals for advice and counsel.

Although a service of CTLA, the program is supported by the American Association of Nurserymen, American Society of Consulting Arborists, Associated Landscape Contractors of America, International Society of Arboriculture, and the National Arborist Association.

Paul Dawson, director of communications for CTLA, said the "Rapid Response" phone numer (202/347-8219) is distributed to members of all five associations. "They post it somewhere to remind them to phone the Council if an event which damages trees and landscape strikes their area.'

"When somebody phones us we immediately prepare a press release which is sent by mailgram to most of the media in the affected area," Dawson added. "The story tells the public how to arrange to get an appraisal from a landscape professional, how to deal with their homeowner's insurance . . ., and how to approach the tax loss situa-

CIL Sulphur Coated Urea The Number One Controlled Release Nitrogen Fertilizer



CIL Sulphur Coated Urea is being tested against other controlled release nitrogen fertilizers at 14 different universities in the U.S. and Canada. Photo above shows one of the test sites with CIL Sulphur Coated Urea treated grass in foreground.

Efficient

- Release of nitrogen is controlled by moisture. Temperature and bacterial activity are not important factors.
- Excess moisture however, does not markedly speed up the release of the nitrogen.
- Soil ph does not alter pattern of release.

Background photo: CIL Sulphur Coated Urea prills actual size.

Efficient Effective Economical



Effective

- Tested on grass plots under scientifically controlled conditions, CIL Sulphur Coated Urea outperformed all conventional slow release nitrogen fertilizers tested, in both the appearance and growth of grass obtained.
- CIL Sulphur Coated Urea releases nutrients as soon as it is applied and continues to do so evenly over 4 to 5 months. Result is more complete utilization of nitrogen applied, and no build up of nitrates in the soil.

Economical

- Low cost per unit of controlled release nitrogen.
- Available in bulk or in 55 lb plastic bags.

Please send me more information about CIL Sulphur C Please advise who can supply me with blended product CIL Sulphur C	
Name	
Street	Mail to:
City	Peter Buckley Professional Turf Products
State	Canadian Industries Limited P.O. Box 5201, London, Ontario, Canada
Zip	N6A 4L6 Telephone: (519) 672-9220

A dependable source of supply of quality products, in commercial quantities, from Canada's largest chemical company



Canadian Industries Limited

For the turf you care for: proven protection against nine damaging diseases from America's leading fungicide for turf. Now a 500 gram per liter flowable formulation.



Daconil 2787 is the broad-spectrum fungicide that helps you fight such problems as dollar spot, gray leaf spot, large brown patch and red thread. Easy to handle with great flowability. Disperses quickly in the spray tank. Effective even in hot weather. Daconil 2787 also provides effective disease control on a number of ornamentals. Now in a new 500 g/l formulation.

Diamond Shamrock gives you all the help you need for weed problems, too.

Dacthal® is the preemergence herbicide that controls more than 20 weeds and unwanted grasses. Stops early and late germinating weeds without affecting healthy, growing turf grasses. Tough weeds like crabgrass and Poa annua can't stand up to Dacthal.

Dacamine® gives postemergence control of over 70 broadleaf weeds including dandelion, annual chickweed, knotweed and Canada thistle. Kills 'em right down to the roots so they won't come back.

Daconate® is the postemergence herbicide that knocks out nutsedge, chickweed, wood sorrel, sandbur and other grassy weeds. It's a ready-to-use liquid herbicide with a built-in surfactant for uniform wetting.

For beautiful turf and ornamentals, count on the big four from Diamond Shamrock to make your job easier.

Circle 112 on free information card





Diamond Shamrock

The resourceful company.

See your turf chemicals supplier, or contact the Diamond Shamrock Agricultural Chemicals Division sales office nearest you:
Three Commerce Park Square, 23200 Chagrin Blvd., Beachwood, OH 44112 • 1760 The Exchange, Suite 100, Atlanta, GA 30339 • 5333 Westheimer, Suite 850, Houston, TX 77002 • Commerce Plaza Bldg., 2015 Spring Rd., Oakbrook, IL 60521 • 617 Veterans Blvd., Redwood City, CA 94063.



THE LITTLE TRACTOR THAT DOES BIG TRACTOR JOBS.



A lot of landscaping and construction jobs are too big for a lawn and garden tractor, yet too small for a large industrial tractor.

And that's where our John Deere "little-big" tractors come in.

At 22 and 27-PTO-hp, they have the power you need for loading, digging, grading, posthole digging, transporting, trenching, tilling and just about any other job you do.

Yet they're still small enough so they're not too expensive to buy or

operate.

Both the 22-PTO-hp 850 and the 27-PTO-hp 950 are equipped with liquid-cooled diesel engines that give you excellent fuel economy.

And both offer a versatile 8-speed transmission plus a 3-point hitch (Category 1) that accommodates a family

of more than 20 tractor-matched implements.

We also offer a choice of tire sizes and styles to fit your needs. And your John Deere dealer is a man you can

count on for parts, service and good advice.

So if you're looking for a real workhorse that's just right for the jobs you do, see the 850 or 950 at your nearby John Deere dealer. Or, for a free brochure, write: John Deere, Dept. 63, Moline, Illinois 61265.

THE JOHN DEERE "LITTLE-BIG" TRACTORS.

Nothing runs like a Deere!







New from page 14

cording to Turfco President Bill Kaercher.

The Sod Master line includes the Metermatic Topdresser for golf greens, the Edgerrite sandtrap edger, the Sub-Air aerator for deep aerification, the Bantam sod cutter for small sod nurseries, and the Pipe Piper vibratory wire and pipe installer.

Jacobsen bought Sod Master in 1969 and merchandised the line through its distributors. Turfco purchased Sod Master prior to the recent purchase of Jacobsen by Textron. The Sod Master name, production facilities, and many of the distributors will remain the same. The color of the equipment will be changed to deep brown and light tan.

Kaercher said changes will include new distributors and new products, including a topdresser for the EZ Go truck. Turfco's address is 3456 Washington Ave., Minneapolis, MN 55412.

WIIV JUHIZ.

GOLF

Alexander to manage Sea Pines golf courses

Dr. Paul Alexander, a specialist in golf agronomy, has been named vice-president of golf at the Sea Pines Plantation Co., Hilton Head, S.C. Alexander had previously been with Sea Pines from 1973-1974 as staff vice-president for agronomy.

After receiving his Ph.D. from Ohio State University Alexander served on the botany and plant pathology staff at Clemson University until 1969 and headed Clemson's turfgrass management program.

Before joining Sea Pines in 1973 he had been director of education for the Golf Course Superintendents

Association of America.

A native of Akron, Ohio, Alexander received his bachelor of science degree in horticulture from California State Polytechnic College and a master of science degree in botany and plant pathology from Ohio State University.

HORTICULTURE

Independent nursery survival topic of Pacific show

Charles D. Greenidge, prominent management consultant for the lawn and garden industry, will be

GOVERNMENT

UPDATE

Timing of Silvex suspension inconsiderate

EPA's Deputy Administrator Barbara Blum said 2,4,5-T was banned recently to protect citizens from another spring exposure, but it also caused retail nurserymen to get stuck with brand new inventories.

The emergency ban came after most businesses had ordered and received 2,4,5-T products, but before they could sell any of it. Storage space, often critically short, is occupied with products that can't be sold

for a period through August at the shortest.

Criticism of the chemical, brought mainly by instances of disruption of pregnancy near forests treated with 2,4,5-T, has been voiced for a considerable length of time. Had there been real question about the chemical's safety, an early suspension could have saved businesses from wasted inventory expense and storage space.

2,4,5-T hearings begin, three judges involved

In an unusual move, EPA has assigned three administrative law judges to hear representatives from 30 firms defending continued use of 2,4,5-T and opponents. Usually one judge is involved, but EPA says three judges were needed due to the volume of information to be heard and the complexity of the overall situation.

The judges must make a decision by July, and EPA Administrator Costle must announce his decision by August. Until then, the products

remain on emergency suspension.

A federal court in Flint, Michigan, denied a request by Dow Chemical Co., to lift the ban on some products containing 2,4,5-T.

Alternatives to Silvex described

Margaret Herbst of the New York State Nurserymen's Assoc. has released a list of substitutes for 2,4,5-T for use until the suspension is resolved. They are Am Chem's Super D Weedone, Acme's Weed No More, and Spectrum 33 Plus by Ciba Geigy Corp.

Disposal guidelines stepped up

Embarrassed by national television coverage of problem toxic chemical disposal sites, EPA is stepping up its effort to watch over all old and new hazardous material dump sites. Deputy Administrator Barbara Blum announced that efforts will be made to speed up a plan to monitor and enforce disposal regulations in hazardous waste dump sites. Currently, the program was not expected to take effect until next year.

Blum estimated there are 800 known hazardous waste dump sites, and thousands of unknown older sites which need checking. Blum has requested more money and more lawyers to bolster enforcement

activity.

the seminar speaker at the Pacific Horticultural Trade Show, September 6-8, at the Long Beach Convention Center. He will discuss the "Survival of the Independent Nursery and Lawn and Garden Retailer."

Greenidge has conducted lawn and garden management seminars across the United States and has also directed several national surveys sponsored by the Lawn & Garden Distributors Association.

The show is being sponsored by the California Association of

Nurserymen. For further information contact trade show manager Richard C. Staples, 1419 21st Street, Sacramento, CA 95814 or call (916) 443-7373. For hotel information call the Long Beach Convention Center Information Bureau at (213) 436-3645.

INTEGRATED CONTROL STRATEGIES ESTABLISHED FOR TREE INSECTS

by David G. Nielsen, Ph.D., Project Leader, Woody Ornamentals Laboratory, Department of Entomology, Ohio Agricultural Research and Development Center, Wooster, Ohio.

Integrated Pest Management (IPM) is a current and popular approach utilizing pest control techniques that optimize production or maintenance efficiency while minimizing adverse environmental side effects.

Insect Pest Management is the segment of Integrated Pest Management dealing only with insects and related organisms.

During the past two years President Carter has endorsed and encouraged pest management techniques that emphasize use of parasites and predators, disease organisms of pests, resistant varieties, and so-called third generation pesticides, including insect sex attractants, insect hormones, and other novel chemical compounds. Agriculture Secretary Bergland has stressed the importance of replacing conventional organic pesticides with more ecologically acceptable tactics.

The U. S. Environmental Protection Agency is encouraging research designed to discover and develop alternative pest control strategies. They are doing this in two ways: (1) funding research dealing with novel approaches to insect control; (2) minimizing registrations of conventional pesticides.

IPM is not new but was abandoned by many producers and landscape managers with the advent of petroleum based synthetic organic pesticides in the 1940's. IPM was once a necessity for minimizing losses due to pests. Today, IPM is an approach to improve efficient use of all available tactics, including conventional pesticides only when necessary. Most of us agree that conventional pesticides will be critical components of IPM programs in the foreseeable future.

In order to implement IPM on most commodities, certain thresholds must be established. The economic threshold is the population level that will cause economic damage if it is allowed to increase. The economic injury level is the population that will cause more dollar loss than that incurred by applying a control measure. Sampling procedures must be developed to economically determine when these thresholds are reached. Finally, an attempt is made to predict future pest populations and coincidental dollar or esthetic loss based on past and present information (a process called modelling). With all of this background, we then attempt to implement the most cost-effective tactics with minimum adverse impact on ecosystem stability and environmental quality.

Few programs have been developed to optimize control efficiency against pests of trees and shrubs. However, Insect Pest Management can be implemented against some of the most common and destructive pests of woody ornamentals in the landscape and the nursery. A few examples are



presented here to illustrate how these strategies are formulated based on thorough knowledge of the pests involved and tactics available for combating them.

Spruce Gall Adelgids

In the March 1975 issue of Weeds Trees & Turf, Dr. R. L. Campbell, WWREC, Puyallup, WA, proposed to change the common names of insects in the subfamily Adelginae from aphids to adelgids. His recommendation was recently approved by the Committee on Common Names of the Entomological Society of America. Consequently, the new name for spruce gall aphids is spruce gall adelgids. Adelgids are more closely related to grape and hickory phylloxera than they are to aphids. The old common names led many people to use aphicides in an effort to control adelgids. However, control was rarely satisfactory because many aphicides are relatively non-toxic to phylloxerans, including spruce gall adelgids.

Eastern Spruce Gall Adelgid. The eastern spruce gall adelgid, *Adelges abietis* (L.), attacks primarily Norway and white spruce and causes pineapplelike swellings or galls to form at the base of new