possible herbicide
least possible cost.

We know you’re just as concerned with cost control as you are with weed control. Visko-Rhap can solve both problems.

You may be able to convert your present spray equipment to the Visko-Rhap controlled-drift system for about $400, the price of our new Converter Kit. At that price you can’t afford not to have it.

Or if you want a more sophisticated piece of equipment, our Pump Motor Pack Unit is available. And for the ultimate in drift control equipment we have the complete Trailer Mounted Unit.

Visko-Rhap has developed a system that keeps Visko-Rhap herbicide and water in separate tanks. They are blended together in a special mixing chamber which produces the thick invert emulsion. So there’s no down time for mixing. Material can be left in the tanks overnight.

One highway department in Iowa reported savings of $13 per mile!

Visko-Rhap will clear roadways, power lines, waterways, or crop areas without the herbicide drift that can lead to costly damage suits or crop loss.

Visko-Rhap applies in thick, spaghetti-like strands that go only where directed, and break up into heavy oil coated droplets before contact. It hits only what you want to hit. And what it hits, it sticks to like glue. Spray patterns and droplet size are adjustable. You can even spray when it’s raining.

If all this sounds too good to be true, we’ll be happy to arrange a full demonstration. Just call your local Rhodia representative and he’ll show you how to kill those weeds without murdering your budget.
Give Him Wheels, But...

Many grounds superintendents have proven in the past few years that it paid to put each man, and his tools, onto his own set of wheels for even the simplest jobs. Among two dozen superintendents interviewed at parks, campuses, cemeteries and golf courses there was general agreement that it increased a man's production about 40%. No longer did men waste time trudging across vast lawns, nor sit idle waiting to be dropped off or picked up by still another man in a $4,000 pickup truck. The 40% translated into much-needed labor savings.

The machines that made it possible for every workman to have his own vehicle were the inexpensive three-wheeled utility carts. There wasn't a single superintendent we interviewed two years ago who had one who didn't intend to buy more of them. Then, you could get one for as little as $400. It lasted four or five years, with an engine life of two or three; and you could get a new engine for $70 and install it yourself in a half hour.

But now, as with so many products, prices have shot up due to skyrocketing material costs and shortages, labor costs, slow payment on sales, general inflation and more sophisticated cart design. As a result, some three-wheelers now cost as much as some pickups did a few years ago. And not only have buying costs jumped, but so have maintenance costs since some of these vehicles are relatively sophisticated: $10 per hour servicing and repair charges are not unusual for them.

Here's how Al Dennis, grounds superintendent at the Mt. Sinai Mortuary in Los Angeles describes it: "At Mt. Sinai there simply is no dropping off or picking up of workmen by others. Everyone here needs a set of wheels.

"We always did have three-wheelers, but their costs went up so much lately we turned more to four-wheelers, especially to compact pick-ups, which have their advantages. But that wasn't the whole answer. We realized we still were using equipment that was too expensive for one-man jobs requiring only light tools — that we had to get back to the low-cost three wheelers for these jobs.

"The large three and four wheelers are as valuable as ever, but such equipment is not needed for every job. The low-cost carts fill in where it's really impractical to use the others.

"We looked around and found one make that costs about $900, instead of $1400 to $2000. This manufacturer is the first to go back to the old low-cost types. My guess is there'll be more.

"We bought two and are happy with them. They use a simple home-lawnmower type of engine with six horsepower. The lifespan may be half that of a $2000 machine, but then it costs less than half as much to buy and service, and engine replacement is much cheaper. I figure a three year period before overhauling a bigger vehicle, and only two years with this low cost cart; but it has an engine you can afford to throw away and replace with a new one.

"Not only that, but a truck can't leave the streets; the man has to walk to his work area from the truck after driving to the vicinity. That's where our Jobmaster has an edge. It can go where others cannot go . . . and it doesn't leave tire marks, either. We use them to place vases, for flower pick-up, repairing and enclosing spaces (graves), general cleaning and light work. They carry rakes, shovels, hose and other things. They can't carry soil — we need a skiploader for that. And while a cart is barely large enough for a greensmower, it's too small to carry the grass, too. I wish the bed were about a foot longer each way."

"They have other limitations, too. Like any three-wheeler, you have to handle them carefully on slopes when the turf is wet."

George Quiello, grounds superintendent at St. Joseph's Cemetery in San Pablo, California says the new low cost utility carts "have been very handy for us."

Often, he claims, they replace a pick-up truck. Without his $900 cart he'd be tying up a $3000 to $4000 piece of equipment "and you could buy many of these Jobmasters for that!"

Besides the uses cited by Al Dennis, Quiello uses his to move hose and sprinklers, and sometimes carries a shovel and sack of concrete to set stones.

He has had no problems with hills or with lack of traction. But a muffler connection vibrated loose and a centrifugal clutch went out once.

The vehicles ease of maintenance and low cost engine replacement were important in his decision to buy.

Wilford Cordova, grounds superintendent at Oakmont Country Club in Glendale, California, bought two low-cost three wheelers because the little carts do not damage the turf like a pick-up. He uses them almost entirely for watering and for odd jobs.

He welded two adapters onto the sides of each bed so that he can pull hoses without having to load and unload them. One cart easily pulls two or three hoses which, of course, can't be done by one man physically.

Wilford feels that his three-wheel utility carts each save 30 to 40 percent of a man's time.

He bought his first cart almost two years ago. It was one of the original models and gave him drive train troubles. But after spending $100 it works fine. The newer model has given him no problems. "They're easy to keep going," he explains.

Although these carts are low in... (continued on page 27)
Hahn Flex-A-Matic 140.
The go-anywhere gang.

You get a well-manicured turf every time, everywhere with the Hahn Flex-A-Matic 140. You also get a big cutting width of 11'8"... and a unit that can turn in a 45° radius. The Flex-A-Matic can dart in and out between trees like a riding mower... and it's powerful enough to cut on steep slopes.

Plus the Flex-A-Matic 140 features swing up and swing away reel housings... cable driven reels... independent reel speed... and superb visibility of all cutting reels.

Test ride the Flex-A-Matic 140 at your nearby Hahn distributor.

Barnett Elected Chairman Of ICI United States, Inc.

Robert P. Barnett has been elected chairman of the board and chief executive officer of ICI United States, Inc., Wilmington, Del., succeeding Edward J. Goett. Barnett will retain his position as president of the company.

Goett will devote full time to duties as president and chief executive officer of ICI Americas, a company responsible for activities of ICI group companies in North, Central and South America.

ICI United States is the United States operating subsidiary of ICI Americas. Both Delaware-incorporated companies are subsidiaries of Imperial Chemical Industries Limited (ICI) of London.

Wastewater, Land Treatment Subject of New SIA Manual

The Sprinkler Irrigation Association has announced a March 1 publication date for its Wastewater Resource Manual which will deal with land treatment and recycling of municipal and industrial wastewater. The manual will stress the practical engineering concerns associated with wastewater project design and has been written for use by systems designers and operators.

The Manual will be issued in a green, hard-cover post-binder containing approximately 500 pages. Periodic updating and revision of material on the latest state of the art will be available after the first year on a subscription basis.

Part I of the Manual deals with both the legal and technical aspects of land treatment. The legal section covers federal, state and regional laws, local ordinances and regulations and land use aspects and social considerations.

The technical portion of Part I is concerned with wastewater characteristics; pretreatment and storage of wastewater; hydrogeologic site considerations; soil physical, chemical and biological processes; botanical components; climatologic considerations; hygienic and nuisance concerns; conventional sanitary engineering treatment processes; hydraulics, with emphasis on irrigation system design; and a review of existing land application technology.

The Manual presents a detailed study of project design and describes in detail typical systems as examples. Under this section, Part II, factors effecting the criteria or data needed include discussions of geology, soils, hydrology, weather, agricultural practices and adjacent land use.

Included will be a design and engineering section which will cover pretreatment and storage, piping, (continued on page 27)

The Associated Landscape Contractors of Massachusetts, the largest landscape contractors’ association in the northeastern U.S., have elected officers for 1975: (from left) William Hatcher, Manchester, Mass., assistant secretary-treasurer; Daniel Pellegrino, Newton, Mass., secretary-treasurer; Norman F. Brisson, Lincoln, Mass., president; Frederick Heylinger, Shirley, Mass., past president; Charles A. Laughton, North Chelmsford, Mass., vice president.
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This could be the best thing that ever happened to your turf maintenance program. With a Myers TL32TM golf course sprayer, you can cover the whole width of a fairway in just two passes. Using a two-side discharge, you can drive down the fairway and cover 70’ at a time. Or, if you prefer “driving in the rough” and using a one-side discharge you can cover 40’ to 50’ each trip. The sprayer’s powerful 32” fan sends out the fungicide spray in a ground-hugging pattern that really does the job. It keeps your fairways in tip-top playing shape and does it in a lot less time than you’d expect! On top of that, the sprayer can be converted with the P70 attachment for tall shade tree applications to 80 ft! The TL32 really cuts those big fairway jobs and tall trees down to size. Interested in finding out more? Ask about the TL32TM today at your Myers TurfLine dealer’s.

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Meeting Dates

National Arborist Association, annual winter meeting, Don CeSar Hotel, St. Petersburg, Fla., Feb. 16-20.
Joint Management Clinic, sponsored by the National Landscape Association and Garden Centers of America, Galt House, Louisville, Ky., Feb. 16-20.
Sprinkler Irrigation Association, technical conference, Hyatt Regency Atlanta, Atlanta, Ga., Feb. 23-25.
18th Annual Iowa Shade Tree Disease and Insect Short Course, Memorial Union, Iowa State University, Ames, Iowa, Feb. 26-28.
American Sod Producers Association, annual mid-winter conference, Doubletree Inn, Tucson, Ariz., Feb. 27-28. (Board of directors will meet Feb. 26.)
Southern Turfgrass Association, 1975 turfgrass conference and show, Cook Center, Memphis, Tenn., March 2-4.
Midwest Turf Conference, Purdue University, Lafayette, Ind., March 3-5.
10th Annual Maryland Turf Conference, Adult Education Center, University of Maryland, College Park, Md., March 6.
Northeastern Forest Pest Council, 1975 winter meeting, Copley Plaza Hotel, Boston, Mass., March 10-11.
RCGA and Canadian Golf Superintendents Association, national turfgrass conference and show, Skyline Hotel, Toronto, Ontario, March 18-20.
Western Society of Weed Science, annual meeting, Del Webb Townhouse, Phoenix, Ariz., March 18-20.
Canada Chapter, ISTC, annual meeting, Four Seasons Sheraton, Toronto, Ontario, March 19-22.
Western Chapter, ISTC, Riviera Hotel, Palm Springs, Calif., May 11-15.
spray distribution equipment, field layout considerations, operational and management considerations, project economic evaluation and a review of environmental considerations. Typical systems described will include those for municipal, industrial and agricultural areas.

The appendix of the Manual will include a listing of firms engaged in design or installation of wastewater systems; a listing of federal, state and local wastewater regulatory agencies; a buyer’s guide of firms manufacturing equipment for the wastewater field; a bibliography of technical information; a “dictionary” of sprinkler and wastewater terminology; and useful tables and conversion factors.

Pre-publication sales are being taken until Feb. 28 at the Association’s offices at 13975 Connecticut Ave., Suite 310, Silver Spring, Md. 20906. Cost for the Manual in pre-publication orders is $40. After March 1, the Manual will sell for $45. Orders should be accompanied by check or money order.

Forest Service Announces Move of 3 Research Units

U.S. Forest Service research units in Columbus, Ohio, a part of the Northeastern Forest Experiment Station, will transfer to the Station’s Delaware, Ohio, laboratory this month, according to F. Bryan Clark, station director. Clark said the primary reason for the move is to achieve a more efficient and economical operation.

Current Forest Service research at Delaware deals with forest insect and disease problems affecting eastern tree species. The Columbus units will add three new research functions to the laboratory’s programs — forest economics, wood utilization and forest management.

Objective of the economics unit is to determine the income potential from forest lands in the Northeast when management for timber and other uses is applied. Another unit is responsible for defining and classifying tree and log characteristics affecting the quality and usefulness of hardwood and eastern softwood species. The third unit develops improved techniques for measuring the

growth and yield of forest stands in the upland oak region of the eastern United States.

The Northeastern Station, which is responsible for forest-related studies in 14 states, is one of eight Forest Service regional research stations with programs aimed at protecting, managing, using and replenishing the nation’s forest resources.

New Synthetic Insecticides Shown To Be Less Toxic

New pyrethroids, synthetic substitutes for the natural insecticides of the pyrethrum plant, may be even more effective against target insects and less hazardous to people and animals than the natural product, according to USDA scientists.

Extremely low mammalian toxicity of the pyrethroids is evidenced from data collected by industry. These data show that the new pyrethroids are less toxic to laboratory animals than DDT or carbaryl.

In greenhouse tests conducted by USDA’s Agricultural Research Service (ARS) in Beltsville, Md., the new insecticides proved lethal to a wide range of agricultural and disease-bearing insects.

Pyrethroids are especially effective against aphids and certain other sucking insects, but will also kill chewing insects. Yellow fever mosquitoes, house flies, American and German cockroaches, Japanese beetles, boll weevils and Colorado (continued)
potato beetles were killed after treatment by one or more of the new pyrethroids tested by ARS.

Natural pyrethrum is obtained from dried, powdered flowers of the pyrethrum plant, *Pyrethrum cinereafolium*, and is used in insecticidal sprays and dusts. It is not harmful to plants and is regarded as one of the world's least toxic insecticides to man and animals. But supplies of these flowers are limited so natural pyrethrum is expensive.

Commercial interest in safer insecticides has been increasing since the first pyrethroid, allethrin, was synthesized in 1949 by Milton S. Schecter, chief of the Beltsville Chemical and Biophysical Control Laboratory.

In recent ARS research, entomologist William N. Sullivan applied the experimental pyrethroid compounds in aerosol and dust forms under conditions simulating disinsection of aircraft and other enclosed areas.

"These promising new pyrethroids are applicable to the home, the farm, greenhouse or warehouse as well as in commercial aircraft," Sullivan said.

The tests included the two percent resmethrin aerosol, which is approved by the World Health Organization as a substitute for a pyrethrum-DDT formulation used in disinsecting international aircraft to prevent the spread of insect vectors of disease. The two percent resmethrin formulation has just been cleared by the EPA.

Sullivan also tested three additional pyrethroids, all of which are still experimental.

**Small Businesses To Gain Penalty-free OSHA Advice**

On-site job safety and health consultations for small businesses, without citations or penalties, will shortly be provided by OSHA.

The new program will assist small businessmen in states where OSHA is enforcing federal job safety and health rules.

States operating their own job safety and health programs under OSHA-approved plans are already authorized to provide such consultative services to small businessmen.

John H. Stender, assistant secretary of labor and head of OSHA, said that as funds are made available for the new program, states without OSHA-approved plans may contract with OSHA (under provisions of the 1970 Occupational Safety and Health Act) to provide these services using state personnel.

"As in a normal inspection," Stender said, "each consultation will consist of an opening conference with the employer, a walk-through of the company facility, a closing conference, and a written summary of findings."

There will, however, be no citations issued for any alleged violations found and no penalties proposed, Stender added.

The consultation agreements also will contain provisions for immediate abatement of imminent danger situations and for protecting the confidentiality of trade secrets.

Under the terms of OSHA contracts with the states, a clear separation will be maintained between consultative and enforcement staffs.

Stender emphasized that consultants' files will not be used to trigger an OSHA inspection. In the event of a subsequent OSHA inspection, however, a federal compliance officer will not be precluded from issuing citations regardless of earlier findings or recommendations of the state consultant.

During a walkthrough inspection, consultants will explain to the employer which OSHA standards and rules apply to his workplace, explain technical language and application of applicable standards, point out to the employer where he is not complying with OSHA standards, and, where possible, suggest means by which identified hazards may be abated.

The consultation program came about as a result of congressional action directing such a program and OSHA's concern for helping small businesses comply with job safety and health rules.

To date, 26 states or territories have OSHA-approved plans, so will not enter into the OSHA consultation contracts. They are: South Carolina, Oregon, Utah, Washington, New Jersey, North Carolina, California, New York, Minnesota, Maryland, Tennessee, Iowa, Kentucky, Alaska, Virgin Islands, Colorado, Michigan, Vermont, Illinois, Connecticut, Hawaii, Nevada, Indiana, Wisconsin, Wyoming and Arizona.

(more news on page 30)
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TURF TYPE
Fine Leaved Perennial Ryegrass

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NEWS (continued)

FMC Recalls 100 Workers

FMC Corporation’s Outdoor Power Equipment Division recalled approximately 100 employees in mid-January, according to John Platta, creative services supervisor for the division. These employees are part of a 200-man lay-off which took place Dec. 1, 1974.

The Outdoor Power Equipment Division, located in Port Washington, Wis., manufactures the Bolens line of lawn and garden equipment. Production levels in the division are expected to continue at a reduced rate pending a change in economic indicators in the outdoor power equipment industry.

Advertising Agency Named For Lawn-Boy Equipment

Valentine-Radford Advertising, Inc., a nationwide advertising agency headquartered in Kansas City, Mo., has been named advertising agency for Lawn-Boy rotary mowers and outdoor equipment.

Lawn-Boy products are marketed by OMC-Lincoln, a division of Outboard Marine Corporation.

Valentine-Radford has represented OMC-Lincoln product lines for more than 16 years, first with Cushman golf and industrial vehicles, then Pioneer chain saws and Ryan turf equipment. A separate Valentine-Radford division also handles public relations for all OMC-Lincoln product lines.

President of Golf Architects Lauds American Designers

Golf course design and the practice of golf course architecture definitely has become “Americanized” during the past ten years, according to Robert Muir Graves, president of the American Society of Golf Course Architects.

“Today, golf course architects from North America are designing courses around the world,” Graves said. “When someone wants a great golf course—whether it is in Japan, Africa or Russia—he consults with American golf course architects.”

Graves said that while American golf course architects are no less aware of the early strategic concepts of plan and the three major types of design — the heroic, strategic and penal — they are responsive as well to the more mundane but equally important basic principles of maintenance, irrigation and drainage.

The result, he said, is some of the best-designed and most beautifully conditioned golf courses in the world.

“These courses, whether they are here in North America or in a remote corner of the world, are both a sound test of golf and a pleasure to play,” Graves said.

The first golf course architects in this country were either of Scottish origin, or else they went to Scotland, where the game of golf was first played around 1400 A.D., to study the great courses of Prestwick, St. Andrews and Musselburgh.

These early courses were often built on links land by the sea, and their charm lay in the infinite variety of the sand hills with their bends and hollows and valleys. These natural contours gave the holes individuality, with the lay of the land dictating the nature of play.

Early golf course architects became thoroughly familiar with the strategic concepts embodied in these courses and made every attempt to

(continued on page 36)