

Treat Specific Problems For Better Algae Control

By DR. WILLIAM G. PATERSON
Manager, Environmental Products
New Business Ventures Div., 3M Company

Grounds management people, experts in how to maintain broad turfgrass areas and sweeping fairways in "putting green" condition, often show less expertise when it comes to treatment of ponds, canals and waterways.

An uninformed but frequent initial response to undesired aquatic plant life is to use the shotgun method of control, which could eliminate the good — some plant life, fish and wildlife habitat — along with the bad.

Modern aquatic weed science is now ruling out this all or nothing approach. Specialists and researchers have found that a rifle-shot approach to the problem protects desirable plant and animal life, yet rids the unwanted vegetation problem. The key to this new approach is specific diagnosis. Currently, environmental protection chemicals registered for aquatic weed use are designed to control specific types of algae and weeds.

One example of a newly registered compound is System M, a Mariner brand algaecide developed by 3M Company. System M has been tested under a variety of conditions throughout the United States. Additionally, the product has been used extensively in control of algae by the Lakes and Waterways Management Service (LAWMS), a division of the company located in Florida.

Algae is generally of three types, filamentous, plankton and branched. No true root system characterizes most algae, although branched algae are erect plants which often seem to be attached to the bottom. Chara is the most common of branched algae, and it often is hard to identify because it looks like an aquatic weed.

Filamentous algae appears as floating or drifting "scum" or mats of hair-like strands; or moss-like tufts clinging to the bottom. It is the most unpleasant of the three types in terms of appearance and effect on use of the waterway.

Plankton algae, sometimes referred to as "bloom," really is minute plant life that is free-floating. It gives the water a green color.

We've found that when applied properly, System M is particularly effective against filamentous and branched algae. It quickly comes in

contact with algae and very little remains in the water, itself. Uniform coverage of the infested area is necessary for control, however. The Federal label provides for a wide margin of safety for fish and other wildlife.

Control of plankton is achieved with System A, a liquid copper formulation. It has been most effective in controlling this free-floating aquatic plant.

Algae is only one of several growth problems that plague property management people. Milfoil, hydrilla and water hyacinth and many others, depending upon climate and geographical location, may be greater problems. The trick is to learn to live with and control aquatic plant life, while maintaining desirable ecological balance. With continued research, the means are at hand. □

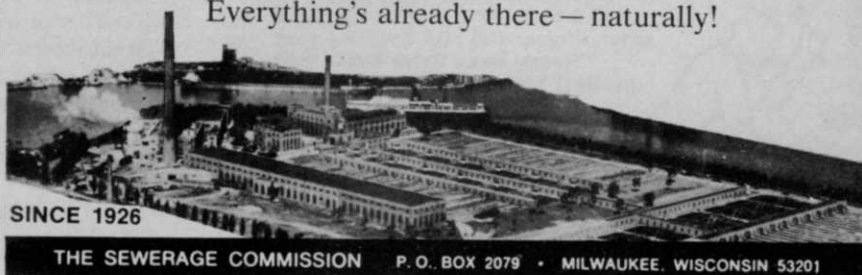


the super-natural organic fertilizer!

What do we add to Milorganite?

Nothing!

Everything's already there — naturally!



**ALLIGATORWEED ERADICATION
PROBLEM IDENTIFICATION** (from page 14)

of water by 80 percent in some channels. And to top it off, mosquito populations, which thrive in infested waterways, were becoming difficult to control.

Thus, in 1966 the California department of agriculture and the Tulare county agricultural commissioner's office launched a concentrated effort to eradicate alligatorweed. Surveys of over 300 miles of waterways disclosed 72.6 acres (29 miles) of infested channels and a small amount creeping into irrigated cropland.

The problem was complex and staggering to imagine.

A better understanding can be gained, however, by noting that one measured plant produced 56 feet of lateral foliage growth in one season. Upwards of four tons of root growth per acre in the top four inches of soil and a depth of fleshy roots three or more feet into the soil have been reported. The hollow, crisp stems of the plant are buoyant, break off readily and float downstream to create new infestations. Nodes occur every two to eight inches and quickly produce roots or foliar growth.

Back in Los Angeles county, we weren't overly concerned initially with the alligatorweed infestation because of its reported aquatic nature. At first it appeared the weed had nowhere to go except into the ocean where it would perish in the salt water. However, this was not the case.

As we continued our investigation, the situation that unfolded had all the drama and intrigue of a motion picture thriller. The Rio Hondo and the San Gabriel rivers converge to within one mile of each other at the Whittier Narrows. The dam straddles both rivers at that point. Above the dam, the Rio Hondo is unimproved for two miles and the San Gabriel for about three and a half miles. Below the dam the Rio Hondo is concrete-lined and the San Gabriel remains dirt-bottom for another 7.2 miles before it becomes concrete-lined to the ocean.

Additionally, each river below the dam can be diverted into several hundred acres of adjacent groundwater replenishment basins. This is the basis of a major flood control/replenishment system operated by the Los Angeles County Flood Control District.

Silt deposited by flood waters in the basin area displaces water storage capacity by about 20 acre-feet annually. Full storage capacity is needed about twice a year. On the other hand, this silt soil is highly desirable to nurserymen for potting soil, to contractors for a variety of fill-dirt needs and to householders wanting some easily accessible free soil. Since the silt deposits had to be removed for water storage space, the county was happy to provide it to taxpayers.

But the plot became more complex when it was discovered that the soil contained nodes, stems and other parts of alligatorweed. Movement of soil perpetuated the spread of the plants.

In 1970 we put a hold on the soil. The U.S. Army Corps of Engineers and the Los Angeles County Flood Control District, agreed to halt soil movement out of the area. In addition, Los Angeles county joined Tulare and Kings counties in being proclaimed an alligatorweed eradication area by the California department of agriculture. This strengthened our legal control over infested premises, but because of the area's size and accessibility to the public, it didn't completely halt unauthorized soil removal.

Also in 1970, an infestation of alligatorweed was discovered at Puddingstone Reservoir, a county park's recreational facility about 26 miles from the parent infestation. We obtained funds from the county fish & game commission to subsidize detection surveys at all similar county facilities having standing bodies of water. No additional infestations were found. But the threat of an outbreak was ever present.

The problems we faced that year were acute. Without water, crops turn brown, floods cannot be contained and disaster is eminent. Because Tulare county was already in a testing and control program, many of their methods of control were quickly adapted to Los Angeles county.

We are currently operating on a financial arrangement
(continued on page 70)

WATERFRONT WEED PROBLEM?



**If You Have The Problem
We Have The Answer . . .**
**This Hand-Operated
Underwater Weed Cutter . . .**
Will help you to remove weeds from your waterfront property the easy way. Spring steel, serrated, double-action blades cuts weeds with forward and backward stroke. Handle 5' long.

ONLY \$15.00
Add \$1.25 for postage. 5' H. Extension
-\$3.50. Descriptive literature on request. **GUARANTEED.**

Group Discounts Available

AOA RESEARCH & DEVELOPMENT, INC.

608 Virginia Dr., Orlando, Fla. 32803. Ph. (305) 425-7233

For More Details Circle (125) on Reply Card

**WE TELL IT STRAIGHT. NOT EVERYONE NEEDS A
RIGGIN'-BUDDY. (BUT THEN, NOT EVERYBODY NEEDS
POWER SAWS, ROPES OR CLIMBING SADDLES EITHER.)**



Developed by a Tree Man to
MEET TREE MEN'S NEEDS!



Makes tight work a snap. Use in any direction. Ideal aid for tree cabling, limbing or aerial. Speeds limb lowering operation. Use as false-crotch for easier climbing.

THE RIGGIN'-BUDDY® ISN'T NEW ANYMORE . . . IT IS PROVEN!

**STILL ONLY
\$17.98**

From: P.D.I.
200 Sylvan Ave.
Rutledge, Pa. 19070

**AN INCREDIBLE NEW
WAY TO FEED TREES!**

Jobe's Tree Food Spikes

Pound these spikes of high-analysis 16-8-8 fertilizer into the ground around trees, and rain does the rest. "Nearly three times faster than drilling," states a leading university.

Write us for details plus the university report.

INTERNATIONAL SPIKE, INC.
462 East High Street
Lexington, Kentucky 40508



ALLIGATORWEED ERADICATION ANALYSIS AND CONTROL (from page 15)

resulted in chlorosis or a yellowing of the alligatorweed foliage. In tests in Los Angeles county, soil active materials such as the substituted ureas and the uracils were ineffective due to the extremely sandy soil and the huge volumes of water covering much of the area several times during the year.

Generally we found that we could eliminate the aerial portions of the plant with applications of contact herbicides. Silvex also performed well in burning back vegetative growth, however it and other phenoxy herbicides are not highly effective on root kill.

Most translocative materials were tried. Amitrole and dicamba looked fair. Studies by USDA and others indicate that whereas translocated herbicides move freely in the main part of the alligatorweed transport stream, they do not translocate from the main stream of the system to the buds at each node, or to any other inactive growth tissue.

Growth regulators and fertilizers were looked into. Fumigants were encouraging. Tarping with black polyethylene for 92 days, where temperatures under the tarp reached 190 degrees, only produced chlorotic whitening with recovery after removal of the plastic. Methyl bromide under tarps worked well where there was no water in the root zones. But carbon bisulfide injections proved too hazardous (flamability) and like methyl bromide proved too time consuming and ineffective on large scale operations.

Many adjuvants were tried in combinations and singly.

Los Angeles county tests produced different results than those in Tulare County. Test pilots administered

by the University of California in 1963 showed Tordon 22K picloram weed killer to be ideal for the task. Away from water, product effectiveness and economy made it hard to surpass. It was ruled out in 1968, however, for lack of registration and possible hazards due to the nature of the infested area.

Likewise, a combination of Amitrole and Silvex looked promising. It controlled alligatorweed located away from the water, but was less effective on plants growing near the water's edge.

The Tulare County test program was slightly more advanced than the Los Angeles County program. Thus, we concluded, after a thorough analysis of the test data, that a combination of VPM or Vapam soil fumigant and paraquat applied as a foliar drench was the most effective method of control. Application rates were one quart Vapam, one pint paraquat and eight ounces surfactant in 25 gallons of water per 100 square feet. This combination showed excellent results within a very short period of time. The Vapam affected the root zone and the paraquat controlled foliar growth.

In November 1967, county, state and irrigation district spray crews began treatment in ditches near Porterville and Visalia. Private applicators were contracted to treat (under project supervision) other areas.

Applications were made with the same degree of precision demonstrated in the test plots. Areas were staked off into 100 square foot plots and rigs were calibrated to spend five minutes per plot. In heavily infested areas, where the mat of foliage measured nearly two feet deep, penetration was slow and difficult. This prevented, in some cases, complete contact with all foliar portions of the plant. Usually new plants formed from the nodes of

(continued on page 55)



The Economical Way To Utilize Nature

Let Porta-Span® give your trails and walk ways a touch of rustic charm. Porta-Span® bridges streams and gulleys to make your park more interesting.

The Porta-Span® installs practically anywhere in about two hours. No footings or base

required. Move it when you want and store it during the winter.

Pre-treated weather-resistant Cedar with laminated arch beams and galvanized steel construction will support 2,500 pounds. Eight different models available from 8' to 20' in length, 3' and 5' widths.

Write today for details.



STANDARD MFG CO.
220 East Fourth Street
Cedar Falls, Iowa 50613



ARBORIST SHOP TALK

By Hank Harvey Jr.
Rutledge, Pennsylvania

Five Sure Ways Of Losing Tree Customers

TRYING TO CON THEM

Give, the big bluff, whatever you want to call it, it's still the same. Deceit. People hate to be lied to—and don't underestimate the average homeowner's intelligence. Even though they might not understand what you're talking about, they often have an uncanny knack for knowing whether or not you know.

Many times the three wisest words in the world are, "I don't know" (after which you can always add . . . "but I'll find out for you.")

Nobody expects you to know everything about trees they only want the solution to their own particular problem. They'll be more impressed by you if you find the right solution than if you rattle off a bunch of meaningless double-talk.

Your customer's confidence in your honesty is valuable to you. Don't blow it!

UNDEPENDABILITY

If you tell someone you'll do a certain job at about a certain time . . . you are obligated to them to do that or

let them know in adequate time if there is a change.

Too many tree men are too independent for their own good. Maybe they think that they are their own boss and not obligated to anyone.

That's wrong. Every customer is your boss . . . until the job is done and you are paid.

And if they are not satisfied . . . you or your company will probably never do another job again for them.

Even if you start a job promptly and just take off a few limbs to "tie up the job" then let it go for days without any communication with the customer, you'll only do it once to them. You'll lose that customer forever.

So be dependable. It means a lot to people.

And if you do get detained or held up for some reason, be considerate enough to keep your customer informed. That may be enough to keep the customer!

CHISELING

One of the most unfair and infantile tactics in any

business is chiseling the customer with "add-on" extra costs, just because the contractor bid the job too low.

That's not the customer's fault. You're the tree expert, remember?

O.K., you took the job too cheap. That's business. Accept it gracefully, coolly, and you'll probably come out O.K.

One fair way to make ends meet is to sell a little more work while you're there. A couple of \$10 or \$25 extra small jobs can often make the difference between a gain or loss on an underbid biggie.

If you can't do that, at least a too-cheap job could be good advertising for you over a longer range than just that day or so.

And at any cost, don't antagonize an otherwise satisfied customer by trying to chisel him for your mistake. It's not worth it.

RUDENESS

While some less-than-expert tree surgeons slide by year after year on their charm, even the most skilled arborists will have trouble keeping customers if they act offensively.

A few important things to remember is that everybody around the home or other location where you're working is worth being polite to. Even animals. (I once lost a very good customer because her dog didn't like me!)

Be patient with kids. Talk to them. If you try to chase them off rudely they will never get out of your hair.

Try to explain why it's so dangerous to be close to your work site, yet treat them like adults and they'll often be just as understanding.

Tact is always better than force. If you send somebody's kid in crying because you yelled at them, you can believe the next tree job at that house will most likely not be done by you.

INCONSISTENT PRICING

Another good way to lose even your best customers when you least expect it is by playing games with your prices.

For example, say you are pruning two or three small trees for a good paying customer for about \$15 each and the next door neighbor asks you to do a couple of theirs. You are already there and have your equipment on the job, so you quote the neighbor a price of \$10 on his tree of the same size.

Here's how you will lose two customers! Customer #2 will boast what a great deal he got to customer #1 and customer #1 will feel cheated because he paid more.

And of course customer #2 will dislike you for having socked it to his buddy.

Consistent pricing is a business essential. That's why fine restaurants will throw their best lobster in the garbage before they would sell it for half price. You'll do a lot better to lose a few jobs here and there than to lose customers because they don't trust your prices.

ARBORISTS—NURSERYMEN—LINEMEN—PARK SUPERINTENDENTS—GOLF SUPERINTENDENTS—CUSTOM OPERATORS
Professional Line of Tools, Clothing, Suppliers (Note samples of popular lines):



SAFETY CAPS

Sticks to head, meets impact and penetration Federal Spec. O.S.H.A. approved.



FIRST AID KITS

Sturdy steel case, mounting bracket, extensive contents. O.S.H.A. approved.



EAR PROTECTORS

Manufactured to Fed. Spec. Engineered for comfort. O.S.H.A. approved.



SAFETY LINES

6-ft. (1/2 in.) nylon with two forged steel safety snaps. O.S.H.A. approved.



SAFETY SADDLES

Seat type saddle, 3" cotton web belting, double thick, 2" nylon backing. O.S.H.A. approved.

Write for Catalog No. 501

"We can help you meet O.S.H.A. requirements"

EVERY PROFESSIONAL TOOL OR SUPPLY ON HAND FOR PROMPT SHIPMENT

Karl Kuemmerling INC.

4536 Lincoln Way East, Massillon, Ohio 44646

Tel. (216) 477-3457

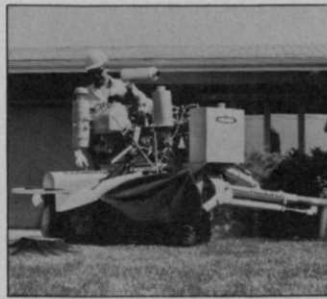
Talk About Stump Removal And You Automatically Think Vermeer

. . . because every one of The Diggin' Dutchman's seven patented Stump Cutter models is automatic. Each unit saves you thousands of dollars every year, because one man can remove the largest stump in minutes. Out-performs, out-maneuvers, out-lasts a whole crew of laborers . . . because it operates on a tankful of gas, not a handful of expensive pay-checks. Chews 'em out with a hydraulically-controlled, high-speed cutting wheel . . . faster, easier, cleaner. Write The Diggin' Dutchman for information or, better yet, call him (515/628-3141) NOW for a FREE demonstration of any Stump Cutter model. Vermeer Manufacturing Company, 7205 New Sharon Road, Pella, Iowa 50219.



THE DIGGIN' DUTCHMAN

VERMEER TREE EQUIPMENT DIVISION



630 Stump Cutter . . . 30 hp model.



Model 10 Stump Cutter . . . 36 hp unit.



1560 Stump Cutter . . . 65 hp unit.



2460A Stump Cutter . . . 65 hp unit.

For More Details Circle (112) on Reply Card

ALLIGATORWEED ERADICATION ANALYSIS AND CONTROL (from page 53)

these untreated alligatorweeds. However, burning the top growth a few days after treatment reduced regrowth tremendously by destroying the nodes previously not harmed. Overall results were unbelievably successful.

Incidental to our tests we found that frost damages all foliar portions of alligatorweed except the nodes. We have applied Vapam and paraquat at temperatures ranging from 30 degrees to 90 degrees. Optimism results for us are achieved when applications are made in temperature from 65 degrees to 75 degrees.

In 1968 we perfected the use of high emulsion type weed oil as a substitute for paraquat. This resulted in even greater penetration of foliage and a substantial reduction in use cost. The rate used was one gallon weed oil, one quart Vapam, two ounces surfactant in 25 gallons water applied on 100 square feet.

The Vapam-oil spray plus burning gives control nearing 95 percent. The regrowth is retreated by spraying and in areas where penetration is difficult (steep banks and soil types) "pot holing" is employed. This is done by digging a basin, or loosening the soil around individual plants and filling with spray mixture. In some areas five pounds per acre of diuron is added to the mix to control annual weeds, making it easier to find any regrowth.

Amitrole has also been used in the summer months to weaken or stress the alligatorweed plants for winter pot hole control measures.

Our alligatorweed program in both Tulare and Los Angeles counties is now in the search and destroy phase. To prevent small unseen infestations we found it necessary to establish a clean ditch program. Consequently we have now concentrated more effort in this area. Common annual weed species are best controlled with diuron (Karmex) or simazine (Princep) at 10 pounds per acre, and in areas where feasible, bromacil (Hyvar X) at 5 pounds per acre. Where Johnsongrass is established, we have used MSMA and Dowpon C.

Probably the most difficult weed to control for us is smartweed. It grows rapidly and can completely hide any small alligatorweed in short order. Where no sus-

ceptible crops are present we use 2,4-D amine. Ammate X is substituted in areas bordered by crops.

The combination aquatic and ditch bank weed control program is paying off. Only a few widely scattered alligatorweed plants are in evidence today. Those that are found are treated with dicamba at the rate of one ounce to five gallons water. Only 30 single small plants were found this past fall in Tulare County and all of these have been treated.

It should be pointed out that other means of weed control have been utilized in addition to chemicals. When it could be done, burning of trash weeds helped remove old growth. An L.P. gas burner boom, mounted on a 4-wheel drive vehicle was a big help.

Physical removal of spot infestations with a backhoe completely eliminated the problem. Weeds and soil removed in this method were hauled to a black-topped apron where they were spread out and treated with Vapam. The entire area was treated with Vapam and refilled with clean soil.

In some waterways we completely reshaped the system, moving the infestation up to the bank where it could be spread out and treated. Removal of willows, dead trees and bamboo, plus the building of a roadway, enhanced the flood control and water movement and made alligatorweed control more successful.

In Los Angeles County, helicopters equipped with Amchem's microfoil boom have been used over much of the infested area. While application costs are high with this type equipment, we have been able to apply Silvex at rates of 2-, 4-, and 8-pounds (active ingredient) per acre with a high degree of success.

Additionally, biological control methods, in the form of the flea beetle, have been introduced on alligatorweed. Early releases failed to establish. Later the beetle successfully colonized along a half-mile of a river in Los Angeles County, but did spread far from the water. Heavy flooding in 1969 flushed out all the beetles and the project was abandoned.

Finally, the awareness of individuals to the alligatorweed problem has been most rewarding. Cooperation by land owners in doing whatever needed to be done and continued surveillance by all has made this project a success. The status of alligatorweed can now be changed from a problem to a nuisance. □



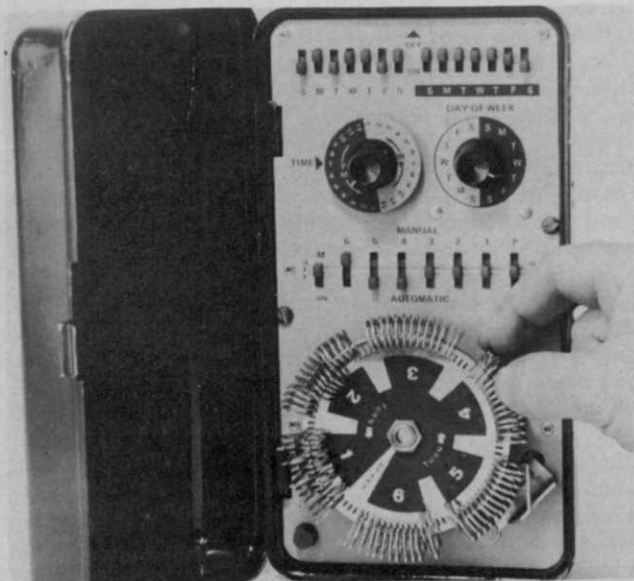
HYDRAULIC DUMP TRAILERS:
Hayden Beatty Rambler, Inc., Burlington, N.C.

Ruggedly built Beatty Hydraulic dump trailers feature reinforced bodies and frames. Designed to be pulled behind any tow vehicle — truck, tractor, or car. Both on- and off-road models. Lift capacity up to 10,000 pounds. Hydraulic system 12 volt self contained. Brakes, electric (surge available). Specially designed models include golf course dump trailer, special potting shelf nursery unit, utility dump, Lo-Boy dump and others. Designed for one-man, no hand labor. For more details, circle (701) on reader card.



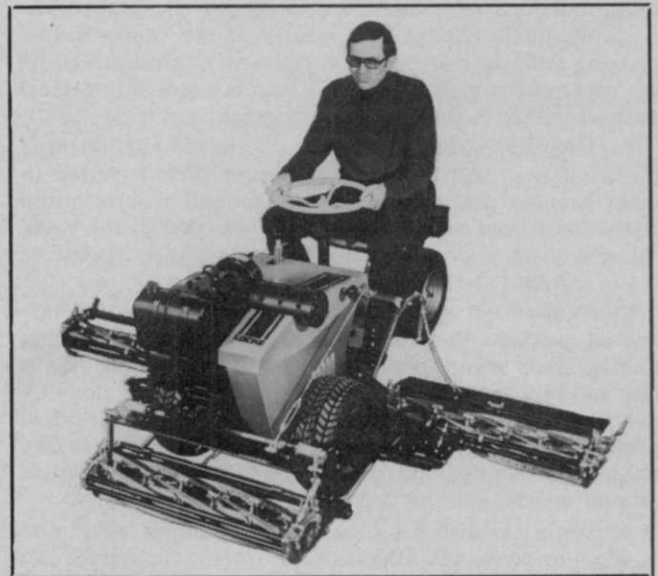
TURF & PAVEMENT SWEEPER: Turf-Vac, Long Beach, Calif.

Model FM-5 Lift Dump provides a full five-foot sweep. It can dump directly into trash bins, trucks, over retaining walls or on top of compost heaps. Hydraulic lift system raises the entire hopper, tilts it for maximum dumping efficiency and opens and closes the hopper door. No brushes, rakes or other mechanical pick-up devices are used on this unit. It's all vacuum and it works equally well on turf and pavement, wet or dry. As show, construction is heavy-duty welded steel. Height is 72 inches and width is five feet four inches. For more details, circle (702) on the reply card.



BUDGET-PRICED CONTROLLER: Tork Time Controls, Inc., Mount Vernon, N.Y.

Any underground sprinkling system can be automated with this new compact and budget-priced controller. Model 5206 can control up to six individual sprinkling sections. Tabs on a revolving wheel are tilted in to call for sprinkling. Each tab represents 2½ minutes of watering. The unit automatically interrupts and then restarts a single watering cycle in any selected zone to avoid wasting water. The unit transfers automatically from section to section to provide a total watering time of four hours. Each section can have any amount of watering time up to 32½ minutes. The controller will water as little as one day every two weeks or every day, or any combination of days. For more details, circle (703) on the reply card.



MAXI II TRIPLEX: Locke Division, Stellar Industries, Inc., Bridgeport, Conn.

Here is the new features to this riding triplex unit with 87 inches of mowing width: heavier chassis of steel weldments, stronger mounting bolts, control rods and linkages, tougher cutting reels with 20 percent thicker blades, ten hp, recoil start engine repositioned for improved performance, greater traction and climbing ability. The Maxi II offers hydrostatic traction drive for fully variable ground speed with instant reverse. Unit also has Locke's velvet-cut, a trademark known to grounds maintenance men. Cutting height is variable from ¼-inch to 2½ inches in ¼-inch increments. A close cut version is available for cuts from ¼-inch to ¾-inch. For more details, circle (704) on the reply card.

TELL ME MORE

This page is provided for your convenience. To obtain additional information on new products, trade literature and advertised products in this issue, simply circle the corresponding number on the perforated card below, fill in your name, business address and mail the card. No postage is required.

FOR MORE INFORMATION FILL OUT AND MAIL TODAY!

ADVERTISED PRODUCTS

101	102	103	104	105	106	107	108	109
110	111	112	113	114	115	116	117	118
119	120	121	122	123	124	125	126	127
128	129	130	131	132	133	134	135	136
137	138	139	140	141	142	143	144	145
146	147	148	149	150	151	152	153	154
155	156	157	158	159	160	161	162	163
164	165	166	167	168	169	170	171	172
173	174	175	176	177	178	179	180	181
182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199

NEW PRODUCTS

700	701	702	703	704	705	706	707	708
709	710	711	712	713	714	715	716	717
718	719	720	721	722	723	724	725	726
727	728	729	730	731	732	733	734	735
736	737	738	739	740	741	742	743	744

Please send more information on items circled

(Please type or print)

5/73

Name

Position

Company

Street

City

State

Zip Code

Signature

Please describe your type of business

Note Inquiries serviced until July 20, 1973

Use this convenient card if you wish to receive further information on products and services advertised or described in this issue.



BUSINESS REPLY MAIL

NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES

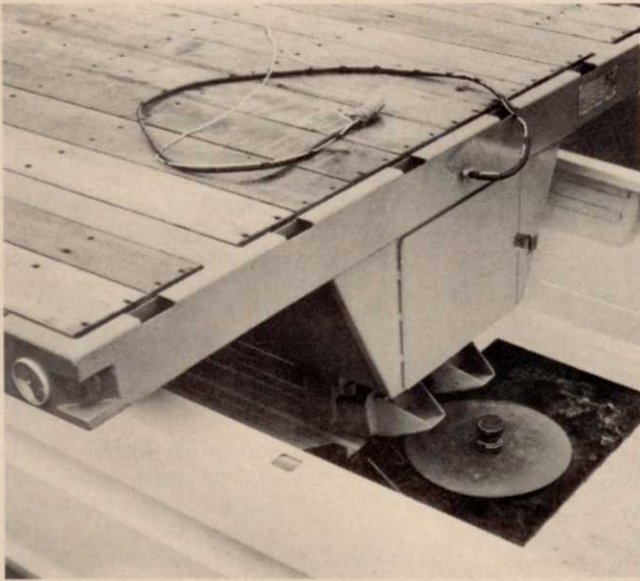
FIRST CLASS
PERMIT NO. 665
DULUTH, MINNESOTA

postage will be paid by

**WEEDS
TREES
and TURF**

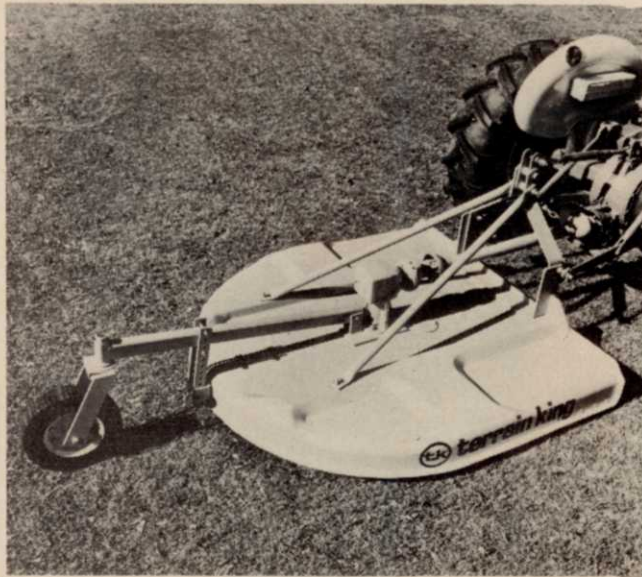
POST OFFICE BOX 6049
DULUTH, MINNESOTA 55802





MINI-TRAILERS: Clark Equipment Company, Michigan City, Ind.

Turn your pickup truck into a tractor-trailer unit in a jiffy with a miniature fifth-wheel hitch system. A two-inch SAE kingpin that folds into the floor of the pickup when not in use does the trick. Trailers are either closed van or flatbed. The van is available in 24 foot length and features one-half inch plymetal side door on the curbside for easy access to route loads. A folding step to the 34 inch floor decreases delivery fatigue. Also standard is a roll-up type rear door. Flatbed is available in 22 and 30 foot lengths. It's ideal for small hauling jobs such as sod delivery, equipment hauling, etc. For more details, circle (705) on the reply card.



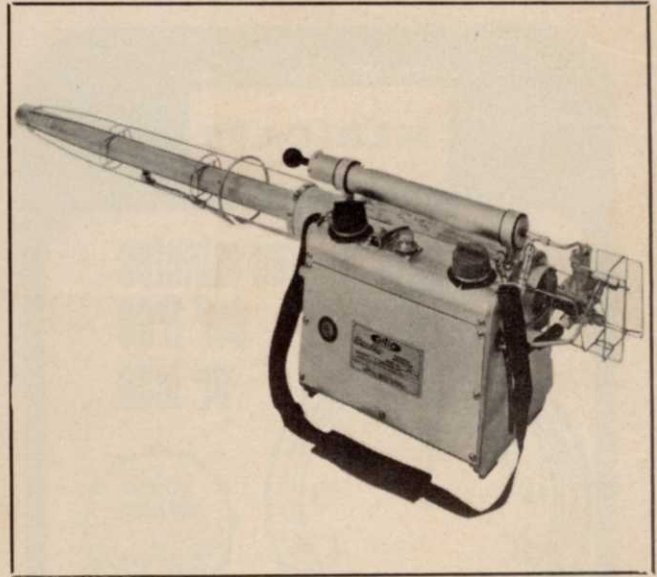
ROTARY CUTTER: Terrain King Corporation, Houston, Texas

Greater strength with less weight is featured in this rotary cutter which features a one-piece deck. Total weight is only 650 pounds, but don't let that fool you. This cutter can handle extremely tough cutting assignments that are usually reserved for the "big boys." Standard features include round blade holder, 360 degree swivel tailwheel, 75 hp gearbox with splined shafts, rugged designed "A" frame and a slip clutch. Cutter width is 5½ feet and it is easily attached to lightweight tractors by a 3-point lift. For more details, circle (707) on the reply card.



BACKHOE/LOADER: Allis-Chalmers Industrial Tractor Div., Topeka, Kans.

Model 816, Series B tractor backhoe/loader is built heavy-duty to handle the big jobs of the Green Industry. Front axle will handle an 18,000 pound load. Frame is designed to easily withstand stresses and loads incurred during the most severe operations. Tractor is powered by an 83 hp diesel engine, driving through a four-speed transmission. Backhoe has a 16 foot three-inch digging depth; 13,000 pounds digging force, 2,000 pounds lift capacity and 22 feet 10 inch reach from rear axle. Loader is self-leveling. It has a 50 degree rollback for reduced slippage, 11,000 pounds break-out force, 52 degree dump angle and 1¼ cubic yard capacity. For more details, circle (706) on the reply card.



DYNA-FOG: Curtis Dyna-Products Corporation, Westfield, Ind.

Model 70B fogger is the latest in design for efficient and economical insect control. It employs a resonant pulse jet engine's heat to vaporize insecticide formulations, which when introduced to the air condense to a fine fog. Unit operates with a completely clean exhaust and produces no carbon monoxide or other polluting hydrocarbons. Construction is of aluminum and stainless steel for corrosion resistance and ease of carrying. Total weight is only 18 pounds. Small particles of fog tend to suspend in the air and move with air currents in all directions. Fog output is rated at 0 to 7 gallons per hour, depending on adjustment. For more details, circle (708) on the reply card.



Maryland Sod Conference Attracts 126 Producers

The 8th Annual Maryland Sod Conference was attended by 126 interested sod producers, installers and allied industrial people on March 8. The meetings were well attended with participants coming from Pennsylvania, New York, New Jersey and Virginia. This year the program veered away from cultural practices and hit hard on other "dollar important" topics such as collection of accounts, turfgrass financing and sod contracts.

Carl I. Morris, Sr., Associated Claims, Inc., Silver Springs, Md. led off the conference and hit home with his discussion entitled "Collection of Accounts in the Sod Industry." Time did not permit all questions to be answered. The interesting fact that "... 70% of all people pay their bills,

20% are inclined to be a bit slow in paying, 5% are migrants, 3% are indigents and 2% are true credit criminals raised some eyebrows." Further he stated that one dollars worth of credit today is only worth 90 cents in 90 days, 50 cents in 6 months and 30 cents in one year.

Morris warned the participants to grant credit with the idea that every single account could become a collection problem. He suggested these steps to follow: 1) Grant credit in a thorough and intelligent manner. 2) Establish and follow a written billing and collection time schedule procedure. 3) Recognize when your efforts will be more productive applied to other phases of your business. 4) Select and work with a professional collection agency to hold your credit

losses to a bare minimum.

Neil Shpritz then presented an interesting talk about economic activities for which Maryland has outstanding advantages. He pointed out Maryland's prospects for growth in the coming years. Sod industry growth is dependent upon expansion in population and housing construction, and Maryland's rate of growth in these areas has been substantial. The rate of population growth in Maryland is about twice the national average and second highest east of the Mississippi, exceeded only by Florida.

Shpritz indicated forces shaping the Maryland economy include the economic impact of the Chesapeake Bay, the geographic variety of the coastal plain — Piedmont Plateau region, highly developed transportation arteries, close proximity to the Nation's capitol, good agricultural climate, soil and tradition and excellent harbor facilities.

Roie M. Godsey, Senior Vice President, Virginia National Bank, Charlottesville, Va., talked about financing a turfgrass operation and pointed out that the turfgrass business is not too different in principle from any other business to be capi-
(continued on page 60)

TREE SYSTEMS T.M.

MEDICAPS



**ten minutes
per tree
or less...**



**for fast-effective
treatment of
iron chlorosis**

TREE SYSTEMS T.M. THE "NO-MIX," "DIP-IMPLANT" INJECTION SYSTEM

ACCURATE—PREMEASURED, SELF-CONTAINED CARTRIDGES

EFFECTIVE—TESTED BY LEADING UNIVERSITIES

ECONOMICAL—AS LOW AS 28¢ PER DIAMETER INCH

©Copyright 1972, Creative Sales, Inc.

Creative Sales, Inc.

200 S. MAIN FREMONT, NEBR. 68025



Permanent Magazine Binders

Keep 12 issues of Weeds Trees and Turf in one neat package • Magazine can be easily inserted as it arrives. • Binder protects, gives bookshelf a neat appearance.

Send check or money order to:

WEEDS TREES and TURF
9800 Detroit Ave., Cleveland, Ohio 44102

Eptam[®]: keeps sand traps neat and clean

Selective Herbicide

The sure, easy way to keep weeds and grass out of sand traps is to use economical Eptam granular herbicide. It saves hours of hoeing and saves a repeat application of post-emergence herbicides. It doesn't injure turf when sand is blasted onto the grass.

Spread Eptam, rake it in sand and water it in lightly and the job is done. You'll keep out more than 30 kinds of weeds for sure. Eptam controls many pestiferous plants, including nutgrass, quackgrass, chickweed, crabgrass, barnyardgrass, pigweed, purslane, foxtail and many others.

Eptam granular formulation	Rate* per 1,000 sq. ft.	
	Annual weeds	Nutgrass, quackgrass
5-G	2.75 lbs.	5.5 lbs.
2.3-G	6.5 lbs.	13.0 lbs.

*For granular applicator settings for one or two time applications per year, see Stauffer for details.

Biodegradable Eptam provides long-lasting weed control without injurious soil residue. Use it once or twice a year. See your local supplier now for Eptam. Stauffer Chemical Company, Agricultural Chemical Division, Westport, CT 06880.

Eptam[®] from 



MD. SOD CONFERENCE (from page 58)

talized. There is the need to generate cash flow to repay long-term, intermediate and short-term obligations. It is necessary that the sod producer sell himself and his plan of success to the bank. Godsey challenged the sod industry of Maryland and Virginia to get busy collecting data on the importance of the industry to the economy of the state and to point out the profitability and stability of sod production and installation. He indicated that once economic impact, profitability and stability are documented, money will be more available to the industry.

Charles H. Darrah, Cornell University, presented results of his Master's thesis research on how management factors and the environment can influence sod heating. Harvesting sod early in the morning seems to be extremely important in increasing sod survival.

Reducing the amount of living tissue between layers of sod by reducing mowing height from 2 or 3 inches to 1 inch before harvesting did reduce sod heating but decreased esthetic value of the sod.

Collecting clippings reduced sod heating 2.5 degrees centigrade after 48 hours under the conditions of his experiment. Cutting depth was noted to influence sod heating with a 3/4 inch cutting depth producing the lowest storage temperature and best overall survival.

The method of stacking sod was shown to influence its rate of heating with rolled sod remaining cooler than either grass to grass folded or grass to soil folded after 96 hours on the pallet. Grass to grass folded heated faster than grass to soil folded sod.

Dennis E. Brown addressed the luncheon banquet with an explanation of the amended Virginia Sod law. The important point made was that the only people needing the license are those making the final sale in Virginia.

The afternoon session began with a three member panel on "Problems in the Sod Industry from Seed to Lawn". Walter Livingstone covered sod producer problems such as rocks, erosion, collection of accounts and pricing. Franklin Delp followed with a discussion of sod installer problems. He stressed the need for stronger specifications indicating

"who does what". Martin L. Rize relayed the problems of the big builder to the conference participants. He pointed out the need for "big time installers" who can handle 300 home installations in a relatively short period of time. There was a great deal of audience participation during the panel discussion which substantiated the need for this problem session.

Dr. Herbert Cole, Penn State University gave the audience a "fire and brimstone" speech on the importance of utilizing blends and mixtures in sod production. He pointed out that uniformity of species and variety invariably leads to disease and pest problems. His admonition that "A turfgrass monoculture . . . is sooner or later heading for disaster" fell upon a captive audience. Dr. Cole further said that the sod industry is obligated to provide buyers with blends as a form of consumer protection. (See "Compromising At The Sod Farm," WTT, April 1973.

James W. Coddington, Agricultural Marketing Service, USDA, presented the difficult subject of Sod Marketing Orders in a very easy to
(continued on page 62)

TURFGRASS SPECIALISTS

TWO COMPLETE SEED INVENTORIES

Merion
Baron
Winter Green

*Gold Tag
Sod Quality
Blends*



Fylking
Nugget
Norlea

*Special Mixes
for your
particular need*

COWBELL SEEDS, INCORPORATED

TELEPHONE

WAYLAND 616-792-2241

BRIGHTON 313-229-6169

GRAND RAPIDS 616-877-4614