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the low-cost way with
VISTIK*
Hydroxyethyl Cellulose

VISTIK is an economical water-soluble thickening agent which efficiently reduces herbicide spray drift. For example, when spraying herbicide at a rate of 12 gallons per acre, the cost of using VISTIK is only 60¢ per acre. No special or expensive equipment needed. Your present air and ground equipment can be employed to apply VISTIK sprays. More profitably, too, for VISTIK can be used under conditions which ordinary sprays will not tolerate.

Easy to handle and to mix, VISTIK spray solutions can be prepared readily for use in less than 10 minutes. Herbicide potency is unaffected...VISTIK simply thickens the water phase used as a carrier.

See a demonstration for yourself.** Contact the Hercules sales office nearest you, or fill out the coupon below. *Cellulose and Protein Products Department, Hercules Powder Company, Wilmington, Delaware 19899.*

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Applications for clearance of Vistik by State and Federal regulatory agencies are currently in progress

---

*Hercules Trademark
How fast can you say...  

chop!

No matter how fast, it won't be faster than the high-velocity cutoff unit on a Ryan Heavy-Duty Sod Cutter (photo).

Chop! Just like that you get a clean, absolutely square and vertical end cut... automatically. And right on the button to the exact length you're pre-set from 1 to 9 feet.

This ability to cross-cut sod as you go is just one of many reasons Ryan is the first choice of anyone who cuts sod.

Another? Production... up to 15,000 square yards of perfect sod per day.

Another... visibility. The operator sees and follows the previous cut at all times... strips the field clean without a bit of waste.

For still other reasons why a Ryan will cut better sod faster (sod that lays better and faster, too), write today for the new Ryan Heavy-Duty Sod Cutter Bulletin.

For an easy to move companion unit, choose the Ryan Jr.

SOD CUTTER

Highly maneuverable in restricted areas, easy to move from job to job, the famous Ryan Jr. cuts 100 sq. ft. of sod per minute. Cuts a 12" strip up to 2½" thick. Write for Bulletin!

Manufacturers of aerators, renovators, vertical mowers, spreaders, rollers, and sod cutters.

Ryan EQUIPMENT COMPANY

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Table 2. Average stand (%) of five warm-season (WS) and three cool-season (CS) turfgrasses treated with siduron at the time of establishment. Grasses were planted May 8, 1964 and stands evaluated October 21, 1965.

<table>
<thead>
<tr>
<th>Turfgrass</th>
<th>Season Type</th>
<th>Percent stand at siduron rates (lbs./A.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpetgrass</td>
<td>WS</td>
<td>14 36 6 4 0</td>
</tr>
<tr>
<td>Centipedegrass</td>
<td>WS</td>
<td>11 7 0 0 0</td>
</tr>
<tr>
<td>Common bermudagrass</td>
<td>WS</td>
<td>11 37 15 11 12</td>
</tr>
<tr>
<td>Tifton 328 bermudagrass*</td>
<td>WS</td>
<td>113 83 88 67 78</td>
</tr>
<tr>
<td>Meyer zoysiagrass*</td>
<td>WS</td>
<td>108 108 108 108 108</td>
</tr>
<tr>
<td>Merion bluegrass</td>
<td>CS</td>
<td>482 291 361 194 367</td>
</tr>
<tr>
<td>Kentucky 31 tall fescue</td>
<td>CS</td>
<td>567 440 453 383 513</td>
</tr>
<tr>
<td>Pennlawn red fescue</td>
<td>CS</td>
<td>433 433 378 322 489</td>
</tr>
</tbody>
</table>

*Planted as sprigs.

treated plots of carpetgrass, centipedegrass, and common bermudagrass did not germinate, or their stands were very sparse. There were 18 subplots of each grass variety. No carpetgrass germinated in 8 plots in each year, 16 centipedegrass plots were bare in 1964 and 17 plots bare in 1965, and common bermudagrass was not found in 5 plots in 1964 nor in 4 plots in 1965. There was apparently no relation between the application rates of siduron and a lack of germination.

Sprigged Tifton 328 bermudagrass was definitely retarded by siduron. Plots did not start to fill in until mid-August of the first year. By the end of the second year, only the plot treated 4 lb./A. had an average stand greater than the check (Table 2, 113%). One subplot at the 8 lb./A. rate, and one at the 4+(4) lb./A. rate, were bare.

Treated Zoysia and Cool-Season Turfs Form Sod Mat

Meyer zoysiagrass, which was sprigged Meyer zoysia was apparently the only warm-season grass tested that can be treated safely at seeding time with siduron. Meyer zoysia was apparently the only warm-season grass tested that can be treated safely at seeding time with siduron. The only warm-season grass tested that can be treated safely at seeding time with siduron. The only warm-season grass tested that can be treated safely at seeding time with siduron. The only warm-season grass tested that can be treated safely at seeding time with siduron. The only warm-season grass tested that can be treated safely at seeding time with siduron.

In summary, siduron at 6 lbs./A. and 8 lbs./A. consistently gave a high degree of preemergence crabgrass control. None of the five siduron treatments, however, gave acceptable goosegrass control. Sidoron cannot be safely used at seeding time for weed control in carpetgrass, centipedegrass, or common bermudagrass or when Tifton 328 bermudagrass is sprig planted. Conversely, sprigged Meyer zoysia was not adversely affected by siduron, and siduron did not affect germination and establishment of the three cool-season grasses, Merion bluegrass, tall fescue, and red fescue.

Table 3. Average stand (%) of three warm-season and three cool-season turfgrasses treated with siduron at time of establishment. Grasses were seeded April 16, 1965 and stands evaluated October 21, 1965.

<table>
<thead>
<tr>
<th>Turfgrass</th>
<th>Seeding rates (lbs./1,000 sq. ft.)</th>
<th>Percent stand at siduron rates (lbs./A.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpetgrass</td>
<td>3 24 14 8 10</td>
<td></td>
</tr>
<tr>
<td>Centipedegrass</td>
<td>3 0 1 0 0</td>
<td></td>
</tr>
<tr>
<td>Common bermudagrass</td>
<td>1 4 8 6 8</td>
<td></td>
</tr>
<tr>
<td>Merion bluegrass</td>
<td>4 300 367 167 400 200</td>
<td></td>
</tr>
<tr>
<td>Kentucky 31 tall fescue</td>
<td>5 233 183 200 283 183</td>
<td></td>
</tr>
<tr>
<td>Pennlawn red fescue</td>
<td>4 200 233 133 233 142</td>
<td></td>
</tr>
</tbody>
</table>
Future Market Potential for Sod Growers Highlights U. of Md. Meeting Last Month

Sod grass is big business in Maryland and it is a growing business, but it is not a business for everyone, Brian Finger, Montgomery County Extension Agent, cautioned last month. He reported that there are now some 250 Maryland farms that offer cultivated sod for sale.

Speaking to an overflow crowd in the University of Maryland Center of Adult Education, during the March 2nd Maryland Sod Producers Conference, Finger said an acre of high-quality cultivated sod can be marketed for nearly $3,000, but this is by no means all profit. To begin with, the high cost of land in the metropolitan areas is a limiting factor, but even if land is available, the cash outlay to establish sod is considerable.

He considers the outlook for sod farming in the metropolitan Washington, D.C., area as bright, but reminded landowners that capital needs can be quite high. He listed expenses of nearly $1,000 per acre (not including labor and land costs) before quality sod is ready for market.

Potential Outlined

But the market is growing, Finger forecast. Single-family-type dwellings are being built at the rate of 17,000 a year and apartments are going up at the rate of 30,000 units yearly. In Montgomery County alone, he said, it is expected that 40 new schools will be built in the next 20 years; the totals for Prince Georges County may be even higher, and along with most of the new schools go athletic fields. New communities, industrial installations and government agencies are moving to the suburbs, and parks and golf clubs are coming into being. All these are potential sod customers, he observed. Maryland's 7,000 acres now in commercial sod production will have to increase to meet the demand.

Following up the idea of high-quality sod, Joseph Newcomer, University of Maryland Extension agronomist, reported many of the states bordering Maryland have already enacted sod laws. He said the FreeState emphasis will be on a sod certification program.

Programs under consideration provide that certified sod will be grown from certified seed on a field that has been approved before planting and the sod will have to be inspected before it is sold. According to Newcomer, Maryland "Approved" sod will not have to be grown from cert-
fied seed, but to be classified as such it will have to be grown from seed approved by the State Board of Agriculture inspectors.

He said he believes this program will assure Maryland producers a fair market for their crop and users will be assured of getting a quality product.

M. Hanford Day, head of Maryland's State Board of Agriculture seed testing laboratory, urged all sod growers to insist on certified seed, but to also read the label to make sure the seed meets the individual standards set by the user. "You should have some minimum specifications, and you should have them written down," he advised. If seed is bought on specification, Day added, payment can be made after a laboratory test shows the seed to be as advertised.

Edward F. Mayne, owner of Mayne Realty Co., Olney, Md., urged the group to adopt a uniform contract for sod sales. He said such a contract should include a description and location of the sod, the price, terms of payment, and the time of removal of the sod. This type of contract, he added, protects both the producer and user of sod.

The conference was sponsored by the University of Maryland Department of Agronomy and the Cooperative Extension Service. Program coordinators were Brian Finger and Dr. Elwyn Deal, turf specialist at the University.

18-Month Turfgrass Course Begins at MSU in September

A new course, combining four quarters of classroom study and several months of on-the-job training, will provide individuals interested in turf management with technical knowledge and practical skill to more easily step into this fast-expanding industry.

Beginning Sept. 29 at Michigan State University, East Lansing, students will study basic plant science, biochemistry, turfgrass uses, maintenance, and writing and speaking. The second quarter includes plant diseases, principles of turf culture, applied entomology, landscape drafting, and other subjects.

Two quarters of on-the-job training will extend from March 20, 1967, to September 28, 1967. This will be followed by two more quarters of classroom work to graduation time in March, 1968. To graduate, a student is required to accumulate 65 credits for on-campus study with a "C" average, and 10 credits of placement training.

Admission to this school requires a student be a high school graduate. Graduates of the course will be provided placement service.

Members of the turfgrass industry, associated with public parks, golf courses, highway landscaping, sod farming, athletic fields, and estates, will offer opportunities for on-the-job training.

For complete information, including cost, room and board, interested readers should write to the Short Course Department, Michigan State University, East Lansing, Mich.
Get weed control like this with a Geigy herbicide.

Geigy herbicides are designed to do the job that has to be done... effectively and economically.

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**Simazine 80W.** Wettable powder. For spray application before weeds emerge. Ideal for areas with low rainfall... because it's more soluble and requires less moisture to work.

**Pramitol 25E.** Emulsifiable solution. For spray application on established weed growth. Ideal for areas where weeds got the head start... because it works by foliar activity as well as by root action.

**Pramitol 5P.** Pellets. Combination of Prometone herbicide and chlorate-borate. For dry application before or after weeds emerge. It's especially effective against such hard-to-kill, deep-rooted perennials as johnsongrass, bermudagrass and bindweed.

**Atra-Bor™ 8P.** Pellets. Contains Atrazine. For dry application before weeds emerge. Ideal for general use in areas where spraying may be difficult or impractical... because it's easy to spread by hand or cyclone spreader or other mechanical means.

Find out more how Geigy industrial herbicides can handle just about any annual and perennial weed problem you encounter. Write today for fully descriptive literature.

Geigy Agricultural Chemicals, Division of Geigy Chemical Corporation, Ardsley, New York 10502.
Maybe you can get cheaper mowing or faster mowing. But not both in one package.

International Cub Lo-Boy® and Cub Cadet® tractors
Hand mowers, power mowers and riding mowers all cost less than the smallest mowing tractors. Grazing goats cost even less. But they're all too slow, of course, if you have any sizable expanse of grass to keep neat.

In general, the more power you buy, the more mowing capacity you get. That's just as basic as the fact that the price goes up, too.

Many people with big grass to take care of have found an excellent compromise in a pair of midget workhorses of the International power line.

A quarter of a million of them have bought the 13 hp Cub Lo-Boy, for instance. With 42” rotary mower it fine-clips up to 10 acres a day. With 60” mower it handles up to 15.

And that's on less than a gallon of gas an hour. The Cub Lo-Boy works with reel mowers, too, of course. Plus dozens of other attachments. It has big model hydraulics and engine-driven power take-off.

Still more compact—and unmatched for working skin-tight to trees, curbs and other obstacles—are the new 7, 10 and 12 hp International Cub Cadet tractors.

Economy and deluxe models handle rotary mowers up to 48” or 3-gang reels. They have direct, no-belt drive. Enclosed, two-wheel disc brakes. Sports car steering. The same warranty as bigger IH tractors. A Cadet's no toy. It's a tractor!

How sturdy? Five-year-old Cadets today are still worth up to 2/3 their original value!

Either or both of these Internationals—Cub Lo-Boy or Cub Cadet—could be the answer to your mowing problems. Look them over at your IH dealer. He'll give you a good deal in pairs or in singles. Or by the dozen.

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The people who bring you the machines that work
Beautification, Management, Insurance, Highlight

N. Y. Arborist’s Annual Trade Show and Meeting

The annual meeting of the New York State Arborists Assn. was held at the Statler Inn on the campus of Cornell University in Ithaca, this year, utilizing the large judging pavilion where exhibitors had an opportunity to demonstrate chain saws, chippers, agricultural chemicals, rope, arborists tools and supplies during an afternoon program. Firms from Connecticut, New Jersey, Ohio, and Wisconsin, as well as New York, were present.

Dutch Elm Disease

Professor John Weidhaas reported to the better than 100 attending arborists on discouraging results with Bidrin during spring of 1965. He pointed out that even though it shows promise, Bidrin will not be recommended by the Cooperative Extension Service for general use although it has been granted label registration in New York State.

He suggested that if arborists use Bidrin, they should gain experience using it on “out-of-the-way and not so valuable trees,” treating relatively few trees in 1966.

Mr. Richard Carroll, Forestry Department, Madison, Wis., reported on its success with Vapam or VPM injection for soil sterilization to control D.E.D. spread to adjacent trees through root grafts. He outlined the procedure for injection method on street and lawn trees and indicated that their success to date has been very good. Root grafts in Madison, evidently are a significant vector of D.E.D. “The most serious drawback of such injections appears to be a one-foot-wide strip of dead turf, which can be resodded in 2 to 3 weeks.”

Northeast Drought

Professor Wayne Sinclair reported that in the last four years, Ithaca has accumulated a rainfall deficit about equal to a season’s water supply; 45% of this deficit has occurred during May, June and July when trees make most of their growth.

Since this situation is rather typical of the Northeast, Dr. Sinclair related this water deficit to rates of tree growth, showing a rather direct relationship. Thus, he predicted that in 1966 we’ll see more canker problems, more incidence of serious root rot organisms, and more frequent inability of declining trees to respond to treatments. He also stressed the importance of irrigating trees liberally during May, June and July.

Horticulture Problem Solving

Use of the Cornell Diagnostic Check list and plant history to establish a systematic system for solving tree problems was suggested by Professor Warren Johnson. He stressed that “hit or miss” problem solving does not create customer satisfaction or success. Before proceeding you should get all the facts and sell a disease or insect control program on a long-term basis, he advised.

Blackbirds & Sex

Blackbird populations (red-winged blackbirds, starlings, and grackles) are controlled to a degree by nature. Man’s efforts, said Dr. Oliver Hewitt, to control the blackbird population problem, must be aimed at preventing successful reproduction rather than allowing merely for a physical reduction in population. Because these birds are prolific and migratory, poisoning and trapping are unsuccessful. He stressed the immense value of filling limited nesting areas with nests full of infertile eggs.

Professor A. M. S. Pridham summarized recent advances in the chemical weed control field, the most striking being the use of activated charcoal to help offset the damaging properties of herbicides to susceptible plants.

Insurance For Arborists

Freeman Parr, Parr and Hanson Inc., Hicksville, talked on the insurance needs, problems, and coverage essential to an arborist. He pointed out, “smaller operators need insurance even more than large companies. The most important factor is to make sure that the insurance agent is familiar with the company operations and risks, that you keep in regular close contact with him and know what kind of coverage you have.”

Parr noted that the greatest concern should be coverage for liability exposures since much work is done on the property of others. Potential liability coverage on cars and trucks is necessary. A comprehensive general liability policy has the advantage of coverage regardless of how claims may be presented. He suggested that in many cases...

N.Y. State Arborists Assn. officers and directors, elected at recent meet, are (from left) Lm Wickes, Jr., Suffern, N. Y.; Dr. John A. Weidhaas, Jr., Ithaca; Walter Sturmer, Yorktown Heights; Lawrence J. Borger, Bayside; Edward Johnson, Hicksville; 1966 President Professor Daniel Dowd, Farmingdale; Peter Bartholomew, Lockport; past President Author Sandstrom, Jordan; George H. Callaway, Argyle; Frederick R. Micho, Rochester; Fred Donovan, Mechanicville; and Dr. A. M. S. Pridham, Ithaca.
it is advantageous to get the insurance agent to use the word “occurrence” rather than “accident” on policies. Also, pay attention to non-ownership automobile insurance, property damage insurance, and insist on a hold-harmless contractual liability clause when subcontractors are involved, he said. A contract equipment floater covers movable property which is used away from the insured’s premises.

A minimum of 3-5 hundred thousand dollars coverage should be carried by arborists. Many use policies designed for logging and lumbering. However, these policies do not apply if trees are classified as diseased, Parr warned.

The One-Man Tree Business

George Callaway, Llenroc Tree Experts, Argyle, presented his views of the one-man tree business. “The small businessman often attempts to impress people that he is a ‘big operator’,” Callaway noted that people have the idea they get better service from the small operator who can maintain a close tie of personal service with his client. Less misunderstanding results and decision making in troubleshooting is made on the spot.

One of the most important aspects of a one-man operation is the misleading idea that many jobs can be done at less cost by the owner-operator. Callaway emphasized that it is much more costly in time to attempt repair and maintenance of equipment, clerical and stenographic work, and other odd jobs than to have skilled tradesmen do the work. This, along with telephone answering service, permit the owner to spend more time on selling and public relations. Callaway stressed the need for adequate and effective advertising, particularly in competition with larger companies. He insisted on the need for speaking well of other arborists, advancing the industry, seeking standards of practice and performance to give clientele a uniform image of arborists’ performance.

John Ryan, head of New York’s Highway Landscape Depart-

Why do staggered knives chip tree trimmings better?

Why do you get them only on Mitts and Merrill brush chippers?

Smother, more economical operation that is easier on the chipper’s internal mechanisms are the solid reasons for staggered knife superiority.

Look—most brush chippers use four knives that run the full length of the cutting cylinder. They are spaced around the cylinder at four equal intervals.

M & M, however, divides the same knife length up into 16 smaller knives, spaced only inches apart around the cylinder. Full length knives take only four cuts each time the cylinder revolves. The staggered knives take 16 cuts per revolution.

This faster cutting action draws the log in smoothly and distributes cutting shock four times more evenly throughout each cylinder revolution. Machine vibration is virtually eliminated; there is less shock per bite; horsepower is used more efficiently; and a lot of fuel is saved.

Knife changing is quicker and easier in M & M design too, because we use a foolproof pin and wedge-lock principle. Knife sharpening is a snap because no angle grinding is required and the double edged knife can be sharpened many times before it needs replacing.

Why can you get staggered knives only on M & M chippers? Because M & M has been the design leader of wood reduction equipment for over 70 years.

DEPT. WT 70 • SAGINAW, MICHIGAN
ment, said, "Beautification is not new in New York; some $7 million was spent last year on landscaping. Four thousand acres of grass were planted last year."

He stated that $2.1 million was spent last year to pick up litter along highways. In answer to several questions, Mr. Ryan noted that removal of dead trees is included in maintenance and is not part of the beautification program, and also that tree maintenance is included in state work under landscaping. He stated, "The state does not employ a professional arborist, but many of our men are knowledgeable about trees and seek advice from Cornell and the Extension Service."

Spraying For Profit

Arborists exchanged ideas and asked questions in an open-forum discussion led by Dr. Weidhaas on spraying.

Several arborists indicated that liquid feeding of trees was a profitable and effective business opportunity, resulting in from $250 to $300 gross per day for one operating unit and crew. A number of arborists were interested in the effectiveness and advisability of using dormant oils. Dr. Weidhaas felt that 60-second viscosity oils had not been proven as yet in research for the diverse and stubborn scale insects found on shade trees, since the 60-second oil has been developed primarily for mites on fruit trees. He thought 70-second oils with high paraffinicity and a high unsulfonated residue percentage would be effective, but cautioned against selling this as an all-purpose, preventive spray. Many insect pest sprays which must be applied during the growing season are harder to sell if a client has been reassured by a general dormant protective treatment.

Licensing Legislation

The arborists' legislative committee reported that efforts are continuing to get an arborists' license bill passed in New York. A great deal of progress has been made since the move was initiated nearly 9 years ago. Many factors including the interest in beautification, tree preservation, and proper use of agricultural chemicals are underlining the need for protecting the public interest and ensuring high standards of performance by arboricultural workers.

New officers elected at the Ithaca meeting are: President—Daniel Dowd, Farmingdale, L.I.; Vice Presidents—Lawrence J. Borger, Bayside; Edward Johnson, Hicksville; Carl Lundborg, Westbury; Secretary-Treasurer—George Callaway, Argyle; Directors—William R. Herrmann, Syracuse; Frederick R. Micha, Rochester; Arthur C. Sandstrom, Jordan; Peter Bartholomew, Lockport; Walter Sturmer, Yorktown Heights; Fred W. Donovan, Mechanicville; and Ira F. Wickes, Jr., Suffern.

Sun-Mastr Buys Ideal Mower

Negotiations were recently completed between Robert Crump, vice president, Sun-Mastr Corp., Olathe, Kans., and the Mast-Foos Mfg. Co., Springield, Ohio, for the purchase of Ideal Power Lawn Mower Co.

Ideal has manufactured mowers for over 50 years, with its primary product being a heavy-duty gang lawn mower for use on golf courses, parks, airports, and highways.

Production of Ideal mowers is being transferred to the Sun-Mastr plant in Olathe. Moving of machinery, equipment, and establishing the Sun-Mastr Ideal division will take from 30 to 60 days.

Oregon Adds Two Ryegrass Varieties for Certification

Two new ryegrasses, Magnolia, from Mississippi, and Florida Rust Resistant Ryegrass, from Florida, have been added by the Oregon Ryegrass Growers Seed Commission to its list of certified seeds.

Research at experiment stations in Mississippi and at the University of Florida have yielded these two new varieties of ryegrass which are highly resistant to crown and leaf rust.

Florida Rust Resistant Ryegrass has notable uniformity when in full head and is a good seed producer. Magnolia also proved to be superior to domestic and Gulf ryegrass in forage production and seed yields.

For additional information, interested readers may write to Jack L. Blair, Administrator, Oregon Ryegrass Growers Seed Commission, P.O. Box 247, Albany, Oregon 97321.