

December 1964

1965 SUPPLIERS GUIDE ISSUE



Delegates to the annual Florida spraymen's convention had this impressive display of equipment to examine during their 3-day meeting. Story on page 8.

Monthly Magazine of methods, chemicals and

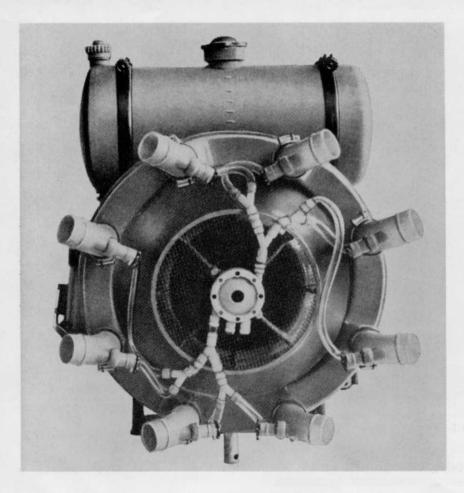
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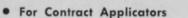
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WEEDS TREES

December 1964

Volume 3, No. 12

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Features:

Out-of-staters Join in at HSAF Convention, Take Steps to Establish National Trade Group, Examine Spray Contracts 8
Turfgrass Portraits VI: Zoysia By Dr. Robert W. Schery
1964 Index of Articles14
1965 Suppliers Guide
International Turf-Grass Conference Scheduled for Cleveland, Feb. 7-1245
Weeds Trees and Turf Wins National Award for Editorial Excellence: Aquatic Weed Series Singled Out for Citation46
Patterson to Head New Mexico Turf Group: Conference Studies Turf Varieties, Mowing
Departments:
Editorial: Our New Name

Editorial: Our New Name 6	
Know Your Species: Nutsedge44	
Meeting Dates	
Classified Ads	
Advertisers Index	
Trimmings	

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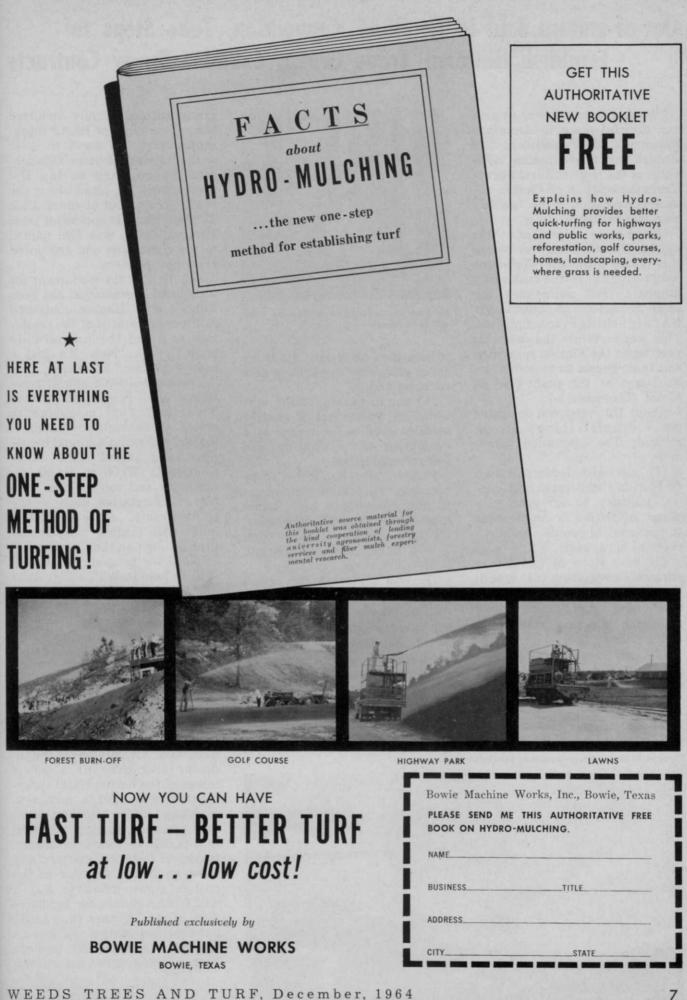
Last summer this magazine conducted an extensive survey to determine exactly what kinds of services our readers perform. We were not surprised to learn that hardly any contract applicator offers only one kind of service (viz. only tree care, or only lawn spraying). The pattern seems to be that well-rounded businesses offer lawn maintenance in conjunction with tree work, or weed control in conjunction with tree pruning, etc. Our circulation figures show that arborists, lawn spraymen, landscape nurserymen, and similar operators, make up the bulk of our readership, with golf course superintendents, highway and railway rights-of-way supervisors, park supervisors, etc., making up the remainder.

Because of this total coverage of what has become a single, definitive market (vegetation maintenance and control, as it is now called), we have decided to call this publication *Weeds Trees* and *Turf*, so that the name more accurately reflects what the magazine is all about.

During the past year, our staff has prepared articles on tree pruning, on chemical brush control, on aquatic weed control, and on various kinds of turf problems; in short, on each of the fields of activity which our readers engage in. These same staff members have traveled to trade meetings and educational seminars where they talk with horticultural spraymen, weed control firms, tree specialists, etc. We have tried, over the past 12 months, to keep rounding out our editorial content so that it reflects the three major phases of the industry as it exists in America today.

We shall continue to do so. In the coming months, Weeds Trees and Turf intends to present each month a well-rounded group of articles. There'll be studies of the latest chemicals for weed control in ornamentals, for example. There'll be another in Dr. Richard Campana's series on noninfectious tree diseases, and more on pruning as well. There'll be more staff-written turf features, plus those written by such experts as Dr. Robert Schery, whose "Turf Portrait" series has been so widely hailed. Many of these articles are already in the schedule, and others will be added as we go along. Each issue of WTT in 1965 will be considerably larger than the average one was this year. So we hope the new name will please all of you, and we hope you'll let us know how we can continue to communicate effectively all the latest helpful data in the weed and brush control, turf management, and tree maintenance industry!

WEEDS TREES AND TURF is the national monthly magazine of urban/industrial vegetation maintenance, including turf management, weed and brush control, and tree care. Readers include "contract applicators," arborists, nurserymen, and supervisory personnel with highway departments, railways, utilities, golf courses, and similar areas where vegetation must be enhanced or controlled. While the editors welcome contributions by qualified freelance writers, unsolicited manuscripts, unaccompanied by stamped, self-addressed envelopes, cannot be returned.



Out-of-staters Join in At HSAF Convention, Take Steps to Establish National Trade Group, Examine Spray Contracts

"We as spraymen have to gain our rightful place in American industry," HSAF president Ted Kaplan told conventioning delegates at the Horticultural Spraymen's Association of Florida annual convocation in Ft. Lauderdale last month.

Out-of-state attendance was more noticeable than ever before this year, although Floridians didn't turn out in the customary numbers. But sometimes the small groups are the ones to get the big things accomplished. This was certainly the case this year when the Florida spraymen and their guests from across the land met at the posh Pier 66 Motel, November 5-7.

About 120 registered delegates got 4 crucial things accomplished. The assembled spraymen:

(1) met with representatives of Florida's structural pest control industry to agree on proposed legislation favorable both to pest control people and horticultural spraymen;

(2) took steps to establish a national association of weed, tree, and turf spraymen, steps which now can only result in the formation of such a trade group in the near future;

(3) summoned to the podium outstanding spray company executives from the Sunshine State



Dr. Kerr waited for questions from the eager turf professionals.

to compare different kinds of spray programs and pricing procedures; and

(4) sat in on one of the best technical question-and-answer sessions ever to be offered at a vegetation maintenance and control conference.

President Kaplan, whose spray company is in Miami, pointed out in the convention's early hours that in the United States today, the turf industry takes in from 3 to 6 billion dollars each and every year.

He was prefacing the actual discussion about forming a national trade group set up to serve specifically the companies which contract for weed and brush control, turf management, and tree maintenance. Later in the convention's history, the

A convivial atmosphere prevailed at the HSAF convention as usual. Enjoying a speaker's point here are (left to right) spraymen Lou Streich and Ted Kaplan, and Bob Wiseman of W. R. Grace's Davison Division. Kaplan was reelected to his second term as HSAF president, and Pierre Nobs (not pictured) remains as secretary-treasurer.



group enthusiastically endorsed the appointment of HSAF representatives to go forth to meet with other industrymen throughout the country to lay the groundwork for establishing the trade group. Out-of-stater Dick Evans, a contract applicator from Pampa, Texas, was also named to the committee and appointed chairman pro-tem.

"Up to now the movement for a national organization has been floundering," Kaplan continued in his endorsement of the resolution to form the nationwide trade group, "Now it's just a matter of time," he mused.

The convention's official resolution also requested Weeds Trees and Turf magazine to act as a clearinghouse of information about the national movement, and asked WTT editor Charles D. Webb to act as coordinator and contact man during the formative days of the trade society. After contact is made with leading industry figures throughout the nation interested in the program, a meeting is to be held in WTT's Cleveland offices to further hash out the preliminaries before the group is born. Readers who are interested in the association-to-be are requested to write to this magazine.

"The reasons for this action are multifold," Larry Nipp, member of the national committee, and horticultural operator (American Power Spraying) in Ft. Lauderdale, said. "It will define the industry and present a public image of the horticultural sprayman; it will offer a means to exchange information on business practices, pricing, advertising, public relations, insurance, pertinent technical matters, and other problems peculiar to the custom spray industry; and it will offer a chance for industrymen to get together in a single national convention to discuss mutual problems and perhaps have a trade show for custom spraymen and custom spraymen alone.

"Eventually," Nipp added, "the association will probably have a full-time staff which will be a source of technical information and assistance, and which can effectively lobby and otherwise affect legislation and public opinion favorably for the custom spray business as a whole. Truly this is a momentous idea," Nipp concluded as he laid the resolution on the convention floor for discussion. It passed immediately, by voice vote.

Spray Monthly? Semimonthly? Or When Need Is Determined?

What type of lawn spray program is best suited to Florida conditions and to the systems of individual company philosophies was a key part of this year's convention. Spray operator Nipp was first of a quartet to explain his business concepts. Nipp sprays his customer's lawns for chinch bugs every 60 days. He said he finds this more profitable, and just as effective, as the monthly spraying pattern some other companies utilize.

Nipp said trucks and drivers are the major cost factors in lawn spraying, although today, with new and expensive chemicals in common use, material costs sometimes exceed even the cost of labor.

Nipp said when parathion began to fail as a chinch bug control and he had to switch to more expensive chemicals, his charges naturally had to go up. But this taught him a lesson and now his contracts include the phrase "based on the use and ability of (name of chemical) to kill chinch bugs." He advised his audience to include this or a similar phrase in each of their lawn spraying agreements.

Nipp also reminded the assembly that in pricing a job, regardless of the size of a lawn, it's crucial to remember the cost of getting the truck and the driver to the premises. Obviously, this is the same whether one is treating an estate or a bungalowsized lot.

In the discussion following Nipp's talk, Dave Fleming, a



Equipment demonstration permitted delegates to wander at will and inspect spray rigs from this portable device to some heavy-duty, complex truck-mounted systems.

lawn spray operator from Philadelphia, said relative to prices: "When you establish a minimum price, all too often it becomes a maximum."

"Yes," Nipp replied, "The price you start with is usually the one you're stuck with."

A second type of service was explained by Jack Cuthrell who runs Mr. Spray Company in Ft. Lauderdale. Cuthrell inspects his customers' lawns twice monthly but sprays them only if the need is determined by this inspection. He contrasted this philosophy with Nipp's, which he described as "preventive maintenance."

Cuthrell has a card on which he lists the results of each inspection. Whatever he finds wrong he reports to the homeowner who can then correct it. Cuthrell guarantees each lawn against chinch bug damage, and theorized he was offering his customers a kind of insurance. He conceded that sometimes his patrons become irritated because he hasn't actually spraved anything while his monthly bill keeps right on coming in. But, he cautions those who stray from his flock, it's results for which he charges, and it's results he guarantees.

In conclusion Cuthrell had a profitable bit of advice for his colleagues who operate on contracts: "Once," he said, "I used to have all my contracts run out at the end of each year, after which I'd have to renew them one by one. What a simple thing it was to write them up so that they continue uninterrupted until a customer specifically terminates them."

Multiple Choice

Then a more elaborate concept was explained by Sydney Kirkpatrick who runs Kirk's lawn maintenance firm in Ft. Lauderdale. His customers may choose from a spraying schedule which is monthly, every other month, once every four months, or various combinations of these schedules. They may also elect to have Kirkpatrick add a fertilizer program to his chinch bug services. Of course, the large Florida company which he operates offers a complete line of services including renovation and other techniques.

Kirkpatrick said he used to spray liquid fertilizer from his truck, but now he uses a dry formulation applied with a spreader.

A type of business becoming increasingly rare was detailed by Ft. Lauderdale horticultural operator Ollie Benson, who has the small, custom, personalized lawn service which was so familiar in bygone times. Benson said he is a one-man operation and he in-

Benson: Traditional "personalized" lawn service.





Veteran sprayman Charlie Johnson had technical questions for the panel of experts.

tends to stay that way. He knows each customer personally, and gives individual care and attention to every lawn, proceeding with a spray program, if needed, singularly contracted as the need arises.

He counsels his patrons to employ good cultural practices, including proper mowing and watering, vertical mowing, etc.

A rousing finale to Friday's sessions was the question-andanswer period which has become an earmark of HSAF conventions. Perennial favorite lawn expert and well-known figure in the turf world Ralph White moderated. He's general manager of Ousley Sod Company in Pompano Beach, one of the largest companies of its type in the world.

On White's panel were: Dr. Stratton H. Kerr, Associate Entomologist, Florida Agricultural Experiment Station, Gainesville; Dr. E. O. Burt, Assistant Turf Technologist, Plantation Field Laboratory; Lewis Watson, Associate County Agent, Broward County; Dr. John F. Cabler, Assistant Ornamental Horticulturist, Agricultural Extension Service, Gainesville; and Dr. Thomas E. Freeman, Assistant Plant Pathologist, University of Florida, Gainesville.

This was a time for the gathering to pose its most perplexing problems and benefit from the five-starred panel of turf specialists, and the carefully phrased advice of chairman White, who's responsible for as much fine turf as any other man in the country. Questions came thick and fast:

—"What's best, a granular or liquid nematocide," queried Mrs. Larry (Mae) Nipp. Dr. Burt told her there's no appreciable difference, in his opinion; then he added that a granular product in general doesn't last any longer than a liquid, though some may be inclined to think otherwise.

— Prexy Kaplan wanted to know what to do about millipedes. He said frequently Florida spraymen are called upon to control these slithering nuisances in customer's lawns. Dr. Kerr said to give them a good, stiff dose of Sevin, the carbamate from Union Carbide, or perhaps Baygon, which he praised. The latter is also a carbamate, this one from the vats of Chemagro Corp. in Kansas City, Mo.

-A round of questions from inquisitive delegates touched on several aspects of fungicide usage; the following points were collectively put across by the panel: Fungicides are primarily preventive. They can be more effective if applied with a spreader-sticker. Sometimes, a fungus disease will "cure itself." That is, if not treated, a fortunate cooling period or a dry spell will sometimes heal the fungusinduced wounds. But turf pros can't wait for this "let-naturedo-it" routine because of its very fortuitousness.

—"Anything we can do to control scale?" a sprayman asked. "If



A question from the floor engrossed Dr. E. O. Burt (left) and panel moderator Ralph White.



Kirkpatrick: "Multiple choice" for his customers.

you're a professional with professional know-how, I'd say use parathion," Dr. Kerr advised. "Even better," he continued, "is parathion with a summer oil emulsion added (about 2 qts. per hundred gallons)." "Or," he went on, "you can always use malathion. This too will act better with the oil additive."

- What's the broadest scale fungicide? The organic mercurials. What trade names do they go under? Memmi, Panogen Turf Fungicide, among others.

—If the pH of the soil is higher than 7 (on alkaline side), would sulfur be beneficial? "It certainly would help," Dr. Cabler said. "Use one or two pounds per thousand square feet."

—Do you think high fertilization rate causes brown patch? "I doubt it," said Dr. Freeman. Do you get damage from brown patch other than the usual brown circle? "You can," Dr. Freeman said, "especially in shaded areas where the grass may thin out."

—Has anybody noticed a decrease in fungus after a lawn is sprayed with the nematocide Nemagon? Several said yes. Nipp said the use of a nematocide invariably improves the lawns he works on, and he thinks operators should do more nematode work. "We use Nemagon," he said, adding that he tries to get 10 or 12 inches of water on it to increase effectiveness. He uses about eight dollars' worth of the product on the average lawn, he said.

—Several questions pertained to mechanical renovation, and (Continued on page 47)

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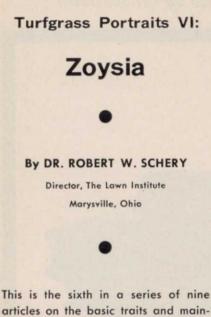
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This is the sixth in a series of nine articles on the basic traits and maintenance procedures for common turfgrasses. Next month author Schery discusses bahiagrass.

ZOYSIA, glamour name among turfgrasses second only to bluegrass, is native to eastern Asia and its outlying islands. Zoysia, named for Karl von Zois, an Austrian botanist of the 18th century, is conserved over Osterdamia. Species boundaries within the genus are obscure. Forbes lumped all turfgrass types as Z. matrella. Yet most literature still calls forms wider leaved than matrella Z. japonica, very fine ones Z. tenuifolia. The japonica group is commonly known as Korean or Japanese lawngrass, reflecting collections from that portion of the globe by USDA plant explorer Frank N. Meyer in 1906. The matrellas are designated manilagrass, because of Piper's introduction of this type from the Philippines in 1911. Tenuifolias are called mascarene, Korean velvet, patio or flagstone grass.

Forbes, at the Tifton (Georgia) Experiment Station, has hybridized different forms, and the well-known "Emerald" is a selection from crossing japonica with tenuifolia. Unfortunately, Emerald sometimes grows "puffy" like tenuifolia, and then mows poorly. The Meyer variety is a dense, hardy selection from japonica seedings at Beltsville, Maryland, named for the explorer. Flawn was an early matrella selection, hardy along the East Coast nearly to New England, and also much planted in the Southwest. Recently Purdue has released Midwestern zoysia, and yet unnamed selections are today under test far and wide.

Thus zoysias, like most prominent turfgrasses, occur in tremendous variety, from very fine-leaved and low-growing tenuifolia sorts (ground covers of the deep South, so low as to scarcely need mowing), to coarser japonicas in many "sizes and shapes." Seed, mainly imported from the Far East, but occasionally harvested on sod farms in this country, exhibits genetic reassortment typical of sexual crossing, and must be considered "japonica." All named varieties are propagated vegetatively, to assure trueness to type. Through the years there have been many local selections across the South. chiefly matrellas, as good as any for their areas.

Adaptation and Preferences

Zoysia is not particular about soil, but seems to do somewhat better on heavier soils than on sands. Acid soils are best limed to bring them more nearly neutral.

Zoysias are warm-season grasses, even though selections such as Meyer are quite hardy even into Canada. But like bermuda and annual weeds, zoysia is discolored by cold weather, remains brown the winter through. In middle latitudes it is typically dormant from October until April, not much of a recommendation for climates where cool-season grasses such as Kentucky bluegrass, fine fescues and bentgrasses give ten months of greenness. As such, zoysia remains primarily a southern beauty, even though its growing season may be a little more prolonged than other southern grasses.

Zoysia has received heady ac-

colades, alternating with spells of disappointment because it did not always live up to extravagant claims made for it. In the early 1950's zoysia was to become the lawn savior in the crabgrass belt, in combination with the then new Merion Kentucky bluegrass. Apparently it didn't worry authorities urging this upon the American homeowner that brown zoysia was just as ugly as brown crabgrass in the winter lawn! Nor that two grasses of such divergent habits are seldom compatible, do not intersperse one within the other evenly and easily. As a matter of fact, I have still to see a permanently successful interplanting of these grasses,-the combination that was to conquer American lawns!

Nor has everything been completely rosy in the South. The enthusiasm of the 1950's for starting zoysia sod nurseries didn't reckon with the facts of life as that the vaunted Meyer strain discolored more readily in the South than local matrellas: that zoysia in time develops thatch (and consequent problems) which can cause debilitation; that diseases and insects eventually would find zoysia attractive (billbug has recently about finished off the zovsia sod business in Florida); that the very characteristics which make zoysia so wear-resistant underfoot, also make necessary an expensive heavy-duty mower to attend it.

In short, zoysia cannot be all things to all people in all locations. But among zoysias are the finest lawngrasses available for the South, aristocrats the equal of the better bermudas. Zovsia won't establish so readily as bermuda, but it will wear better. It can stand shade. It requires only modest fertilization. Seedheads are not abundant, little bother. It is not a rampaging pest at borders as is bermuda, and it is reasonably resistant to salt spray, so useful near the coast. But it is not a turf to endure neglect ungrudgingly, as so often implied. Nor is it adapted to wet places.

Zoysia's capabilities are better understood now, and there is a revival of interest in it for areas where it was something of a flop earlier. For example, it may help golf fairways planted to U-3 bermuda in bluegrass country, which have suffered so much recently from winterkill (on north slopes especially) and from spring dead spot disease.

Growth

Zovsia spreads by aboveground runners (stolons), and underground stems (rhizomes). Rate varies greatly, and among the selections now under test are many potential releases that spread much more rapidly than is generally expected of zoysia. One of the drawbacks to zoysia has always been the lengthy period needed to fully establish it as a sod-a full growing year even in southern Florida, usually three years in northerly areas. During this interval weeds must be controlled, lest the zoysia be further slowed or even lost. A zovsia lawn has been expensive, and only for the patient man.

But once established, slow growth becomes a virtue. Mowing need not be so frequent as with bermuda, although the turf should be "evened up" regularly, at least each ten days. No grass makes a thicker, more resilient carpet than does zoysia. But here too, there are side effects. Such durability and tightness builds thatch in time, in some lawns so tight that water runs from the surface as from a shingled roof. The turf may then dry brown even though watered. And lawn mowers sufficiently powered to mow zoysia are not the inexpensive sorts. A heavy-duty machine with an extra reel blade is almost needed. Likewise, thinning heavily accumulated zoysia thatch requires special machines or skilled burning, just too much for the average homeownerwith-a-rake. And because of slow recovery, mistakes show for quite a while.

Zoysia has no terribly serious diseases; dollar spot and brown patch are sometimes found, but respond to fungicidal prevention. Until billbugs came along, siliceous zoysia was not greatly bothered by insects. Billbug larvae work deep in the grass, and unless organic phosphates thoroughly douse the sod, control is difficult. Nematodes also attack zoysia, often seriously in Florida.

Not being the rampant grower that is bermuda, fertility needs are not so great with zoysia. "Average" fertilization for the soil and region is suggested, generally about 6 lbs. nitrogen/M/ year. Resistance to drought is pretty good, though occasional irrigation is needed to keep a lawn continuously attractive. Mowing varies with use and variety, ranging from about 3/4 inch to as high as 2 inches in more northerly locations. The tight growth of zoysia is quite a help in preventing weeds. Where weeds do pock the lawn, the 2,4-D family of herbicides takes out most broadleaf sorts without injury to zoysia. Nor will the usual preemergence and arsonate checks against annual grasses damage the grass.

Planting

Zoysia is best started in spring or early summer, to give the maximum period of warm weather for establishment. Seed is available only for unselected Z. japonica, usually sowed about 2 lb./M. Zoysia seed fits nicely seeding mixtures for everyday lawns, where the special characteristics of varietal selections are not important.

Named varieties, of course, must be planted from living starts, sprigs (stems about three nodes in length, one extremity to be buried, the other exposed), or by plugs (biscuits of sod). New plantings generally show little activity for 2-3 weeks. Tests indicate slightly more rapid spread from sprigs than from plugs, but the planting is more of a chore and keeping the new planting sufficiently moist more of a problem. Likewise, larger plugs have proven more enduring than smaller ones, especially if interplanted into existing turf. Spacing between starts should not be more than six inches, lest filling to a complete sod take unduly long.

Quickest fill results from planting into a cultivated and well-fertilized seedbed. If the soil cannot be sterilized, weeds may be checked somewhat with herbicides and hand pulling. In Florida Simazine and Atrazine have checked weeds without setback to zoysia, when sprayed over a new planting the same as recommended for St. Augustine.



Cross section of Zoysia matrella sod with soil washed away. (Photo courtesy Asgrow Seed Company).

Weeds Trees and Turf's **1964 Index of Articles**

An alphabetical reference to subjects and titles of all major feature articles, feature columns, news stories, letters published in Weeds Trees and Turf in 1964. A list of authors of this year's articles follows the Directory.

(f) feature article (ns) news story (c) feature column (ed) editorial (L) letter (br) book review

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	Issue P	g.
Α .		
Accidents, Arborists' Big Job: Cut Out the "Little" (f)	Aug	8
Aeration Help "Old Turf," Report Says, Controlled	Tul	21
Aerify, Dethatch, Wet, Turf Areas		01
Cut out the "Little" (f) Acriation Help "Old Turf," Report Says, Controlled Irrigation and Deep Soil (ns) Acrify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Aquatic Weed Control) Hyacinth Control Society Report (nf)	Oct a	21
Society Report (nf) Aquatic Weed Control, How We Use Scuba Divers in,	Aug :	26
Society Report (nf) Aquatic Weed Control, How We Use Scuba Divers in, by Henry Carsner and Ralph Grenfell (f) Aquatic Weed Control Specs for Ill., New Bulletin Gives (ns)	Feb	16
Bulletin Gives (ns) Aquatic Weedmen Stir Up More Questions Than Answe	Apr : ers	34
at 1964 Chicago Meet, Fact-Seeking (nf)	Mar	16
Bulletin Gives (ns) Aquatic Weedmen Stir Up More Questions Than Answi at 1964 Chicago Meet, Fact-Seeking (nf) Arborists' Big Job: Cut Out the "Little" Accidents (f) Arborists: Build A Better Image, Unanimous Advice of Speakers at 40th Shade Tree Conference Convention (nf)	Aug	8
Advice of Speakers at 40th Shade Tree Conference Convention (nf)	Sen	18
Advice of Speakers at 40th Shade Tree Conference Convention (nf) Association of Spraymen? Why Join a National, by Larry Nipp (f) (Association, National) All or Nothing! (ed) (Association, National) HSAF Convention Report (nf).	Oct	12
(Association, National) All or Nothing! (ed)	May	6
B Bacillus thuringiensis, Report on		
Aerial Application of (ns)	May	29
by Dr. Robert W. Schery (f)	Apr	18
B Bacillus thuringiensis, Report on Aerial Application of (ns) (Bahiagrass) How to Select the Right Turfgrass, by Dr. Robert W. Schery (f) Bahiagrass Kept at Desirable Level with MH, Unmown (ns) (Bandane) Making Sense About Crabgrass,	Sep	30
by Dr. W. H. Daniel (f)	Mar	11
by Dr. Robert W. Schery (f) Bahiagrass Kept at Desirable Level with MH, Unmown (ns) (Bandane) Making Sense About Crabgrass, by Dr. W. H. Daniel (f) (Bentgrass) How to Select the Right Turfgrass, by Dr. Robert W. Schery (f) Bentgrasses, Turfgrass Portraits III:, by Dr. Robert W. Schery (f) (Bermudagrass) How to Select the Right Turfgrass, by Dr. Robert W. Schery (f) Bermudagrass Mite Controlling the, by Wayne C. Morgan (f) Bermudagrass Mite Controlling the, by Wayne C. Morgan (f) Bermudagrass Mite Controlling the, by Wayne C. Morgan (f) Bermudagrass Strufgrass Portraits V:, by Dr. Robert W. Schery (f) (Betasan) Making Sense About Crabgrass, by Dr. W. H. Daniel (f) Bluegrass, Annual; Know Your Species (c) Bluegrass, Turfgrass Portraits I: Kentucky, by Dr. Robert W. Schery (f) (Bluegrasses) How to Select the Right Turfgrass, by Dr. Robert W. Schery (f) (Brush Control) Southern Weed Conference Reports (f) Brush Control, Dormant Season, by Dr. B. A. Sprayberry (f)	Apr	19
by Dr. Robert W. Schery (f)	Sep	16
by Dr. Robert W. Schery (f)	Apr	18
by Wayne C. Morgan (f)	Jun	8
by Dr. Robert W. Schery (f)	Nov	8
by Dr. W. H. Daniel (f)	Mar	11
Bluegrass, Annual; Know Your Species (c) Bluegrass, Turfgrass Portraits I: Kentucky,	Apr	24
(Bluegrasses) How to Select the Right Turfgrass,	Jul	12
(Bromacil) Water Soluble Hyvar Developed (ns)	Apr Apr	19 27
Brush Up On Brush Control (f) (Brush Control) Southern Weed Conference Reports ()	ns).Mar	13 27
Brush Control, Dormant Season, by Dr. B. A. Sprayberry (f)	Sep	10
с		
(Calcium Propyl Arsenate) Making Sense About	Man	11
 (Calcium Arsenate) Making Sense About Crabgrass, b Dr. W. H. Daniel (f) (Calcium Propyl Arsenate) Making Sense About Crabgrass, by Dr. W. H. Daniel (f) (Carbaryl) Controlling Japanese Beetles at Cleveland's Airport (f) (Catterpillars) Dichondra Pests and Controls Outlined in Council Bulletin (ns) (Centipede) How to Select the Right Turfgrass, by Dr. Robert W. Schery (f) Chlordane) Making Sense About Crabgrass, by Dr. W. H. Daniel (f) (Chlordane) Making Sense About Crabgrass, by Dr. W. H. Daniel (f) (Chlorosis) Iron Shortage May Cause Yellow Color 	Mar	11
(Caterpillars) Dichondra Pests and Controls	Sep	13
(Centipede) How to Select the Right Turfgrass,	Oct	20
by Dr. Robert W. Schery (f) Chickweed, Silvex Controls (ns)	Feb	18 24
(Chlordane) Making Sense About Crabgrass, by Dr. W. H. Daniel (f)	Mar	11
Cool-Season Grasses, Advice on (ns) (Contracts, Spraying) HSAF Convention Report (nf). Crabgrass, Making Sense About, by Dr. W. H. Daniel (f) (Credit) Florida Turfgrass Trade Show Report, by Walter D. Anderson (nf)	Sep	28
Crabgrass, Making Sense About, by Dr. W. H. Daniel (f)	Mar	10
(Credit) Florida Turfgrass Trade Show Report, by Walter D. Anderson (nf)	Jul	14
(Dacamine) Colorado State Lists Results of 1963 Herbicide Tests (ns)	Test	10
nerbicide fests (ns)		10

Issue Pg.

(Dacthal) Making Sense About Crabgrass,	
by Dr. W. H. Daniel (1)	
Dallisgrass; Know Your Species (c)Nov 15	
of Missouri Lawn and Turf Conference, Tips on	
(Dead Spot, Spring) Internat'l Turfgrass	
(Dacthal) NE Weed Control Conference Report (nf) Feb 20 Dallisgrass; Know Your Species (c)Nov 15 Dead Spot, Fertilizer Advice on Tap at 5th University of Missouri Lawn and Turf Conference, Tips on Spring, by Dave Miller (nf)Nov 14 (Dead Spot, Spring) Internat'I Turfgrass Conference Report (nf)Mar 20 Dethatch, Wet, Turf Areas for Dry Spot Control, Aerify, (ns)Oct 21 (Dicamba) Colorado State Lists Results of 1963 Herbicide Tests (ns)Jul 10	
Control, Aerify, (ns)Oct 21 (Dicamba) Colorado State Lists Results of	
1963 Herbicide Tests (ns) Jul 10 (Dicamba) NE Weed Control Conference Report (nf) Feb 20 (Dicamba) Weed Society of America Report (nf) Mar 14 (Dichobenil) NE Weed Control Conference Report (nf) Mar 14 (Dichobenil) NE Weed Controls Outlined in Council Bulletin (ns) Oct 20 (Diphenatrile) Making Sense About Crabgrass. Oct 20	
(Dicamba) Weed Society of America Report (nf)	
Dichondra Pests and Controls Outlined in	
(Diphenatrile) Making Sense About Crabgrass,	
(Diquat) Aquatic Weed Control Society Report (nf)Mar 18	
Disease, Called Fusarium Blight, Penn State Finds New Turf (ns)Aug 30	
(Disease, Dutch Elm) Intelligent Tree Planting Will Determine America's Future	
Beauty, Minn. Treemen Hear (ns)Nov 11 Disease, Effect of Cold Injury and Freezing.	
Noninfectious Tree, Part I, by Dr. Richard Campana (f)Aug 10	
(Disease, Littleleaf) Internat'l Shade Tree Conference Convention Report (nf) Sep 23	
Dormant Season Brush Control, by Dr. B. A. Sprayberry (f) Sen 10	
Dormant Spray for Scales, Maryland Expert	
Dichondra Pests and Controls Outlined in Council Bulletin (ns) Oct 20 Diphenatrile) Making Sense About Crabgrass, by Dr. W. H. Daniel (f) Mar 11 Disease, Called Fusarium Blight, Penn State Finds New Turf (ns) Mar 18 Disease, Dutch Elm) Intelligent Tree Planting Will Determine America's Future Beauty, Minn. Treemen Hear (ns) Mov 11 Disease, Effect of Cold Injury and Freezing, Noninfectious Tree, Part I, by Dr. Richard Campana (f) Aug 10 (Disease, Littleleaf) Internat'I Shade Tree Conference Convention Report (nf) Sep 23 Dormant Season Brush Control, by Dr. B. A. Sprayberry (f) Sep 10 Dormant Spray for Scales, Maryland Expert Advises, Use (ns) Mar 26 Dry Spot Control, Aerify, Dethatch, Wet, Turf Areas for (ns) Oct 21	
E (Elm Leaf Beetle) Virus Diseases and Moth Populations	
Studied at New England Tree Meeting, by Terry Stock (nf)	
(Equipment, Custom) Texas Know-How Creates Homemade Spray Rig, by Pauline Neff (f)	
(Equipment) Dick Evans, Inc., Contract Applicator (f)Jun 12	
F	
(Fenac) Colorado State Lists Results of 1963 Herbicide Tests (ns)Jul 10	
(Fenac) Colorado State Lists Results of 1963 Herbicide Tests (ns)Jul 10 Fertilizer Advice on Tap at 5th Univ. of Missouri Lawn and Turf Conference, Tips on Spring Dead Spot, by Dave Miller (nf)Nov 14 Fertilizer Applications Improve Turf in Southern	
California, Well-Timed, by Howard H. Hawkins (ns)Jul 18 Fertilizer Needs, Undaunted by Dora, Delegates at Auburn Turf Course Study Soil Chemistry, Learn of, by R. E. Stevenson (nf)Oct 18	
Auburn Turf Course Study Soil Chemistry, Learn	
(Fescues) How to Select the Right Turfgrass,	
Fescues, Turfgrass Portraits II: Fine,	
(Formulations) Quick-Breaking Emulsions Not	
Auburn Turf Course Study Soil Chemistry, Learn of, by R. E. Stevenson (nf) (Fescues) How to Select the Right Turfgrass, by Dr. Robert W. Schery (f) Fescues, Turfgrass Portraits II: Fine, by Dr. Robert W. Schery (f) Apr 19 Fescues, Turfgrass Portraits II: Fine, by Dr. Robert W. Schery (f) Aug 16 (Formulations) Quick-Breaking Emulsions Not Necessarily Cheap (L) May 8 Formulations You Buy? How Good Are the, by Frank L. Wilson (f) Aburt Nematodes (f) Aburt Nematodes (f)	
(Fumigants, Soil) What Turf Managers Need to Know	
About Nematodes (f)	
Turf Disease, Called (ns)Aug 30	
G G	
(Gypsy Moth) Report on Aerial Application of Bacillus thuringiensis (ns)	
H H H H H H H H H H H H H H H H H H H	
(Hadacidin) Weed Society of America Report (nf)Mar 14 Hemlock Looper, Air Striking the, by Tom Burrier (f)Apr 12 Hemlock Scale Control, Maryland U. Entomologist	
Hemlock Scale Control, Maryland U. Entomologist Tells of (ns)Jul 27	
Tells of (ns)	
(Irrigation) Aerify. Dethatch, Wet, Turf Areas for Dry Spot Control (ns)Oct 21 Invert Emulsions: The Inside-Out Sprays	
by Jack Taylor (f)	
Report Says, Controlled (ns)Jul 31 (Irrigation) Effects of Excess Rain on	
Turf Management, by J. R. Watson, Jr. (f)Nov 6 (Irrigation) "How to Use Water in Turf Management"	
Attracts 275 to 30th Iowa Conference, by Dr. Eliot C. Roberts (nf)	
Report Says, Controlled (ns)	
J—K	
Japanese Beetles at Cleveland's Airport.	
Controlling (f)	
Turfgrass, by Dr. Robert W. Schery (f)Apr 16	
L Tol 20	
Lambsquarters: Know Your Species (c)Jul 20 (Landscape) Proper Grade Is Key to	
(Landscape) Proper Grade Is Key to Successful Lawn (ns)	
Determine America's Future Beauty, Minn. Treemen Hear (nf)Nov 10	

14

WEEDS TREES AND TURF, December, 1964

Issue Pg.	
(Lawngrasses) How to Select the Right Turfgrass,	
(Lawngrasses) How to Select the Right Turfgrass, by Dr. Robert W. Schery (f)	
by Dr. W. H. Daniel (f)Mar 11 Legislation, How to Live With.	
by N. Curtis Peterson, Jr. (f)Oct 10 (Legislation) Major Particide Curbs Unlikely Tayas	
Aerial Applicators Hear, by G. L. Earle (nf)Apr 22	
Practices for Streetside (f)Aug 12	
MH-30T, Slowing Tree and Shrub Growth With	
Retardant, by Dr. John Zukel (f)Aug 20 MH. Unmown Bahiagrass Kept at Desirable	
Level With (ns)	
by Wayne C. Morgan (f)Jun 8	
Mites in N. Y., Spider (L)Apr 10	
M MH-30T, Slowing Tree and Shrub Growth With Retardant, by Dr. John Zukel (f)	
Moth Populations Studied at New England Tree Meeting, Virus Diseases and,	
by Terry Stock (nf)May 26	
N	
Nematodes, What Turf Managers Need to Know About (f)Feb 10	
Nematodes, what Turr Managers Need to Know About (f)	
Northeastern Weed Control Conference, "The Public	
Must Be Told," weedmen Decide at 18th (hl)Feb 16 Northwest Spraymens' Conference, Sept. 25-26,	
Increased Professionalism, Better Trade Organization Foretold at (nf)	
Nutsedge: Know Your Species (c) Dec 44	
0	
Oak Wilt Disease, Prune in Winter Months to Avoid (ns)	
(Overseeding) Making Sense About Crabgrass, by Dr. W. H. Daniel (f)	
Parathion Labels, USDA Warns Industry: Observe (ns) Jun 18 Poison Ivy; Know Your Species (c) Oct 24 Prostrate Knotweed; Know Your Species (c) Jun 16 Pruning Practices For Streetside Line Clearance, A Review of Shade Tree (f) Aug 12 Pruning Schedule, Shrub Bloom Determines (ns) Jun 16 (Pruning, Utility) Virus Diseases and Moth Populations at New England Tree Meeting, by Terry Stock (nf)	
Poison Ivy; Know Your Species (c)Oct 24 Prostrate Knotweed: Know Your Species (c)Jun 16	
Pruning Practices For Streetside Line Clearance, A Review of Shade Tree (f)	
Pruning Schedule, Shrub Bloom Determines (ns)Jun 16	
Populations at New England Tree Meeting,	
Puncturevine; Know Your Species (c)Aug 24	
Purslane; Know Your Species (c)Jan 16	
Q Quackgrass; Know Your Species (c)Sep 24	
R Rain on Turf Management, Effects of Excess,	
Rain on Turf Management, Effects of Excess, by J. R. Watson, Jr. (f) Nov 6 Red Sorrel; Know Your Species (c) Mar 24 (Renovation, Turf) Weed Society of America Report (nf) Mar 14 (Rhap-Trol System) Hyacinth Control Society Report (nf) Aug 26	
(Renovation, Turf) Weed Society of America	
(Rhap-Trol System) Hyacinth Control	
Society Report (nf)Aug 20 Roadside Spraying, How to Answer the Critics of,	
(Rhap-Trol System) Hyacinth Control Society Report (nf)	
by Dr. Robert W. Schery (f)Apr 19	
S	
(Safety) Arborists' Big Job: Cut Out the "Little" Accidents (f)Aug 8	3
Scale Control, Maryland U. Entomologist	,
Scales, Maryland Expert Advises, Use	124
Scale, Stop Oyster Shell (ns)Jul 23	ŝ
by Henry Carsner and Ralph Grenfell (f)Feb 16	5
(Sevin) Air Striking the Hemlock Looper, by Tom Burrier (f)Apr 14	1
(Sevin) Controlling Japanese Beetles at Cleveland's Airport (f)	3
Tells of (fis) Mar 26 Scales, Maryland Expert Advises, Use Mar 26 Dormant Spray for (ns) Jul 23 Scale, Stop Oyster Shell (ns) Jul 23 Scuba Divers in Aquatic Weed Control, How We Use, Jul 23 by Henry Carsner and Ralph Grenfell (f) Feb 16 (Sevin) Air Striking the Hemlock Looper, Apr 14 (Sevin) Controlling Japanese Beetles at Sep 13 (Sevin) Virus Diseases and Moth Populations Studied at New England Tree Meeting, by Terry Stock (nf)May 26 Shade Tree Conference Convention, Arborists: Build a Better Image, Unanimous Advice of	5
Shade Tree Conference Convention, Arborists:	
Build a Better Image, Unanimous Advice of Speakers at 40th (nf)	8
by Larry Nipp (f)Oct 1	2
Build a Better Image, Unanimous Advice of Speakers at 40th (nf)	8 .
St. Johnswort: Know Your Species (c)Feb 2/ (Striped Smut) Use Your Ag Experiment Station (f)Jul 1/	17
Suppliers Guide, 1965 Weeds, Trees and Turf (f)	5
(Surfactants) NE Weed Control Conference Report (nf) Feb 13	8
Protects Plant as It Grows (ns)Jun 14	4

т (Tordon) Colorado State Lists Results of 1963 Herbicide Tests (ns)Jul 10 Tree and Shrub Growth With Retardant MH-30-T, Slowing, by Dr. John Zukel (f)Aug 20 Tree Pruning Practices for Streetside Line Clearance, A Review of Shade (f)Aug 12

(Trees, Books About) Brush Up on Brush Control (f)May 16 (Trees, List of Recommended Street) Intelligent Tree Planting Will Determine America's Future	
Beauty, Minn. Treemen Hear (nf)Nov 11 (Trifluralin) Making Sense About Crabgrass,	
by Dr. W. H. Daniel (f)Mar 11 (Tritac-D) Colorado State Lists Results of	
1963 Herbicide Tests (ns)Jul 10 Turfgrass, How to Select the Right.	
by Dr. Robert W. Schery (1)	
Crowd of 2755 Delegates Hails Program	
Turfgrass Portraits, by Dr. Robert W. Schery (f)	
I: Kentucky BluegrassJul 12 II: Fine FescuesAug 16	
III: Bentgrasses	
V: BermudagrassesNov 8 VI: ZovsiaDec 12	
Turfgrass Trade Show to Success, Field Demonstrations, Sunny Weather, Added Exhibits Spur 3rd Annual	
Florida, by Walter D. Anderson (nf)Jul 14 Turf Management, Effects of Excess Rain on,	
by J. R. Watson, Jr. (f)	
"How to Use Water in, by Dr. Eliot C. Roberts (nf) May 22	
Turf Problems, Cornell Sells Color Photo Guide to (ns)Apr 34	

U-V

Urox Herbicide Developed to Mix With Asphalt or Tar (ns)Jun 18 (Vapam) New Controls to Help Combat Dutch Elm Disease; N. C. Reports Spread of Elm Problem (ns)Jul 26

WXYZ

Weed Control Conference, "The Public Must Be Told" Weedmen Decide at 18th Northeastern (nf)Feb	18
Weed Society Sets New Goals, Reflects on Accomplishments at Biennial Meeting	
in Chicago, Optimistic (nf)Mar	12
"Wintergrass," Turfgrass Portraits IV:, by Dr. Robert W. Schery (f)Oct	16
by Dr. Robert W. Schery (1)	10
Worms Can Become Lawn Nuisance, Beneficial (ns)Sep (Zectran) Dichondra Pests and Controls Outlined	14
in Council Bulletin (ns)Oct (Zoysia) How to Select the Right Turfgrass,	20
by Dr. Robert W. Schery (f)Apr	18
Zovsia, Turfgrass Portraits VI:.	
by Dr. Robert W. Schery (f)Dec (Zytron) Making Sense About Crabgrass,	12
by Dr. W. H. Daniel (f)Mar	11

AUTHORS

	Anderson, Walter D., "Field Demonstrations, Sunny Weather, Added Exhibits Spur 3rd Annual Florida Turfgrass Trade Show to Success"
	Ashbaugh, Fred A., "How to Answer Critics of Roadside Spraying"Jul 8
1	Burrier, Tom, "Air Striking the Hemlock Looper"Apr 12
	Campana, Dr. Richard, "Noninfectious Tree Disease, Part I, Effect of Cold Injury and Freezing"Aug 10
	Carsner, Henry, "How We Use Scuba Divers in Aquatic Weed Control"Feb 16
1	Earle, George L., "Major Pesticide Curbs Unlikely, Texas Aerial Applicators Hear"Apr 22
	Grenfell, Ralph, "How We Use Scuba Divers in Aquatic Weed Control"Feb 16
	Hawkins, Howard H., "Well-Timed Fertilizer Applications Insprove Turf in Southern California"Jul 18
	Miller, Dave, "Tips on Spring Dead Spot, Fertilizer Advice on Tap at 5th Univ. of Missouri Lawn
	and Turf Conference"Nov 14
	Morgan, Wayne, "Controlling the Bermudagrass Mite"Jun 8
	Neff, Pauline, "Texas Know-How Creates Homemade Spray Rig"Oct 14
	Nelson, Josephine B., "Share Your 'Secrets,' Experts Urge 300 Turf Pros at Minnesota Course"May 23
	Roberts, Dr. Eliot C., "How to Use Water in Turf Management' Attracts 275 to 30th Iowa Conference"May 22
	Schery, Dr. Robert W., "How to Select the Right Turfgrass, a Basic Guide for Turfgrass Managers" Apr 16
	"Turfgrass Portraits I: Kentucky Bluegrass"Jul 12
	"Turfgrass Portraits II: Fine Fescues"Aug 16
	"Turfgrass Portraits III: Bentgrasses"Sep 16
	"Turfgrass Portraits IV: 'Wintergrass'"Oct 16
	"Turfgrass Portraits V: Bermudagrasses"Nov 8
	"Turfgrass Portraits VI: Zoysia"Dec 12
	Sprayberry, Dr. B. A., "Dormant Season Brush Control" Sep 10
	Stevenson, R. E., "Undaunted by Dora, Delegates at Auburn Turf Course Study Soil Chemistry, Learn of Oct 18
	Fertilizer Needs"Oct 18
	Stock, Terry, "Virus Diseases and Moth Populations Studied at New England Tree Meeting"May 26
	Taylor, Jack, "Invert Emulsions: The Inside-Out Sprays"Jan 12
	Watson, J. R., Jr., "Effects of Excess Rain on Turf Management"Nov 6
	Wilson, Frank L., "How Good Are the Formulations You Buy?"
	Zukel, Dr. John, "Slowing Tree and Shrub Growth With
	Retardant MH-30T"Aug 20

WEEDS TREES AND TURF, December, 1964

WEEDS TREES AND TURF 1965 SUPPLIERS GUIDE

Weeds Trees and Turf presents below its annual Guide to Suppliers of vegetation control chemicals and equipment for use in urban/industrial areas. There is a mixture of common and trade-marked names (indicated by an asterisk*). This has been unavoidable since usage and recommendations of researchers refer to a particular chemical by one or the other, depending upon the newness of the compound, whether its common name is easier to use, or industry acceptance. There will also be some differences of opinion over the inclusion or omission of certain chemicals under particular use categories. Here again confusion exists among reference sources. We have made our choices on the basis of most frequent mention in our surveys which preceded this compilation. Readers' comments and suggestions are invited to help us improve future editions. Keep this year's Guide handy for frequent use.

Advertisers in Weeds Trees and Turf are listed in boldface type.

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Chipman Chemical Co. Nalco Chemical Co. U. S. Borax Wood Treating Chemicals Co.

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	VELSICOL "2-1" Mercuric fungicide	Controls brown patch, dollar spot, and snow mold. New formulation has greater wettability, more sta- bility in suspension and less foaming action than any other comparable product.
TURF DISEASE CONTROL	VELSICOL MEMMI .8-EC MERCURIC FUNGICIDE	Controls brown patch, dollar spot, copper spot, melting out (Helminthosporium), gray leaf spot of St. Augustine Grass, and cottony blight (Pythium) or Rye grass. An emulsifiable concentrate that mixes fast, does not need constant agitation, and leaves no sediment in spray tanks.
WEED CONTROL	VELSICOL Banvel [®] d 4s	Banvel D 4S gives excellent control of knotweed common chickweed, clover, red sorrel, mouse-ear chickweed, stitchwort, dog fennel, chicory, curly dock, and many other hard-to-kill perennial broad- leaf weeds.
SOIL FUMIGATION	VELSICOL PESTMASTER® SDIL FUMIGANT-1	Soil Fumigant-1 contains methyl bromide with 2% chloropicrin. It will remove weeds, weed seeds and obnoxious grasses in an old golf green, or in the soi before new grass is planted. Economical, easy-to apply, fast acting.
PRE-EMERGENCE CRABGRASS CONTROL	CHLORDANE Bandane®	Chlordane provides exceptionally effective pre- emergence crabgrass control, and complete protec- tion against damaging soil insects. Bandane is a newer pre-emergence control, notable for effective control plus safety to seedling grass and established turf. It also kills ants, grubs, and other insects.
TURF	CHLORDANE Heptachlor	Both Chlordane and Heptachlor kill most commor insect pests of turf, plus many harmful or annoying insects that live on the surface of the soil. Grubs mole crickets, wireworms, cutworms, ticks, chig gers, ants, mosquitoes, sod webworms, earwigs and many other insects can be controlled with these versatile insecticides.

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Agricultural Chemicals, Inc. American Fluoride Corp. Armour Agricultural Chemical Co. Barada & Page Co. **R. H. Bogle Co. Broyton Chemicals, Inc.** Campbell Mfg. Co. Gabriel Chemicals, Ltd. Geigy Agricultural Chemicals Hub States Chemical & Equip. Co. Neil A. Maclean Co., Inc. Miller Chemical & Fertlizer Corp. Miller Products Co. Nalco Chemical Co. Prentiss Drug & Chemical Co., Inc. Riverdale Chemical Co. Pest Control Equipment Co. Residex Corp. Agricultural Chemicals, Inc. Residex Corp. Southern Mill Creek Products Co. Triangle Chemical Co.

SODIUM ARSENITE

Acme Quality Paints, Inc. American Fluoride Corp. American Liquid Fertilizer Co., Inc. Baird & McGuire, Inc. R. H. Bogle Co. Bonide Chemical Co., Inc. Brayton Chemicals, Inc. Brulin & Co., Inc. California Chemical Co., Ortho Div. California Farm Supply Co. Chapman Chemical Co. Chipman Chemical Co. Chipman Chemical Co. Destruxol Corp. E-Z Flo Chemical Co. Faesy & Besthoff, Inc. Gabriel Chemicals, Ltd. General Chemical Div., ACC Hopkins Agricultural Chemical Co. Hub States Chemical & Equip. Co. Industrial Materials Co. Lobel Chemical Corp. Lobel Chemical Corp. Miller Chemical & Fertilizer Corp. Miller Products Co. National Chemsearch Corp. Niagara Chemical Div., FMC Pennsalt Chemicals Corp. B. G. Prott Co. Sherwin-Williams Co. Southern Mill Creek Products Co. Thompson-Hayward Chemical Co. Triangle Chemical Co. U. S. Borax Utility Chemical Co. Andrew Wilson Co., Inc. Wood Treating Chemicals Co.

SODIUM CHLORATE

Agricultural Chemicals, Inc. American Potash & Chemical Co. Baird Chemical Corp. Barada & Page Co. **R. H. Bogle Co.** Braun-Knecht-Heimann Co. Chipman Chemical Co. General Chemical Div., ACC Hooker Chemical Corp. Miller Products Co. Nalco Chemical Co. Pennsalt Chemicals Corp. Pittsburgh Plate Glass Co. Utility Chemical Co.

Amchem Products, Inc. E. I. du Pont de Nemours & Co., Inc. Miller Products Co. Nalco Chemical Co. Residex Corp.

TCA

Amchem Products, Inc. Armour Agricultural Chemical Co. R. H. Bogle Co. Braun-Knecht-Heimann Co. Brayton Chemicals, Inc. Chapman Chemical Co. Dow Chemical Co. General Chemical Div., ACC Miller Products Co. Nalco Chemical Co. Robeco Chemicals, Inc. Southern Mill Creek Products Co. Thompson-Hayward Chemical Co.

TRITAC*

Hooker Chemical Corp. Miller Products Co. U.S. Borax

URAB*

Brayton Chemicals, Inc. General Chemical Div., ACC Niagara Chemical Div., FMC Southern Mill Creek Products Co. Triangle Chemical Co.

UREABOR*

Brayton Chemicals, Inc. Hub States Chemical & Equip. Co. Miller Products Co. U.S. Borax

UROX* WEEDKILLERS

Brayton Chemicals, Inc. General Chemical Div., ACC Hub States Chemical & Equip. Co. Niagara Chemical Div., FMC Southern Mill Creek Products Co. **Triangle Chemical Co.**

PREEMERGENCE

(Selective)

ALANAP*

Brayton Chemicals, Inc. Gabriel Chemicals, Ltd. General Chemical Div., ACC Hub States Chemical & Equip. Co. Miller Products Co. Naugatuck Chemical Niagara Chemical Div., FMC **Riverdale** Chemical Co Thompson-Hayward Chemical Co.

AMIBEN*

Amchem Products, Inc Armour Agricultural Chemical Co. Brayton Chemicals, Inc. Gabriel Chemicals, Ltd. Riverdale Chemical Co.

ATRAZINE

See Soil Sterilants

AZAK*

Hercules Powder Co. Southern Mill Creek Products Co.

BANDANE*

Archem Corp.

in

WEEDS TREES and TURF

Brayton Chemicals, Inc.

Chapman Chemical Co. Prentiss Drug & Chemical Co. Residex Corp. Riverdale Chemical Co. Seacoast Laboratories, Inc. Southern Mill Creek Products Co. Thompson-Hayward Chemical Co. Velsicol Chemical Corp.

RENEEIN

Elanco Products Co.

BETASAN*

Stauffer Chemical Co.

CALCIUM PROPYL ARSONATE

W. A. Cleary Corp. Lobel Chemical Corp Vineland Chemical Sales Corp.

CASORON*

Miller Products Co. Thompson-Hayward Chemical Co.

CHLORDANE

See Insecticides

CIPC

Brayton Chemicals, Inc.

Miller Products Co. Pittsburgh Plate Glass Co. Riverdale Chemical Co. Thompson-Hayward Chemical Co. Woodbury Chemical Co.

DACTHAL*

Armour Agricultural Chemical Co. Brayton Chemicals, Inc. Chipman Chemical Co. Diamond Alkali Co. Gabriel Chemicals, Ltd. Heritage House Products, Inc. Hub States Chemical & Equip. Co. International Minerals & Chem. Corp. Riverdale Chemical Co. Seacoast Laboratories, Inc. Smith Douglass Co., Inc. Southern Mill Creek Products Co.

DNBP

Brayton Chemicals, Inc. Diamond Alkali Co.

DIPHENAMID

Armour Agricultural Chemical Co. Elanco Products Co.

DIPHENATRILE

Bonide Chemical Co., Inc. Elanco Products Co.

DIPROPALIN

Elanco Products Co.

DIURON

See Soil Sterilants

ENDOTHALL

Brayton Chemicals, Inc. Chipman Chemical Co. Gabriel Chemicals, Ltd. Miller Products Co. Pennsalt Chemicals Corp. Residex Corp.

EPTAM*

Armour Agricultural Chemical Co. Brayton Chemicals, Inc. Miller Products Co. Riverdale Chemical Co. Stauffer Chemical Co. Woolfolk Chemical Works, Ltd.

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Brayton Chemicals, Inc. E. I. du Pont de Nemours & Co. Residex Corp. O. M. Scott & Sons

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Mallinckrodt Chemical Works

PROPAZINE*

Armour Agricultural Chemical Co. Brayton Chemicals, Inc. Geigy Agricultural Chemicals Residex Corp. Southern Mill Creek Products Co.

SESONE

Amchem Products, Inc. Armour Agricultural Chemical Co. Brayton Chemicals, Inc. Miller Products Co.

SIMAZINE

See Soil Sterilants

TILLAM*

Armour Agricultural Chemical Co. Brayton Chemicals, Inc. Miller Products Co. Stauffer Chemical Co. **Triangle Chemical Co.**

TREFLAN*

Elanco Products Co.

TRICALCIUM ARSENATE

Chipman Chemical Co. General Chemical Div., ACC Sherwin-Williams Co. Woolfolk Chemical Works, Ltd.

ZYTRON*

Amchem Products, Inc. Armour Agricultural Chemical Co. Bonide Chemical Co., Inc. Bonide Chemical Co., Inc. Brayton Chemicals, Inc. Dow Chemical Co. Miller Products Co. Residex Corp. Riverdale Chemical Co. Southern Mill Creek Products Co. Thompson-Hayward Chemical Co. Woodbury Chemical Co.

.

POSTEMERGENCE (Selective and Nonselective)

AMITROLE

Amchem Products, Inc. American Cyanamid Co. R. H. Bogle Co. Brayton Chemicals, Inc. General Chemical Div., ACC Miller Products Co. Nalco Chemical Co. Residex Corp. Riverdale Chemical Co. Wood Treating Chemicals Co.

AMMONIUM METHYL ARSONATE

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AMMONIUM THIOCYANATE

J. T. Baker Chemical Co. Utility Chemical Co.

AMMONIUM SULFAMATE

See Soil Sterilants

ARSENIC ACID

Alco Chemical Co. Alco Chemical Co. Armour Agricultural Chemical Co. **R. H. Bogle Co.** Chipman Chemical Co. General Chemical Div., ACC Hub States Chemical & Equip. Co. Niagara Chemical Div., FMC Sherwin-Williams Co. Wood Treating Chemicals Co.

ATRAZINE

See Soil Sterilants

BANVEL-D*

R. H. Bogle Co. Brayton Chemicals, Inc. General Chemical Div., ACC Miller Products Co. Riverdale Chemical Co. Southern Mill Creek Products Co. Velsicol Chemical Corp.

BORATE COMPOUNDS

See Soil Sterilants

BROMACIL See Soil Sterilants

CACODYLIC ACID

The Ansul Co. Bonide Chemical Co., Inc. Chapman Chemical Co. Southern Mill Creek Products Co.

CALCIUM ACID METHYL

ARSONATE

Brayton Chemicals, Inc. Doggett Fison Co. General Chemical Div., ACC Vineland Chemical Sales Corp.

CALCIUM PROPYL ARSONATE

See Preemergence Herbicides

DACAMINE*

Armour Agricultural Chemical Co. Brayton Chemicals, Inc. Diamond Alkali Co. Gabriel Chemicals, Ltd. Heritage House Products, Inc. Souther Mill Crock Products Co. Southern Mill Creek Products Co.

DALAPON

Armour Agricultural Chemical Co. R. H. Bogle Co. Brayton Chemicals, Inc. Dow Chemical Co. Hub States Chemical & Equip. Co. Miller Chemical & Fertilizer Corp. Miller Products Co. Nalco Chemical Co. Residex Corp. Riverdale Chemical Co. Southern Mill Creek Products Co.

DINITRO COMPOUNDS

Woodbury Chemical Co.

DIURON

See Soil Sterilants

DMA

Alco Chemical Co. The Ansul Co. Armour Agricultural Chemical Co. Chapman Chemical Co. Chipman Chemical Co. W. A. Cleary Corp. Diamond Alkali Co. Dow Chemical Co. Elanco Products Co. General Chemical Div., ACC Lobel Chemical Corp. Miller Chemical & Fertilizer Corp. O. M. Scott & Sons Stauffer Chemical Co. Southern Mill Creek Products Co. Vineland Chemical Sales Corp. Wood Treating Chemicals Co.

ENDOTHALL

See Preemergence

FENAC

See Soil Sterilants

FENURON

R. H. Bogle Co. Brayton Chemicals, Inc. E. I. du Pont de Nemours & Co., Inc. General Chemical Div., ACC Miller Products Co. Nalco Chemical Co. Residex Corp. Southern Mill Creek Products Co.

LINURON

E. I. du Pont de Nemours & Co.

MCPA

Amchem Products, Inc. Brayton Chemicals, Inc. Chipman Chemical Co. Diamond Alkali Co. Dow Chemical Co. General Chemical Div., ACC Miller Products Co. Nalco Chemical Co. Riverdale Chemical Co.

MCPP

Chipman Chemical Co. W. A. Cleary Corp. Doggett Fison Co. Miller Products Co. Morton Chemical Co. Niagara Chemical Div., FMC

MSMA

The Ansul Co.

METHANEARSONIC ACID

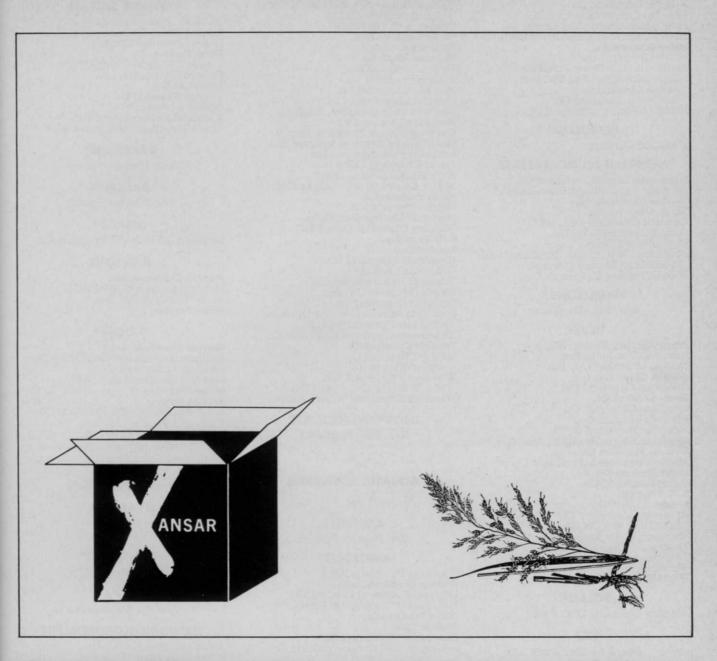
O. M. Scott & Sons Vineland Chemical Sales Corp.

MONURON

See Soil Sterilants

PENTACHLOROPHENOL

American Fluoride Corp. Archem Corp. Barada & Page Co. Bonide Chemical Co., Inc. Braun-Knecht-Heimann Co. Brayton Chemicals, Inc. Browning Chemical Corp. Chapman Chemical Co. Daly-Herring Co. The Dow Chemical Co.



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PROMETONE*

See Soil Sterilants

SILVEX

Acme Quality Paints, Inc. Amchem Products, Inc. Bonide Chemical Co., Inc. Brayton Chemicals, Inc. Chipman Chemical Co. Diamond Alkali Co. The Dow Chemical Co. Elanco Products Co. Hercules Powder Co. Heritage House Products, Inc. Neil A. Maclean Co., Inc. Miller Chemical & Fertilizer Corp. Miller Products Co. Nalco Chemical Co. B. G. Pratt Co. Residex Corp. Riverdale Chemical Co. Smith Douglass Co., Inc. Southern Mill Creek Products Co. Thompson Chemicals Corp. Thompson-Hayward Chemical Co. Woodbury Chemical Co.

Wood Treating Chemicals Co.

SOLAN*

Niagara Chemical Div., FMC

TCA See Soil Sterilants

TORDON*

R. H. Bogle Co. Brayton Chemicals, Inc. The Dow Chemical Co. Miller Products Co. Nalco Chemical Co.

TRITAC-D*

Hooker Chemical Corp. Miller Products Co. Residex Corp.

2,4-D And 2,4,5-T

(alone or mixed)

Amchem Products, Inc. American Liquid Fertilizer Co. Archem Corp Armour Agricultural Chemical Co. Baird & McGuire, Inc. R. H. Bogle Co. Bonide Chemical Co. Brayton Chemicals, Inc. California Chemical Co., Ortho Div. Campbell Mfg. Co.

Central Solvents & Chemicals Co. Chapman Chemical Co. Chipman Chemical Co. W. A. Cleary Corp. Destruxol Corp. Diamond Alkali Co. Dow Chemical Co. Elanco Products Co. E-Z Flo Chemical Co. Gabriel Chemicals, Ltd. General Chemical Div., ACC Hercules Powder Co. Heritage House Products, Inc. Hub States Chemical & Equip. Co. Lethelin Products Co., Inc. Lobel Chemical Corp. C. J. Martin & Sons, Inc. Miller Chemical & Fertilizer Corp. Miller Products Co. Nalco Chemical Co. National Chemsearch Corp Niagara Chemical Div., FMC B. G. Pratt Co. Residex Corp. Riverdale Chemical Co. O. M. Scott & Sons Seacoast Laboratories, Inc. Smith Douglass Co., Inc. Stauffer Chemical Co. Southern Mill Creek Products Co. Thompson Chemicals Corp. Thompson-Hayward Chemical Co. Triangle Chemical Co. Utility Chemical Co. Andrew Wilson Co., Inc. Woodbury Chemical Co. Wood Treating Chemicals Co. Woolfolk Chemical Works, Ltd.

> **UROX* WEEDKILLERS** See Soil Sterilants

AQUATIC HERBICIDES

AMITROLE See Postemergence

AMITROL-T*

Amchem Products, Inc. Brayton Chemicals, Inc. General Chemical Div., ACC Hub States Chemical & Equip. Co. Miller Products Co. Residex Corp. Riverdale Chemical Co. Southern Mill Creek Products Co.

AQUALIN*

Shell Chemical Co.

AQUATHOL*

Brayton Chemicals, Inc. Chipman Chemical Co. Gabriel Chemicals, Ltd. Miller Products Co. Pennsalt Chemicals Co. Triangle Chemical Co.

AQUATHOL PLUS*

Brayton Chemicals, Inc. Chipman Chemical Co. Miller Products Co. Pennsalt Chemicals Corp.

BORASCU*

Miller Products Co. CALCIUM HYPOCHLORITE Robeco Chemicals, Inc. Utility Chemical Co.

CETYL PICOLINIUM BROMIDE Michigan Chemical Corp.

COPPER SULFATE

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DACAMINE*

See Postemergence

DALAPON

See Postemergence

DELRAD*

Southern Mill Creek Products Co.

DICHLONE

Brayton Chemicals, Inc. General Chemical Div., ACC M. W. Hardy & Co., Inc. **Miller Products**

DIQUAT*

Brayton Chemicals, Inc. California Chemical Co., Ortho Div. Chipman Chemical Co. General Chemical Div., ACC Miller Products Co. Residex Corp. Southern Mill Creek Products Co.

ERBON

See Soil Sterilants

FENAC

See Soil Sterilants

HYAMINE*

Alco Chemical Co. Rohm & Haas Co.

HYDROTHOL*

Pennsalt Chemicals Corp.

MCPA

See Postemergence

ORTHODICHLOROBENZENE

American Fluoride Corp Pittsburgh Plate Glass Co. Robeco Chemicals, Inc. Southern Mill Creek Products Co. Utility Chemical Co. Andrew Wilson Co., Inc.

PETROLEUM PRODUCTS

California Chemical Co., Ortho Div. Destruxol Corp. Richfield Oil Corp. Southern Mill Creek Products Co.

POTASSIUM IODINE

Robeco Chemicals, Inc.

POTASSIUM PERMANGANATE

Carus Chemical Co., Inc.

PHYGON XL*

Brayton Chemicals, Inc. General Chemical Div., ACC Miller Products Co., Naugatuck Chemical Utility Chemical Co.

SILVEX See Postemergence

SODIUM ARSENITE

See Soil Sterilants

2,4-D

See Postemergence

2,4,5-T

See Postemergence

2-(2,4-DB)

Amchem Products, Inc. Armour Agricultural Chemical Co. Broyton Chemicals, Inc. Chipman Chemical Co. General Chemical Div., ACC Hub States Chemical & Equip. Co. Miller Products Co. Southern Mill Creek Products Co. Thompson-Hayward Chemical Co. Wood Treating Chemicals Co.

TCA

See Soil Sterilants

GROWTH RETARDANTS

CYCOCEL*

American Cyanamid Co.

PHOSFON*

Virginia-Carolina Chemical Corp.

MALEIC HYDRAZIDE Alco Chemical Corp. Brayton Chemicals, Inc. General Chemical Div., ACC

Insist on ...

M. W. Hardy & Co., Inc. Miller Products Co. Naugatuck Chemical Southern Mill Creek Products Co.

RO-PEL* Upjohn Co.

B-NINE*

Naugatuck Chemical

FUNGICIDES

ACTI-DIONE*

Brayton Chemicals, Inc. Miller Products Co. Southern Mill Creek Products Co. Upjohn Co.

CADMIUM CARBONATE Southern Mill Creek Products Co.

CADMIUM CHLORIDE

W. A. Cleary Corp. General Chemical Division, ACC Metalsalts Corp. Seacoast Laboratories, Inc. Southern Mill Creek Products Co. Vineland Chemical Sales Corp.

CADMIUM SEBACATE

(Kromad*) Mallinckrodt Chemical Works

CADMIUM SUCCINATE

(Cadminate*) Mallinckrodt Chemical Works

CALOMEL

Dogget Fison Co. Mallinckrodt Chemical Works Metalsalts Corp. Wood Ridge Chemical Corp.

CAPTAN

Archem Corp. Armour Agricultural Chemical Co. Brayton Chemicals, Inc. California Chemical Co., Ortho Div. Hub States Chemical & Equip. Co. Miller Products Co. Niagara Chemical Div., FMC Smith Douglass Co., Inc. Southern Mill Creek Products Co. Stauffer Chemical Co. Stephenson Chemical Co., Inc. Triongle Chemical Co.

CERESAN*

Broyton Chemicals, Inc. E. I. du Pont de Nemours & Co. Miller Products Co. Southern Mill Creek Products Co.

CHLORANIL

Brayton Chemicals, Inc. Naugatuck Chemical

COPPER OLEATE

Destruxol Corp.

COPPER SULFATE

HERBICIDES

Acme Quality Paints, Inc. W. R. E. Andrews Co. Bonide Chemical Co. Brayton Chemicals, Inc. Calumet & Hecla, Inc. Destruxol Corp.



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Tennessee Corp.

COPPER ZINC CHROMATE

Destruxol Corp.

CORROSIVE SUBLIMATE

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MERCUROUS/MERCURIC

CHLORIDES Mallinckrodt Chemical Works Metalsalts Corp.

CYCLOHEXIMIDE

See Actidione*

CYPREX*

American Cyanamid Co.

DEXON*

Brayton Chemicals, Inc. Chemagro Corp. Miller Products Co. Southern Mill Creek Products Co.

DICHLONE

See Aquatic Herbicides

DICHLOROPROPENE FUMIGANTS

See Soil Fumigants

DITHANE M-45*

Brayton Chemicals, Inc. C. J. Martin & Sons, Inc. Miller Products Co. Rohm & Haas Co.

DYRENE*

Brayton Chemicals, Inc. Chemagro Corp. Heritage House Products, Inc. Miller Products Co. Smith Douglass Co., Inc. Southern Mill Creek Products Co.

ELCIDE* 73

Elanco Products Co.

FERBAM

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FOLPET

Brayton Chemicals, Inc. California Chemical Co., Ortho Div. Stauffer Chemical Co.

GLYODIN

Brayton Chemicals, Inc. Union Carbide Corp.

KARATHANE

See Miticides

MANEB

Armour Agricultural Chemical Co. Brayton Chemicals, Inc. California Chemical Co., Ortho Div. Daly-Herring Co. E. I. du Pont de Nemours & Co. Elanco Products Co. Florida Agricultural Supply Co. Miller Products Co. Residex Corp. Rohm & Haas Co. Triangle Chemical Co. Woodbury Chemical Co. Wood Treating Chemicals Co.

MANZATE D*

Brayton Chemicals, Inc. E. I. du Pont de Nemours & Co. Miller Products Co. Residex Corp. Triangle Chemical Co.

MEMMI*

Riverdale Chemical Co. Southern Mill Creek Products Co. Velsicol Chemical Corp.

MERCURY COMPOUNDS

Armour Agricultural Chemical Co. Brayton Chemicals, Inc. Chipman Chemical Co. W. A. Cleary Corp. Doggett Fison Co. E. I. du Pont de Nemours & Co. Guard Chemical Co., Inc. Mallinckrodt Chemical Works Metalsalts Corp. Miller Products Co. Southern Mill Creek Products Co. Vineland Chemical Sales Corp. Wood Ridge Chemical Corp.

METHYL BROMIDE

See Soil Fumigants

MOROCIDE*

Brayton Chemicals, Inc. Niagara Chemical Div., FMC

MORSODREN*

Morton Chemical Co.

NABAM

Archem Corp. Brayton Chemicals, Inc. E. I. du Pont de Nemours & Co. Florida Agricultural Supply Co. Mallinckrodt Chemical Works Niagara Chemical Div., FMC Rohm & Haas Co. Woodbury Chemical Co. Wood Treating Chemicals Co.

NEMAGON

See Nematocides

PANOGEN*

Armour Agricultural Chemical Co. Brayton Chemicals, Inc. Miller Products Co.

ADVERTISERS IN THIS MONTH'S WEEDS TREES & TURF ARE LISTED IN BOLDFACE

Morton Chemical Co.

PENTACHLORONITROBENZENE

Aceto Chemical Co., Ir.c. California Farm Supply Co. Cotton States Chemical Co. Miller Products Co. Olin Mathieson Chemical Corp. Pennsalt Chemicals Corp. Stauffer Chemical Co. Wood Treating Chemicals Co.

PHENYLMERCURY ACETATE

Aquatrols Corp. of America Broyton Chemicals, Inc. W. A. Cleary Corp. Doggett Fison Company General Chemical Div., ACC Guard Chemical Div., ACC Mallinckrodt Chemical Works Metalsalts Corp. Niagara Chemical Div., FMC Southern Mill Creek Products Co. Wood Ridge Chemical Corp. Vineland Chemical Sales Corp. Wood Treating Chemicals Co.

PIPRON*

Elanco Products Co.

PURATIZED* AGRICULTURAL

SPRAY

Brayton Chemicals, Inc. General Chemical Div., ACC Metalsalts Corp. Miller Products Co. Niagara Chemical Div., FMC

SEMESAN*

Brayton Chemicals, Inc. Gabriel Chemicals, Ltd. E. I. du Pont de Nemours & Co. Miller Products Co.

SULFUR

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THIRAM

Bonide Chemical Co., Inc. Brayton Chemicals, Inc. W. A. Cleary Corp. Doggett Fison Co. E. I. du Pont de Nemours & Co. General Chemical Div., ACC Hub States Chemical & Equip. Co. Lobel Chemical Corp. Mallinckrodt Chemical Works Metalsalts Corp. Miller Products Co. Naugatuck Chemical Niagara Chemical Div., FMC Pennsalt Chemicals Corp.

Residex Corp. Riverdale Chemical Co. O. M. Scott & Sons Seacoast Laboratories, Inc. Southern Mill Creek Products Co. Vineland Chemical Sales Corp. Wood Treating Chemicals Co.

THIRAMAD-PLUS*

Mallinckrodt Chemical Works Miller Products Co.

THIRAM/MERCURY

W. A. Cleary Corp. Doggett Fison Co. E. I. du Pont de Nemours & Co. Metalsalts Corp. Vineland Chemical Sales Corp.

VELSICOL "2-1"*

Velsicol Chemical Corp.

ZINEB

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ZIRAM

Woolfolk Chemical Works, Ltd. E. I. du Pont de Nemours & Co. Sherwin-Williams Co.

INSECTICIDES

ANTIRESISTANT* DDT

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ASPON*

Brayton Chemicals, Inc. Southern Mill Creek Products Co. Stauffer Chemical Co.

BACILLUS POPILLAE

Fairfax Biological Laboratory

BACILLUS THURINGIENSIS

Stauffer Chemical Co. Triangle Chemical Co.

BAYGON*

Chemagro Corp.

BAYTEX*

Archem Corp. Brayton Chemicals, Inc. Chemagro Corp. Hub States Chemical & Equip. Co. Miller Products Co. Residex Corp. Southern Mill Creek Products Co. Thompson-Hayward Chemical Co.

BOMYL*

General Chemical Div., ACC

CHLORDANE

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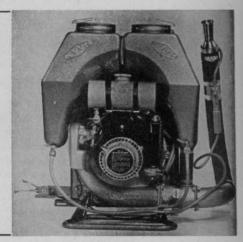
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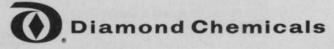
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Archem Corp. Armour Industrial Chemicals Co. Atlas Chemical Industries, Inc. Chapman Chemical Co. Cloro-Spray Corp. Destruxol Corp. Emery Industries, Inc. General Aniline and Film Corp. Hub States Chemical & Equip. Co. Industrial Materials Co. Jefferson Chemical Co. Marathon C. J. Martin & Sons, Inc. Miller Products Co. Petrochemicals Co. Retzloff Chemical Co. Rohm & Haas Co. Sole Chemical Corp. Southern Mill Creek Products Co. A. E. Staley Manufatcuring Co. Stepan Chemical Co. Thompson-Hayward Chemical Co. Utility Chemical Co. Woodbury Chemical Co.

WETTING AGENTS

Alco Chemical Co. American Cyanamid Co. Aquatrols Corp. of America Archem Corp. Armour Agricultural Chemical Co. Armour Industrial Chemicals Co. Chapman Chemical Co. Chipman Chemical Co. W. A. Cleary Corp. Cloro-Spray Corp. Colloidal Products Corp. Destruxol Corp. The Dow Chemical Co. Emery Industries, Inc. General Aniline and Film Corp. Jefferson Chemical Co. Miller Products Co. Petrochemicals Co. Rohm & Haas Co. Sole Chemical Corp. Southern Mill Creek Products Co. Tennessee Corp. Triangle Chemical Co. Utility Chemical Co. "Water-In" Inc. Woodbury Chemical Co.

SPREADER STICKERS

Agricultural Specialties, Inc. Alco Chemical Co. Archem Corp. Armour & Co. Broyton Chemicals, Inc. California Chemical Co., Ortho Div. Chipman Chemical Co., Ortho Div. Chipman Chemical Co. Colloidal Products Corp. Destruxol Corp. E. I. du Pont de Nemours & Co. Emery Industries, Inc. Hub States Chemical & Equip. Co. Miller Products Co. Nursery Specialty Products Pennsalt Chemicals Corp. Retzloff Chemical Co. Rohm & Haas Co. Sole Chemical Corp. Southern Mill Creek Products Co. Thompson-Hayward Chemical Co. Triongle Chemical Co. Modbury Chemical Co. Woodbury Chemical Co. Wood Treating Chemicals Co.

MARASPERSE*

Marathon

General Chemical Div., ACC

SURFACTANT WK* E. I. du Pont de Nemours & Co.

SURF-AID* Chapman Chemical Co.

CARRIERS

GRANULAR

American Talc Co. American Vermiculite Corp. Chemwest, Inc. Destruxol Corp. Floridin Co. Great Lakes Carbon Corp. Magnet Cove Barium Corp. C. J. Martin & Sons, Inc. Minerals & Chemicals Philipp Corp. Mississippi Lime Co. Narvon Mines, Ltd. Pittsburgh Plate Glass Co. Thompson-Hayward Chemical Co.

LIQUID

American Mineral Spirits Co. American Oil Co. Amoco Chemicals Corp. Anderson-Prichard Oil Co. Destroxol Corp. Gulf Oil Corp. Humble Oil & Refining Co. Jefferson Chemical Co. C. J. Martin & Sons, Inc. Mobil Oil Co., Inc. Signal Oil & Gas Co. Southern Mill Creek Products Co. A. E. Staley Mfg. Co. Tenneco Oil Co. Utility Chemical Co.

DILUENTS

GRANULAR, MISCELLANEOUS

American Vermiculite Corp. Aquafil Co. Chemwest, Inc. Columbia Quarry Co. Destruxol Corp. Floridin Co. Magnet Cove Barium Corp. C. J. Martin & Sons, Inc. Minerals & Chemicals Philipp Corp. Mississippi Lime Co. Pittsburgh Plate Glass Co. A. E. Staley Manufacturing Co. Thompson-Hayward Chemical Co. Utility Chemical Co.

DIATOMACEOUS EARTH

Aquafil Co. Eagle-Picher Co. Great Lakes Carbon Corp.

TALC

American Talc Co. Blue Ridge Talc Co., Inc. Commercial Minerals Co. Miller Products Co.

KAOLINS (Clay)

Narvon Mines, Ltd. United Clay Mines

MISCELLANEOUS COMPOUNDS

ANTIDESICCANT SPRAYS

Aquatrols Corp. of America Armour Agricultural Chemical Co. Bonide Chemical Co. Brayton Chemicals, Inc. Cornell Chemical & Equipment Co. Nursery Specialty Products Thompson-Hayward Chemical Co. Andrew Wilson Co., Inc.

TREE WOUND PAINT

Bartlett Mfg. Co. Brayton Chemicals, Inc. Samuel Cabot, Inc. Walter E. Clark & Son A. M. Leonard & Son, Inc. Andrew Wilson Co., Inc.

TREE KILLERS

Amchem Products, Inc. Bonide Chemical Co. Brayton Chemicals, Inc. Chapman Chemical Co. Chipman Chemical Co. E. I. du Pont de Nemours & Co. Hub States Chemical & Equip. Co. Industrial Materials Co. Thompson-Hayward Chemical Co. Triangle Chemical Co. Utility Chemical Co.

STUMP REMOVING COMPOUNDS

Brayton Chemicals, Inc. E. I. du Pont de Nemours & Co. Utility Chemical Co.

ANTICAKING CONDITIONERS

Petrochemicals Co. United Clay Mines

ANIMAL REPELLENTS

Morton Chemical Co. Sudbury Laboratories

TURF COLOR SPRAYS

W. A. Cleary Corp. Cornell Chemical & Equipment Co. Doggett-Fison Co. The Gregg Co. Mallinckrodt Chemical Works

GRASS SEED

Asgrow Seed Company Chanderlin Div. O. M. Scott & Sons

MULCHES

TURFIBER*

International Paper Co.

SEEDING MULCH

Armour Agricultural Chemical Co. Boise Cascade Corp. Brayton Chemicals, Inc. Troy Blanket Mills

EROSION CONTROL MULCHES Cloro-Spray Corp.

SOIL CONDITIONERS

PEAT-HUMUS

Agri-Humus Co., Inc. Brayton Chemicals, Inc. Conrad Fafard, Inc. Floridin Co. Michigan Peat, Inc. Waverly Petroleum Products Co. Western Peat

TURFACE*

Wyandotte Chemicals Corp.

BARK

Boise Cascade Corp.

VERMICULITE

American Vermiculite Corp. Michigan Peat, Inc. Zonolite Division

PEAT MOSS

Conrad Fafard, Inc. Premier Peat Moss Corp.

CALCINED CLAY

Floridin Co. Minerals & Chemicals Philipp Corp. Oil-Dri Corp. of America

DIALOAM*

Eagle-Picher Co.

pH CONTROLLERS

(Base Formers—Raise pH)

LIME

Dolcito Quarry Co. Ohio Lime Co.

LIMESTONE

Columbia Quarry Co. Commercial Minerals Co. Dolcito Quarry Co. Limestone Products Div. Ohio Lime Co.

LIMESTONE, BURNED CALCITE

Columbia Quarry Co. Limestone Products Division Minerals & Chemicals Philipp Corp. Mississippi Lime Co.

LIMESTONE, HYDRATED CALCITE

Columbia Quarry Co. Limestone Products Div. Minerals & Chemicals Philipp Corp. Mississippi Lime Co.

DOLOMITE

Dolcito Quarry Co. Heritage House Products, Inc. Ohio Lime Co.

DOLOMITIC LIME, HYDRATED

Ohio Lime Co.

CALCIUM CARBONATE

Columbia Quarry Co. Commercial Minerals Co.

(Acid Formers-Lower pH)

SULFUR

Destruxol Corp. General Chemical Div., ACC C. J. Martin & Sons, Inc. Miller Products Co. Stauffer Chemical Co.

ALUMINUM SULFATE

Brayton Chemicals, Inc. Faesy & Besthoff, Inc. General Chemical Div., ACC M. W. Hardy & Co., Inc. International Minerals & Chemical Utility Chemical Co. Andrew Wilson Co., Inc.

AMMONIUM THIOSULFATE General Chemical Div., ACC

AMMONIUM POLYSULFIDE (APS*) General Chemical Div., ACC

LIQUID FISH

K. C. Mattson Co.

FERTILIZER, COMMERCIAL

NITROGEN SOURCES

AMMONIUM NITRATE

American Cyanamid Co. American Agricultural Chemical Co. Armour Agricultural Chemical Co. California Chemical Co., Ortho Div. John Deere Chemical Co. General Chemical Div., ACC Hercules Powder Co. International Minerals & Chemical **Miller Products Co.** Utility Chemical Co.

AMMONIUM NITRATE-UREA

Hercules Powder Co.

AMMONIUM PHOSPHATE

American Agricultural Chemical Co. Armour Agricultural Chemical Co. Best Fertilizer Co. John Deere Chemical Co. **Miller Products Co. Tennessee Corp.** Utility Chemical Co.

AMMONIUM SULFATE

American Agricultural Chemical Co.

American Cyanamid Co. Armour Agricultural Chemical Co. Best Fertilizer Co. California Chemical Co., Ortho Div. Donner-Hanna Coke Corp. Faesy & Besthoff, Inc. General Chemical Div., ACC Miller Products Co. Rohm & Haas Co.

CALCIUM CYANAMID

American Cyanamid Co. Armour Agricultural Chemical Co. Miller Products Co.

CALCIUM NITRATE

Armour Agricultural Chemical Co. Barium & Chemicals, Inc.

NITROGEN SOLUTIONS

American Cyanamid Co. General Chemical Div., ACC U. S. Industrial Chemicals Co.

SODIUM NITRATE

American Agricultural Chemical Co. Armour Agricultural Chemical Co. Destruxol Corp. General Chemical Div., ACC Utility Chemical Co.

UREA

American Cyanamid Co. Armour Agricultural Chemical Co. Best Fertilizer Co. Brayton Chemicals, Inc Elanco Products Co. John Deere Chemical Co. Destruxol Corp. E. I. du Pont de Nemours & Co. General Chemical Div., ACC Hercules Powder Co. Hub States Chemical & Equip. Co. Miller Products Co. Southern Mill Creek Products Co. Utility Chemical Co.

SLOW RELEASE UREAFORM

Archem Corp. Armour Agricultural Chemical Co. E. I. du Pont de Nemours & Co., Inc. General Chemical Div., ACC Hercules Powder Co. Heritage House Products, Inc. International Minerals & Chemical Smith-Douglass Co., Inc. Southern Mill Creek Products Co. Triangle Chemical Co.

ORGANIC NITROGEN

HU ACTINITE*

Armour Agricultural Chemical Co.

MILORGANITE*

Milwaukee Sewerage Commission Armour Agricultural Chemical Co.

TRU ORGANIC

Southern Mill Creek Products Co.

SOYBEAN MEAL

Archem Corp. A. E. Staley Mfg. Co.

COTTONSEED MEAL

Armour Agricultural Chemical Co. Destruxol Corp. Faesy & Besthoff, Inc. Andrew Wilson Co., Inc.

AGRINITE

American Agricultural Chemical Co.

SMIROW TANKAGE

Smith-Douglass Co., Inc.

NUTRONITE

Smith-Douglass Co., Inc.

- 22

PHOSPHOROUS SOURCES

PHOSPHATE ROCK

American Agricultural Chemical Co. American Cyanamid Co. Armour Agricultural Chemical Co. Columbia Quarry Co. Destruxol Corp. International Minerals & Chemical

BONE MEAL, RAW

Andrew Wilson Co., Inc.

BONE MEAL, STEAMED

Armour Agricultural Chemical Co. Faesy & Besthoff, Inc. Smith-Douglass Co., Inc. Andrew Wilson Co., Inc.

FISH SCRAP

Armour Agricultural Chemical Co. Destruxol Corp. K. C. Mattson Co. Miller Products Co.

NITRATE OF SODA Faesy & Besthoff, Inc.

SEWAGE SLUDGE

Armour Agricultural Chemical Co.

SUPERPHOSPHATE, CONCENTRATED

American Agricultural Chemical Co. American Cyanamid Co. Armour Agricultural Chemical Co. California Chemical Co., Ortho Div. International Minerals & Chemical Miller Products Co. Tennessee Corp.

SUPERPHOSPHATE, ENRICHED

American Cyanamid Co.

SUPERPHOSPHATE, NORMAL

American Agricultural Chemical Co. American Cyanamid Co. Armour Agricultural Chemical Co. Best Fertilizer Co. California Chemical Co., Ortho Div. Faesy & Besthoff, Inc. Andrew Wilson Co., Inc.

MONOAMMONIUM PHOSPHATE

California Chemical Co., Ortho Div.

DIAMMONIUM PHOSPHATE

American Agricultural Chemical Co. American Cyanamid Co. Armour Agricultural Chemical Co. **Broyton Chemicols, Inc.** California Chemical Co., Ortho Div. John Deere Chemical Co. Hooker Chemical Corp. International Minerals & Chemical **Tennessee Corp.** Utility Chemical Co.

AMMONIUM PHOSPHATE

NITRATE

Armour Agricultural Chemical Co.

California Chemical Co., Ortho Div.

AMMONIUM PHOSPHATE SULFATE

AT AN OF

Best Fertilizer Co.

AMMONIUM PHOSPHATE—UREA John Deere Chemical Co.

PHOSPHORIC ACID

Armour Agricultural Chemical Co.

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POTASH SOURCES

NITRATE OF POTASH

Armour Agricultural Chemical Co. Miller Products Co. Utility Chemical Co.

POTASSIUM CARBONATE

Hooker Chemical Corp. Utility Chemical Co.

POTASSIUM SULFATE

American Agricultural Chemical Co. American Potash & Chemical Co. Armour Agricultural Chemical Co.

POTASSIUM CHLORIDE (MURIATE OF POTASH)

American Potash & Chemical Corp. International Minerals & Chemical U.S. Borax

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- ✓ Safety Materials

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FERTILIZER, MIXED ANALYSIS

SOLID

Paul E. Allen Co. American Cyanamid Co. Armour Agricultural Chemical Co. Best Fertilizer Co. Brayton Chemicals, Inc. California Chemical Co., Ortho Div. Columbia Nitrogen Dairyman's Fertilizer Cooperative Daggett Fison Co. Faesy & Besthoff, Inc. W. R. Grace & Co. Hercules Powder Co. **International Minerals & Chemical** Miller Chemical & Fertilizer Corp. Miller Products Co. Nitrogen Division, ACC Robert B. Peters Co., Inc. Ra-Pid-Gro Corp. O. M. Scott & Sons Southwest Potash Corp.

PLASTIC COATED-

SLOW RELEASE N-P-K

Archer Daniels Midland Co.

LIQUID

American Liquid Fertilizer Co., Inc. Armour Agricultural Chemical Co. Best Fertilizer Co. Brayton Chemicals, Inc. **Certified Laboratories** Cloro-Spray Corp. Hercules Powder Co. National Chemsearch Corp. **Plant Marvel Laboratories** Smith-Douglass Co., Inc.

TRACE ELEMENTS

MAGNESIUM MAGNESIUM SULFATE

Armour Agricultural Chemical Co. Berkshire Chemicals, Inc. Destruxol Corp. The Dow Chemical Co. C. J. Martin & Sons, Inc. Tennessee Corp. Utility Chemical Co.

MAGNESIUM CARBONATE

See Dolomite MANGANESE

MAGNESIUM SULFATE

W. R. E. Andrews Co. Armour Agricultural Chemical Co. Carus Chemical Co., Inc. C. J. Martin & Sons, Inc. Miller Products Co. Tennessee Corp.

MANGANESE CHELATE

Armour Agricultural Chemical Co. Brayton Chemicals, Inc. Geigy Agricultural Chemicals Marathon Miller Products Co. Robert B. Peters Co., Inc. Triangle Chemical Co.

MANGANOUS OXIDE

Tennessee Corp.

COPPER

COPPER SULFATE

Acme Quality Paints, Inc. W. R. E. Andrews Co.

Armour Agricultural Chemical Co. Destruxol Corp. C. J. Martin & Sons, Inc. Miller Products Co. Phelps Dodge Refining Corp. Tennessee Corp. **Triangle Chemical Co.** Utility Chemical Co.

COPPER SULFATE-TRI BASIC

Calumet & Hecla, Inc.

Tennessee Corp.

COPPER CHELATE

Armour Agricultural Chemical Co. Brayton Chemicals, Inc. Destruxol Corp. The Dow Chemical Co. Geigy Agricultural Chemicals Marathon Robert B. Peters Co., Inc.

ZINC

ZINC CHELATE Armour Agricultural Chemical Co. Brayton Chemicals, Inc. Destruxol Corp Eagle-Picher Co. Geigy Agricultural Chemicals Miller Products Co. Robert B. Peters Co., Inc.

ZINC SULFATE

American Smelting & Refining Co. W. R. E. Andrews Co. Armour Agricultural Chemical Co. California Chemical Co., Ortho Div. Destruxol Corp. Eagle-Picher Co. M. W. Hardy & Co., Inc. Miller Products Co. Tennessee Corp. Triangle Chemical Co. Utility Chemical Co.

IRON

IRON CHELATE

American Liquid Fertilizer Co. American Liquid Fertilizer Co. Armour Agricultural Chemical Co. **Broyton Chemicals, Inc.** Chapman Chemical Co. Destruxol Corp. The Dow Chemical Co. Eagle-Picher Co. Faesy & Besthoff, Inc. Florida Agricultural Supply Co. Geigy Agricultural Chemicals Hub States Chemical & Equip. Co. Lobel Chemical Corp. Neil A. Maclean Co., Inc. Marathon Marathon Marathon National Chemsearch Corp. Robert B. Peters Co., Inc. **Residex Corp.** Riverdale Chemical Co. Southern Mill Creek Products Co. Stephenson Chemical Co., Inc. Tennessee Corp. Triangle Chemical Co.

IRON SULFATE

Armour Agricultural Chemical Co. Crown Zellerbach Corp. Destruxol Corp. Eagle-Picher Co Faesy & Besthoff, Inc. C. J. Martin & Sons, Inc. Miller Products Co. Tennessee Corp. **Triangle Chemical Co.**

BORON

BORAX

American Potash & Chemical Corp.

U.S. Borax Utility Chemical Co.

Armour Agricultural Chemical Co. Chapman Chemical Co. Miller Products Co.

BORO-SPRAY

American Potash & Chemical Corp.

MOLYBDENUM

Armour Agricultural Chemical Co. Climax Molybdenum Co.

EQUIPMENT

TURF MANAGEMENT

AERATORS

Aero-Thatch, Inc. Eagle-Picher Co. John H. Graham & Co., Inc. Henderson Mfg. Co. Ryan Equip. Co. Toro Mfg. Co. West Point Products Corp.

AIR BLAST APPLICATOR

Chowning Regulator Corp.

BINS, PORTABLE

Transtan Co.

BOTTLES, GLASS

Destruxol Corp. Hedwin Corp.

BOTTLES, PLASTIC

Destruxol Corp. Hedwin Corp.

DETHATCHERS

See Vertical Mowers

FUMIGANT APPLICATORS

Brayton Chemicals, Inc. Cornell Chemical & Equip. Co. Hub States Chemical & Equip. Co. Morton Chemical Co. Southern Mill Creek Products Co. **Triangle Chemical Co.**

FUMIGANT COVERS (PLASTIC SHEETING)

Brayton Chemicals, Inc. Cornell Chemical & Equip. Co. Southern Mill Creek Products Co. Triangle Chemical Co. Wood Treating Chemicals Co.

HOSE

Broadway Rubber Co. Electric Hose & Rubber Co. Evans Orchard Supply Co.

HYDRAULIC MULCHING MACHINES

Bowie Machine Works Finn Equip. Co.

IRRIGATION SYSTEMS

Adamson Sprinkler Co. John Bean Div., FMC Corp. **Buckner Industries** Doggett Fison Co. International Protected Metals, Inc. Rain Bird Rain-O-Mat **Telsco Industries**

MEASURING WHEEL

Gandy Co. B. G. Reilly Co. Rolatape, Inc.

MOWERS, REEL AND GANG

Bolens Div. Devere-Locke Div., Locke Mfg. Co. Dille and McGuire Mfg. Co. Gilson Brothers Co. International Harvester Co. Jacobsen Mfg. Co. Roseman Mower Corp. Toro Mfg. Co.

MOWERS, ROTARY

Allis-Chalmers Mfg. Co. Ariens Co. Bolens Div. John Deere Devere-Locke Div., Locke Mfg. Co. Dille and McGuire Mfg. Co. Falls Products, Inc. Gilson Brothers Co. Goodall Mfg. Corp. Homelite International Harvester Co. Jacobsen Mfg. Co. Rental Equip. Mfg. Co. Simplicity Mfg. Co. Toro Mfg. Co. Vandermolen Export Co.

MOWERS, FLAIL

John Deere Mott Corp.

NOZZLES, SPRAY DISCS & WHIRLS FOR

Cooley Spray Equip. Works

PUMPS

Ace Pump Corp. John Bean Div., FMC Corp. Broyton Chemicals, Inc. California Heater Co. Century Engineering Corp. Clark Mfg. Co. Delavan Mfg. Co. Evans Orchard Supply Co. Friend Mfg. Corp. Hanson Equip. Co. Hardie Sprayers Hub States Chemical & Equip. Co. H. D. Hudson Mfg. Co. Hypro Engineering Co. L. L. Larson Machine, Inc. Marlow Pumps **F. E. Myers & Brothers Co.** Precision Chemical Pump Corp. Simplex Mfg. Co. Solo Industries, Inc. Southern Mill Creek Products Co. Thuron Sprayer Mfg. Co. Tryco Mfg. Co., Inc. Ulrich Mfg. Co. Viking Pump Co.

PROPORTIONING SYSTEMS

John Bean Div., FMC Corp. Brayton Chemicals, Inc. Dragon Engineering Co. Hayes Spray Gun Co. Hub States Chemical & Equip. Co.

RAKES

John Deere Destruxol Corp. International Harvester Co. Rental Equip. Mfg. Co. York Modern Corp.

ROLLERS

International Harvester Co. Rowco Mfg. Co., Inc. Ryan Equip. Co. Sun Industries, Inc. Wichita Equip. Co.

ROLLER-SPRAYERS

Hanson Equip. Co. Hub States Chemical & Equip. Co. Sun Industries, Inc.

SCRAPERS

Allis-Chalmers Mfg. Co. John Deere York Modern Corp.

SEEDERS, DISC-TYPE

Cyclone Seeder Co., Inc. International Harvester Co. L. L. Larson Machine, Inc.

SEEDERS, HOPPER-TYPE

Bettrager Mfg. Brillion Iron Works, Inc. Cyclone Seeder Co., Inc. John Deere Ezee Flow Div., AVCO Corp. Gandy Co. H. & R. Mfg. Co. International Harvester Co. L. L. Larson Machine, Inc. Lely, Ltd. Schneider Metal Mfg. Co. Sunnyhill Research & Mfg. Co.

SHREDDERS, SOIL

Gilson Brothers Corp. W-W Grinder Corp. Kemp Mfg. Co. Lindig Mfg. Co., Inc. Royer Foundry & Machine Co.

SLICERS

West Point Products Corp.

SOD CUTTERS

Ryan Equip. Co. Sod-Master

SOD PLUGGER West Point Products Corp.

SPIKERS

See Aerators

SPRAY BOOMS

John Bean Div., FMC Corp. John Blue Co. Brayton Chemicals, Inc. Broyhill Co. California Heater Co. Century Engineering Corp. Chapman Chemical Co. Clark Mfg. Co. Custom Spray Equip. Corp. Friend Mfg. Corp. Hanson Equip. Co. Hardie Sprayers Hub States Chemical & Equip. Co. H. D. Hudson Mfg. Co. L. L. Larson Machine, Inc. Little Giant Products, Inc. F. E. Myers & Brothers Co. Simplex Mfg. Co. Southern Mill Creek Products Co. Tote Systems Div. Tryco Mfg. Co., Inc. Wood Treating Chemicals Co.

SPRAY GUNS

Archem Corp. John Bean Div., FMC Corp. Brayton Chemicals, Inc. Broyhill Co. California Heater Co. Century Engineering Corp. R. E. Chapin Mfg. Works, Inc. Clark Mfg. Co. Delavan Mfg. Co. Friend Mfg. Corp. Hanson Equip. Co. Hardie Sprayers Heritage House Products, Inc. Hub States Chemical & Equip. Co. H. D. Hudson Mfg. Co. L. L. Larson Machine, Inc. F. E. Myers & Brothers Co. Silver Creek Precision Corp. Southern Mill Creek Products Co. Spraying Systems Co. Tryco Mfg. Co., Inc. Wood Treating Chemicals Co.

SPRAY NOZZLES

Archem Corp. John Bean Div., FMC Corp. Broyton Chemicals, Inc. Broyhill Co. California Heater Co. California Heater Co. Century Engineering Corp. R. E. Chapin Mfg. Works, Inc. Chapman Chemical Co. Clark Mfg. Co. Cooley Spray Equip. Works Delavan Mfg. Co. DeVilbiss Co. Evans Orchard Supply Co. Friend Mfg. Corp. Hanson Equip. Co. Hardie Sprayers Hub States Chemical & Equip. Co. H. D. Hudson Mfg. Co. L. L. Larson Machine, Inc. Little Giant Products, Inc. Monarch Mfg. Works, Inc. F. E. Myers & Brothers Co. Simplex Mfg. Co. Southern Mill Creek Products Co. Spraying Systems Co. Wm. Steinen Mfg. Co. Tryco Mfg. Co., Inc. Wood Treating Chemicals Co.

SPRAYER ACCESSORIES

Delavan Mfg. Co.

SPRAY RIG LINE MARKERS Contree Sales

SPRAYERS, BOOM

John Bean Div., FMC Corp. Brayton Chemicals, Inc. Broyhill Co. California Heater Co. Century Engineering Corp. Chapman Chemical Co. Clark Mfg. Co. Cornell Chemical & Equip. Co. Cushman Motors John Deere Friend Mfg. Corp. Hanson Equip. Co. Hardie Sprayers Hub States Chemical & Equip. Co. H. D. Hudson Mfg. Co. L. L. Larson Machine, Inc. Little Giant Products, Inc. F. E. Myers & Brothers Co. Southern Mill Creek Products Co. Sun Industries, Inc. Tryco Mfg. Co., Inc. Wood Treating Chemicals Co.

SPRAYERS, CART-TYPE

John Bean Div., FMC Corp. Buffalo Turbine California Heater Co. R. E. Chapin Mfg. Works, Inc. Cooley Spray Equip. Works Cushman Motors Hub States Chemical & Equip. Co. H. D. Hudson Mfg. Co. L. L. Larson Machine, Inc. F. E. Myers & Brothers Co. Silver Creek Precision Corp. D. B. Smith & Co. Southern Mill Creek Products Co. Sun Industries, Inc. Tarrant Mfg. Co. Universal Metal Products Div.

SPRAYERS, COMPRESSED AIR

John Bean Div., FMC Corp. Brayton Chemicals, Inc. R. E. Chapin Mfg. Works, Inc. Chowning Regulator Corp. Hub States Chemical & Equip. Co. H. D. Hudson Mfg. Co. Residex Corp. D. B. Smith & Co. Southern Mill Creek Products Co. Tryco Mfg. Co., Inc. Universal Metal Products Div. Wood Treating Chemicals Co.

SPRAYERS, HAND

Archem Corp. John Bean Div., FMC Corp. Broyton Chemicals, Inc. Century Engineering Corp. R. E. Chapin Mfg. Works, Inc. Chapman Chemical Co. John Deere Destruxol Corp. Friend Mfg. Corp. Gabriel Chemicals, Ltd. Hub States Chemical & Equip. Co. H. D. Hudson Mfg. Co. F. E. Myers & Brothers Co. Residex Corp. Root-Lowell Corp. Silver Creek Precision Corp. D. B. Smith & Co. Solo Industries, Inc. Southern Mill Creek Products Co. Spraying Systems Co. Tradewinds, Inc. Tryco Mfg. Co., Inc. Universal Metal Products Div. Vandermolen Export Co. Wood Treating Chemicals Co.

SPRAYERS, KNAPSACK

ArChem Corp. John Bean Div., FMC Corp. Brayton Chemicals, Inc. Buffalo Turbine Gabriel Chemicals, Limited Hanson Equip. Co. Hub States Chemical & Equip. Co. H. D. Hudson Mfg. Co. Ben Meadows Co. Root-Lowell Corp. D. B. Smith & Co. Solo Industries, Inc. Southern Mill Creek Products Co. Tradewinds, Inc. Universal Metal Products Div. Vandermolen Export Co. Wood Treating Chemicals Co.

SPRAYERS, COMPLETE POWER

Archem Corp. John Bean Div., FMC Corp. Besler Corp. John Blue Co. Broyton Chemicals, Inc. Broyhill Co. Buffalo Turbine California Heater Co. Century Engineering Corp. Champion Sprayer Co. R. E. Chapin Mfg. Works, Inc. Chapman Chemical Co. Clark Mfg. Co. Cooley Spray Equip. Works Cushman Motors John Deere Dutton-Lainson Co. Evans Orchard Supply Co. Friend Mfg. Corp. Gabriel Chemicals, Ltd. Gro-Spray Mfg. Co. Hanson Equip. Co. Hardie Sprayers Hub States Chemical & Equip. Co. H. D. Hudson Mfg. Co. L. L. Larson Machine, Inc. Marlow Pumps F. E. Myers & Brothers Co. Oakes Mfg. Co. Root-Lowell Corp. Silver Creek Precision Corp. Solo Industries, Inc. Southern Mill Creek Products Co. Sun Industries, Inc. Tarrant Mfg. Co. Thuron Sprayer Mfg. Co. Tryco Mfg. Co., Inc. Universal Metal Products Div. Vandermolen Export Co. Wood Treating Chemicals Co.

SPREADERS, DISC-TYPE

Belt Corp. Heritage House Products, Inc. L. L. Larson Machine, Inc. Southern Mill Creek Products Co. Tyler Mfg. Co.

SPREADERS, HOPPER-TYPE

Belt Corp. Brettrager Mfg. Brillion Iron Works, Inc. Cyclone Seeder Co., Inc. Ezee Flow Div., AVCO Corp. Gandy Co. H. & R. Mfg. Co. Heritage House Products, Inc. Highway Equip. Co. Hub States Chemical & Equip. Co. International Harvester Co. L. L. Larson Machine, Inc. Lely, Ltd. Schneider Metal Mfg. Co. O. M. Scott & Sons Smith-Douglass Co., Inc. Southern Mill Creek Products Co. Sunnyhill Research & Mfg. Co.

SPRIGGERS

Thompson Mfg. Co. Western Turfgrass, Inc. Wichita Equip. Co.

SPRIG HARVESTER

Wichita Equip. Co.

STONEPICKER

Bridgeport Implement Works, Inc.

SWEEPERS

International Harvester Co. Little Giant Products, Inc.

TANKS, SPRAY

John Bean Div., FMC Corp. Broyhill Co. California Heater Co. Century Engineering Corp. Clark Mfg. Co. Hanson Equip. Co. H. D. Hudson Mfg. Co. L. L. Larson Machine, Inc. F. E. Myers & Brothers Co. Southern Mill Creek Products Co. Tryco Mfg. Co., Inc.

TILLERS

Bolens Div. Dille & McGuire Mfg. Co. Gilson Brothers Co. International Harvester Co. Jacobsen Mfg. Co. Merry Mfg. Co. Solo Industries, Inc. Tradewinds, Inc.

TOP DRESSERS

Eagle-Picher Co. Ezee Flow Div., AVCO Corp. H. & R. Mfg. Co. Ryan Equip. Co. Sod-Master

TRACTORS

Allis-Chalmers Mfg. Co. Balmar Tractor Corp. Bolens Div. J. D. Case Co. Caterpillar Tractor Co. Cushman Motors John Deere Devere-Locke Div., Locke Mfg. Co. Ford Motor Co. Gilson Brothers Co. International Harvester Co. Jacobsen Mfg. Co. Massey-Ferguson Merry Mfg. Co. Oliver Corp. Tradewinds, Inc.

TRAILERS

Century Engineering Corp. Champion Co. John Deere International Harvester Co. Tyler Mfg. Co. West Point Products Corp.

TRIMMING (EDGING) TOOLS

Allegretti & Co. Black & Decker Mfg. Co. Jacobsen Mfg. Co. A. M. Leonard & Son **Rowco Mfg. Co., Inc.** Seymour Smith & Son, Inc. Sod-Master

UTILITY VEHICLES

Allis-Chalmers Mfg. Co. Cushman Motors Gilson Brothers Co. Harley-Davidson Motor Co. Trailevator Div. Walker Mfg. Co.

VACUUMS

Black & Decker Mfg. Co. Dille & McGuire Mfg. Co. Gilson Brothers Co. Parker Sweeper Co. Tarrant Mfg. Co.

VALVES, PRESSURE RELIEF Delavan Mfg. Co.

VERTICAL MOWERS

Aero-Thatch, Inc. Parker Sweeper Co. Rental Equip. Mfg. Co. Ryan Equip. Co. West Point Products Corp.

WEED AND BRUSH CONTROL

AIRCRAFT, FIXED WING

Cessna Aircraft Co. Grumman Aircraft Corp. Imco, Inc., Intermountain Mfg. Cc. Piper Aircraft Corp. Snow Aeronautical Corp.

AIRCRAFT, HELICOPTER

Bell Helicopter Co. Hiller Aircraft Corp. Republic Aviation Corp. Sikorsky Aviation Div.

AERIAL SPRAY ACCESSORIES

Simplex Mfg. Co.

AQUATIC WEED MOWER Aquatic Controls Corp. Jari Products, Inc.

BARRELS, PLASTIC-LINED

Brovhill Co. Clark Mfg. Co. Hanson Equip. Co. Hedwin Corp. L. L. Larson Machine, Inc.

BARREL LINERS - PLASTIC

B. H. Jordan & Co.

BARRELS—STEEL

Broyhill Co. Destruxol Corp. Hedwin Corp. L. L. Larson Machine, Inc. Southern Mill Creek Products Co.

BOATS, AIR-

Airboat Sales & Service Airboats, Inc. Hurricane Fiberglass Products Co.

BRUSHCUTTERS, **POWER**

Fairmont Hydraulics Hoffco, Inc. Homelite McCulloch Corp. Rowco Mfg. Co., Inc. Vandermolen Export Co.

BRUSH AXE

Sandvik Steel, Inc.

CANS, METAL

Destruxol Corp. Hedwin Corp.

CHIPPERS

Asplundh Chipper Co. Fitchburg Engineering Co. Mitts & Merrill Wayne Mfg. Co.

CHIPPER BLADES

Brooks Products H & G Tool Co. Mitts & Merrill

DRUMS, METAL

Destruxol Corp.

FLAMETHROWERS

Aeroil Products Co., Inc. Cranco Co. Gabriel Chemicals, Ltd. Hanson Equip. Co. H. D. Hudson Mfg. Co. Root-Lowell Corp. Solo Industries, Inc. Universal Metal Products Div. Vandermolen Export Co.

KNIVES, BRUSH

International Harvester Co. MISTBLOWERS, BACKPACK

Gabriel Chemicals, Ltd. Hanson Equip. Co. Hub States Chemical & Equip. Co. H. D. Hudson Mfg. Co. Silver Creek Precision Corp. Solo Industries, Inc. Southern Mill Creek Products Co. Tradewinds, Inc. Vandermolen Export Co.

MISTBLOWERS, TRUCK-MOUNTED John Bean Div., FMC Corp.

Brayton Chemicals, Inc. Buffalo Turbine Cooley Spray Equip. Works Hardie Sprayers Hub States Chemical & Equip. Co. F. E. Myers & Brothers Co. Silver Creek Precision Corp. Solo Industries, Inc. Southern Mill Creek Products Co. Vandermolen Export Co.

NOZZLES, SPRAY DISCS & WHIRLS FOR

Cooley Spray Equip. Works

PUMPS

See Turf Management SICKLE BAR MOWER

John Deere Jari Products, Inc.

SPRAYER ACCESSORIES Delavan Mfg. Co.

> SPRAYERS, BOOM See Turf Management

SPRAYERS, HAND

See Turf Management

SPRAYERS, COMPLETE POWER UNIT

See Turf Management

SPRAY BOOMS See Turf Management

SPRAY NOZZLES See Turf Management

SPRAY SYSTEMS, INVERT EMULSION

Amchem Products, Inc. Hercules Powder Co.

SCYTHES, HAND Sandvik Steel, Inc.

SCYTHES, POWER Hoffco, Inc. Jari Products, Inc. Merry Mfg. Co.

Solo Industries, Inc. TANKS, FIBERGLAS Molded Fiber Glass Companies

TREE INJECTORS

Cranco Co. Panama Pump Co. Tree-Ject Co. Vandermolen Export Co.

UNDERWATER WEED RAKE Jari Products, Inc.

VALVES, CONTROL Delavan Mfg. Co.

VALVES, PRESSURE RELIEF Delavan Mfg. Co.

TREE SERVICE

AERIAL BUCKET LIFTS Arlo Industries, Inc. Besler Corp. Hunt-Pierce Corp Miller-Robinson Co. Mobile Aerial Towers, Inc.

AERIAL BUCKET SAFETY BELT W. M. Bashlin Co.

> ARBORIST SUPPLIES, **GENERAL LINE**

Bartlett Mfg. Co. Samuel Cabot, Inc. Collins Co. Fruit Growers of Chester County Harder Arborist Supply Co.

AUGERS, EARTH Fairmont Hydraulics Hoffco, Inc.

AXES Sandvik Steel, Inc.

CABLING SUPPLIES A. M. Leonard & Son

> CHIPPERS See Weed and Brush Control

> CHIPPER BLADES See Weed and Brush Control

CLIMBERS (SPURS) W. M. Bashlin Co.

DRILLS Black & Decker Mfg. Co.

LADDERS Sandvik Steel, Inc.

LEAF BLOWER Vandermolen Export Co.

LOG SPLITTER

Waco Aircraft Div.

MISTBLOWERS, BACKPACK See Weed and Brush Control

MISTBLOWERS, TRUCK-MOUNTED See Weed and Brush Control

NOZZLES, SPRAY DISCS & WHIRLS FOR

Cooley Spray Equip. Works

PRUNERS, POLE

W. M. Bashlin Co. Destruxol Corp. Hunt-Pierce Corp A. M. Leonard & Son H. K. Porter, Inc. Seymour Smith & Son. Inc.

PRUNERS, POWER

Vandermolen Export Co.

PRUNERS, HAND

Destruxol Corp. H. K. Porter, Inc. Seymour Smith & Son, Inc.

> PUMPS See Turf Management

ROOT FEEDER RODS Velsicol Chemical Corp.

SAWS, MANUAL

W. M. Bashlin Co. Fanno Saw Works Sandvik Steel, Inc. Seymour Smith & Sons, Inc.

SAWS, POWER Black & Decker Mfg. Co.

Fairmont Hydraulics Homelite Hoffco, Inc. McCulloch Corp. Omark Industries, Inc. Solo Industries, Inc. Southern Mill Creek Products Co. Vandermolen Export Co.

SHEARS

Destruxol Corp. Fairmont Hydraulics Marine Industrial Supply Co. H. K. Porter, Inc. Seymour Smith & Son, Inc.

SHEARS, POWER

Vandermolen Export Co.

SPRAYER ACCESSORIES Delavan Mfg. Co.

SPRAYERS, COMPLETE POWER UNIT

See Turf Management

SPRAYERS, BACKPACK See Turf Management: Sprayers, Knapsack

SPRAY NOZZLES

See Turf Management SPRAY GUNS

See Turf Management

STUMP CUTTERS **Brooks Products** International Harvester Co. Vermeer Mfg. Co.

STUMP CUTTER TEETH H & G Tool Co.

TRACTORS

See Turf Management TREE CARTS

A. M. Leonard & Son

TREE MOVERS Ideal Crane Div. Vermeer Mfg. Co.

VALVES, CONTROL Delavan Mfg. Co.

VALVES, PRESSURE RELIEF Delavan Mfg. Co.

WEDGES

Omark Industries, Inc.

TECHNICAL AIDS

METERS, pH

Analytical Measurements, Inc. Kel Instruments Co., Inc.

METER, SOIL MOISTURE

Industrial Instruments, Inc.

SOIL TEST KITS

Edwards Laboratory Hub States Chemical & Equip. Co. Industrial Instruments, Inc. LaMotte Chemical Products Co. Sudbury Laboratories West Point Products Corp.

SOIL PROBES West Point Products Corp.

SAFETY EQUIPMENT

FIRST AID KITS

General Scientific Equip. Co. Mine Safety Appliances Co.

GLOVES, CHEMICAL RESISTANT

Brayton Chemicals, Inc. Charleston Rubber Co. General Scientific Equip. Co. B. H. Jordan & Co. Mine Safety Appliances Co. Pioneer Rubber Co. Pulmosan Safety Equip. Co. Southern Mill Creek Products Co. Wilson Rubber Co.

GOGGLES

American Optical Co. Brayton Chemicols, Inc. General Scientific Equip. Co. Glendale Optical Co. Martindale Electric Co. Mine Safety Appliances Co. Pulmosan Safety Equip. Co. Southern Mill Creek Products Co. Vandermolen Export Co. Willson Products Div.

HELMETS

General Scientific Equip. Co. Mine Safety Appliances Co. Willson Products Div.

MASKS, DUST

American Optical Co. Archem Corp. Brayton Chemicals, Inc. Flexo Products, Inc. General Scientific Equip. Co. Glendale Optical Co. B. H. Jordan & Co. B. H. Jordan & Co. Martindale Electric Co. Mine Safety Appliances Co. Southern Mill Creek Products Co. **Vandermolen Export Co.** Willson Products Div. Wood Treating Chemicals Co.

RESPIRATORS

Acme Protection Equip. Co. American Optical Co. Archem Corp. Brayton Chemicals, Inc. Flexo Products, Inc. General Scientific Equip. Co. Glendale Optical Co. Martindale Electric Co. Mine Safety Appliances Co. Pulmosan Safety Equip. Corp. Southern Mill Creek Products Co. Vandermolen Export Co. Willson Products Div Wood Treating Chemicals Co.

SAFETY BELTS, AUTOMOTIVE Mine Safety Appliances Co.

SAFETY BELTS, TREE CLIMBER

W. M. Bashlin Co. General Scientific Equip. Co. A. M. Leonard & Son Mine Safety Appliances Co.

STEEL TOE SHOES

General Scientific Equip. Co.

UNIFORMS, PROTECTIVE **COVERALLS & JACKETS**

Disposables, Inc. General Scientific Equip. Co. Mine Safety Appliance Co. Riverside Mfg. Co. Worklon, Inc.

Alphabetical Listing of Suppliers in this Buyer's Guide

with their

Complete Addresses

Δ

Ace Pump Corp., 1650 Channel Ave., Memphis, Tenn. Aceto Chemical Co., Inc.,

40-40 Lawrence St., Flushing, N.Y. Acme Protection Equipment Co., 1225 Kalamazoo St., S. Haven,

Mich

Mich. Acme Quality Paints, Inc., 8250 St. Aubin Ave., Detroit, Mich. Adamson Sprinkler Co., 229 Barry Ave., Los Angeles, Calif. Aeroil Products Co., 69 Wesley St., South Hackensack, N.J. Aero-Thatch, Inc., 673 New Brunswick Ave., Rahway, N.J. Agricultural Chemicals, Inc., P.O. Box 398, Llano, Tex. Agri-Humus Co., Inc., P.O. Box 4105, 317 W. Voorman Ave., Fresno, Calif.

Calif.

Airboat Sales & Service, 3123 N.W. 29th St., Miami, Fla. Airboats, Inc.,

Airboats, Inc., P.O. Box 5306, Denver, Colo. Alco Chemical Co., 19220 Pioneer Blvd., Artesia, Calif. Allegretti & Co., 7232 Fulton Ave., North Hollywood, Calif. Paul E. Allen Co., Route 584, Palm Harbor, Fla. Allis-Chalmers Mfg. Co.

Allis-Chalmers Mfg. Co., Milwaukee, Wis. Amchem Products, Inc., Box 301, Ambler, Pa. American Agricultural Chemical Co., 100 Church St., New York, N.Y.

N.Y. American Cyanamid Co., Ag. Chem. Div., P.O. Box 400, Princeton, N.J. American Fluoride Corp., 855 Ave. of Americas, New York, N.Y. American Liquid Fertilizer Co., Inc., Box 267, Marietta, Ohio American Mineral Spirits Co., Murray Hill, N.J. American Oil Co.

American Oil Co., 910 S. Michigan Ave., Chicago, Ill. American Optical Co., Safety Prod. Div., 14 Mechanic St., Southbridge, Maec Mass.

Mass. American Potash & Chemical Corp., 300 W. 6th St., Los Angeles, Calif. American Smelting & Refining Co., 120 Broadway, New York, N.Y. American Talc Co., Chatsworth, Ga. American Vermiculite Corp., 527 Madison Ave., New York, N.Y. Amoco Chemicals Corp., 130 E. Randolph Dr., Chicago, Ill. Analytical Measurements, Inc., 490 Morris Ave., Summit, N.J. Anderson-Prichard Oil Corp., Liberty Bank, Oklahoma City, Okla. Okla.

W. R. E. Andrews Co., 1505 Race St., Philadelphia, Pa.

WEEDS TREES AND TURF, December, 1964

The Ansul Co.,

The Ansul Co., One Stanton St., Marinette, Wis. Aquafil Co., Box 94, 349 First St., Los Altos, Calif. Aquatic Controls Corp., Hartland, Wis. Aquatrols Corp. of America, 217 Atlantic Ave., Camden, N.J. Archem Corp.

ArChem Corp., 1514 11th St., Portsmouth, Ohio

Archer Daniels Midland Co., P.O. Box 532, Minneapolis, Minn.

- Ariens Co.,
- 293 Calumet St., Brillion, Wis. Arlo Industries, 451 Sanford Blvd. E., Mt. Vernon, N.Y. Armour & Co., Adhesives Div., 1355 W. 31st St., Chicago, Ill.

- Armour Agricultural Chemical Co.,
- P.O. Box 1685, Atlanta, Ga. Armour Industrial Chemical Co., 110 N. Wacker Dr., Chicago, Ill.
- Asgrow Seed Co., 272 George St., New Haven, Conn. Asplundh Chipper Co., Hamilton St., Chalfont, Pa. Atlas Chemical Industries, Inc.,
- Wilmington, Del.

B

Baird & McGuire, Inc.,

Holbrook, Mass

- Baird Chemical Corp., 10 W. 33rd St., New York, N.Y. J. T. Baker Chemicals Co.,

- J. T. Baker Chemicals Co., Phillipsburg, N.J. Balmar Tractor Corp., 3500 Clipper Rd., Baltimore, Md. Barada & Page Co., Guinotte & Michigan Aves., Kansas City, Mo. Barium & Chemicals, Inc., Box 230, State Rt. 7 N, Steubenville, Ohio Bartlett Manufacturing Co., 3003 E. Grand Blvd., Detroit, Mich. W M Bashlin Co.
- 3003 E. Grand Blvd., Detroit, Mic W. M. Bashlin Co., 119 W. Pine St., Grove City, Pa. John Bean Div., FMC Corp., 1305 S. Cedar St., Lansing, Mich. Bell Helicopter Co., P.O. Box 482, Fort Worth, Tex.

- P.O. Box 482, Fort worth, Tex. Belt Corp., 5314 Mill St., Orient, Ohio Berkshire Chemicals, Inc., 155 E. 44th St., New York, N.Y. Besler Corp., Box 8427, Emeryville, Oakland 8, Calif. The Best Fertilizer Co., Box 4311, Bayshore Annex, Oakland, Calif. Bioferm Corp. Wasco, Calif.

- The Best Fertilizer Co., Box 4311, Bayshore Annex, Oakland, Calif.
 Bioferm Corp., Wasco, Calif.
 The Black & Decker Mfg. Co., E. Joppa Rd., Towson, Md.
 John Blue Co., Inc., Huntsville, Ala.
 Blue Ridge Talc Co., Inc., Henry, Va. **The R. H. Bogle Co.**, P.O. Box 588, Alexandria, Va.
 Boise Cascade Corp., Bark Prod. Div., Box 200, Boise, Idaho
 Bolens Div., FMC Corp., 214 S. Park, Port Washington, Wis.
 Bonide Chemical Co., Inc., Browie Machine Works, Inc., 1400 16th St., San Francisco, Calif. **Broyton Chemicals, Inc.**, P.O. Box 56, Burlington, Iowa
 Brettrager Manufacturing, 5410 East St., Saginaw, Mich.
 Bridgeport Implement Works, Inc., 1483 Stratford Ave., Stratford, Conn.
 Brillion Iron Works Brillion Wis Conn.
- Brillion Iron Works, Brillion, Wis. Broadway Rubber Corp., 529 E. Broadway, Louisville, Ky. Brooks Products, Div. Tool Steel Gear & Pinion Co., 211 Township Ave., Elmwood Place, Cincinnati, Obio Ohio

- Ohio Browning Chemical Corp., 295 Madison Ave., New York, N.Y. The Broyhill Co., Dakota City, Nebr. Brulin & Co., 2939 Columbia Ave., Indianapolis, Ind. Buckner Industries, Inc., P.O. Box 232, Fresno, Calif. Buffalo Turbine Agricultural Equip. Co., Industrial St., Gowanda, N.Y.

- Samuel Cabot, Inc., 246 Summer St., Boston, Mass.
- California Chemical Co., Ortho Div., 200 Bush St., San Francisco, Calif.

D Dairyman's Fertilizer Cooperative, P.O. Box 998, Artesia, Calif. Daly-Herring Co., Adkin & University Sts., Kinston, N.C. John Deere, Deere & Co., John Deere Rd., Moline, Ill. John Deere Rd., Moline, Ill. John Deere Chemical Co., P.O. Box 1736, Tulsa, Okla. Delavan Manufacturing Co., 811 4th St., West Des Moines, Iowa Destruxol Corp., Box 265, 1450 W. 228th St., Torrance, Calif. Devere-Locke Div., Locke Mfg. Co., 1220 Washington Ave., Racine, Wis. DeVilbiss Co.,

WIS. DeVilbiss Co., 296 Phillips Ave., Toledo, Ohio Diamond Alkali Co., Union Commerce Bldg., Cleveland, Ohio

Commerce Bldg., Cleveland, Ohio J. J. Dill Co., P.O. Box 788, Kalamazoo, Mich. Dille & McGuire Mfg. Co., N. 13th & F Sts., Richmond, Ind. Disposables, Inc., 15-18 130th St., College Point, N.Y. Doggett Fison Co., Purcell Court, Moonachie, N.J. Dolcito Quarry Co., Tarrant, (Ala.) Box 6566, 2101 Pinson St., Birmingham, Ala. Donner-Hanna Coke Corp., Abby & Mystic Sts., Buffalo, N.Y. The Dow Chemical Co., P.O. Box 512, Midland, Mich. Dragon Engineering Co.,

C. Dragon Engineering Co.,
626 McClary Ave., Oakland, Calif.
E. I. du Pont de Nemours & Co., Inc., Industrial & Biochemical Div.,

Wilmington, Del. The Dutton-Lainson Co., P.O. Box 729, Hastings, Nebr.

E-Z Flo Chemical Co., P.O. Box 808, 2011 N. High St., Lansing,

Mich. Edwards Laboratory, P.O. Box 318, Norwalk, Ohio Eagle-Picher Co., Central Parkway & Walnut Sts., Cincinnati, Ohio Elanco Products Co., Greenfield Div., 640 S. Alabama, Indianapolis, Ind. Electric Hose & Rubber Co., Wilmington Del

Electric Hose & Rubber Co., Wilmington, Del. Emery Industries, Inc., 8733 South Dice Rd., Santa Fe Springs, Calif. Evans Orchard Supply Co., 301 Delaware St., Kansas City, Mo. Ezee Flow Div., AVCO Corp., 3428 N. Harlem Ave., Chicago, Ill.

Faesy & Besthoff, Inc., 143 River Rd., Edgewater, N.J.
Conrad Fafard, Inc., P.O. Box 2131, Springfield, Mass.
Fairfax Biological Laboratory, Clinton Corners, N.Y.
Fairfield Chemicals, FMC Corp., 633 Third Ave., New York, N.Y.
Fairmont Hydraulics, 415 N. Main St., Fairmont, Minn.
Falls Products. Inc.

Falls Products, Inc., 415 Railroad Ave., Genoa, Ill. The Fanno Saw Works, P.O. Box 628, 224 W. Eighth Ave., Chico, Calif.

Fitchburg Engineering Co., Fitchburg, Mass.

Finn Equipment Co., 2525 Duck Creek Rd., Cincinnati, Ohio

Flexo Products, Inc., 24864 Detroit Rd., Westlake, Ohio Florida Agricultural Supply Co., 1611 Talleyrand Ave., Jacksonville, Fla.

41

Mich.

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- California Chemical Co., Ortho Div.,
 200 Bush St., San Francisco, Calif.
 California Farm Supply Co.,
 2223 Fulton St., Berkeley, Calif.
 California Heater Co.,
 1511 W. Second St., Pomona, Calif.
 Calumet & Hecla, Inc., 17200
 Southfield Rd., Allen Park, Mich.
 Campbell Mfg. Co., Walthill, Nebr.
 Carus Chemical Co., Inc.,
 1375 8th St., LaSalle, Ill.
 J. D. Case Co., Racine, Wis.
 Caterpillar Tractor Co., Peoria, Ill.
 Central Solvents & Chemicals Co.,
 2540 W. Flournoy St., Chicago, Ill.
 Century Engineering Corp.,
 221 4th Ave., Cedar Rapids, Iowa
 Certified Laboratories,
 Box 2493, Fort Worth, Tex.
 Cessna Aircraft Co., Wichita, Kans.
 The Champion Co.,
- The Champion Co.,
- 400 Harrison, Springfield, Ohio
- Champion Sprayer Co., 6509 Heintz Ave., Detroit, Mich. Chanderlin Div., Lofts Pedigreed

- Chanderin DiV., Loris Pedigreed
 Seed Co., Chimney Rock & Foothills Rd., Bound Brook, N.J.
 R. E. Chapin Mfg. Works, Inc., 27 Liberty St., Batavia, N.Y.
 Chapman Chemical Co., Box 3158, 416 E. Brooks Road, Memphis, Tomp. Tenn.
- Charleston Rubber Co., Stark Industrial Park, Charleston, S.C. Chemagro Corp., P.O. Box 4913, Hawthorn Rd., Kansas City, Mo.
- Chemwest, Inc.
- 600 S. Fourth St., Richmond, Calif. Chipman Chemical Co., Inc.,
- Burlingame, Calif.

- Chowning Regulator Corp., 165 Cedar St., Corning, N.Y. Clark Mfg. Co., Atherton, Mo. Walter E. Clark & Son, Orange, Conn. W. A. Cleary Corp., Box 749, New Brunswick, N.J. Climax Molybdenum Co. Div. o Climax Molybdenum Co., Div. of American Metal Climax, Inc.,
- 1270 Ave. of Americas, New York, N.Y. Cloro Spray Corp., 2215 N. American St., Philadelphia, Pa. The Collins Co., Collinsville, Conn.

- **Colloidal Products Corp**
- P.O. Box 667, Sausalito, Calif.
- Columbia Nitrogen, Box 1493, Augusta, Ga
- Columbia Quarry Co., 1007 Washington Ave., St. Louis, Mo. Commercial Minerals Co., 6898 Smith Ave., Newark, Calif. Commercial Solvents Corp., 260 Madison Ave., New York, N.Y.
- Continental Chemiste Corp. 2256 W. Ogden Ave., Chicago, Ill.
- **Contree Sales**
- P.O. Box 129, Columbus, Wis. Cooley Spray Equipment Works, Springfield Road, Sommers, Conn.
- Cornell Chemical & Equipment Co., 1115 Rolling Road, Baltimore, Md.
- Cotton States Chemical Co., 100 Trenton St., West Monroe, La.
- Cranco Co.,
- 7 Clermont Ave., Trenton, N.J. Crown Zellerbach Corp., 231
- Sansome St., San Francisco, Calif.

The Cyclone Seeder Co., Urbana,

Cushman Motors, 958 N. 21st, Lincoln, Nebr.

Ind.

WEEDS TREES AND TURF, December, 1964

Custom Spray Equipment Corp., R.D. #2, Binghamton, N.Y.

- Floridin Co., 375 Park Ave., New York, N.Y. Ford Motor Co., Tractor & Implement Operations, 2500 E. Maple, Birmingham, Mich. Friend Manufacturing Corp., Prospect St., Gasport, N.Y. Fruit Growers of Chester County, Inc., 250 S. Franklin, West Chester Pa West Chester, Pa.

- Gabriel Chemicals, Ltd., 60 E. 42nd St., New York, N.Y. Gandy Co., 10 Gandrud Rd., Owatonna, Minn. Geigy Agricultural Chemicals, Div. of Geigy Chemical Corp., Saw Mill Biver Bd. Andelan, N.Y.

- Div. of Geigy Chemical Corp., Saw Mill River Rd., Ardsley, N.Y. General Aniline & Film Corp., 435 Hudson St., New York, N.Y. General Chemical Div., ACC, P.O. Box 70, Morristown, N.J. General Scientific Equipment Co., Limekiln Pike & Williams Ave., Philadelphia, Pa. Gilson Brothers Co.

- Philadelphia, Pa. Gilson Brothers Co., P.O. Box 152, Plymouth, Wis. Glendale Optical Co., 600 West Merrick Rd., Valley Stream, N.Y. Goodall Manufacturing Corp., 1205 E. Sanborn St., Winona, Minn. W. R. Grace & Co., Davison Chemical Div., 101 N. Charles, Baltimore, Md. John H. Graham & Co., Inc.,

- Baltimore, Md. John H. Graham & Co., Inc., 105 Duane St., New York, N.Y. Great Lakes Carbon Corp., 612 South Flower St., Los Angeles, Calif. The Gregg Co., P.O. Box 149, Riverton, N.J. Gro-Spray Mfg. Co., 1639 S.W. 2nd Ave., Ft. Lauderdale, Fla. Grumman Aircraft Corp., S. Oyster Bay Rd., Bethpage, L.I., N.Y. Guard Chemical Co., Inc., N. Water St., Ossining, N.Y. Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.

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- H & G Tool Co.,
- 22474 Sherwood, Warren, Mich. & R. Manufacturing Co., 3463 H

- H. & R. Manufacturing Co., 3463
 Motor Ave., Los Angeles, Calif.
 Hanson Equipment Co., Beloit, Wis.
 Harder Arborist Supply Co., Box 111, Hempstead, N.Y.
 Hardie Pumps & Sprayers, 4200
 Wissahickon Ave., Philadelphia Pa

- Wissanickon Ave.,
 Philadelphia, Pa.
 M. W. Hardy & Co., Inc.,
 141 Broadway, New York, N.Y.
 Harley-Davidson Motor Co.,
 Davidson Motor Co.,
- Box 653, Milwaukee, Wis. Hayes Spray Gun Co., 98 N. San Gabriel Blvd., Pasadena, Calif.

- Gabriel Blvd., Pasadena, Calif. Hedwin Corp., 609 Fifth Ave., New York, N.Y. Henderson Mfg. Co., Fisher, Ill. Hercules Powder Co., Hercules Tower, Wilmington, Del. Heritage House Products, Inc., 1146 Gulf Oil Bldg., Pittsburgh, Pa. Highway Equipment Co., 616 D. Ave. N.W., Cedar Rapids, Iowa Hiller Aircraft Corp., 1350 Willow Rd., Palo Alto, Calif. Hoffco, Inc., 25 Washington Ave., Richmond, Ind. Homelite, Div. of Textron, Inc.,

- Richmond, Ind.
 Homelite, Div. of Textron, Inc., Riverdale Ave., Port Chester, N.Y.
 Hooker Chemical Corp., 65 Iroquois St., Niagara Falls, N.Y.
 Hopkins Agricultural Chemical Co., P.O. Box 584, Madison, Wis.
 Hub States Chemical & Equipment Co., 1255 N. Windsor St., Indianapolis Ind
- Indianapolis, Ind.

42

- H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago, Ill.
- 589 E. Illinois St., Chicago, Ill.
 Humble Oil & Refining Co., Houston, Tex.
 Hunt-Pierce Corp., 230 Old Gate Lane, Milford, Conn.
 Hurricane Fiberglass Products Co., Rt. 1, Box 1130, Auburndale, Fla.
 Hypro Engineering, Inc., 700 39th Ave., N.E., Minneapolis, Minn.
- - 1
- Ideal Crane Div., 15051 E. Admiral Place, Tulsa, Okla. Imco, Inc., Intermountain Mfg. Co., Afton, Wyo. Industrial Instruments, Inc., 89 Commerce Rd., Cedar Grove, N.J. Industrial Materials Co., 1017 McCall St. Houston Tox

- 1017 McCall St., Houston, Tex. International Harvester Co., 180 N. Michigan Ave., Chicago, Ill. International Minerals & Chemical
- Corp., 5401 Old Orchard Rd.,
- Skokie, Ill. Internat'l Paper Co., Spec. Prod. Div., Drawer A, Mobile, Ala. International Protected Metals, Inc.,
- Box 543, South Plainfield, N.J.

- Jacobsen Mfg. Co., Jacobsen Mrg. Co., 1721 Packard Ave., Racine, Wis.
 Jari Products, Inc., 2938 Pillsbury Ave., Minneapolis, Minn.
 Jefferson Chemical Co., Box 53300, 1121 Walker Ave., Houston, Tex.
 B. H. Jordan & Co., 10 South Middleneck Rd., Great Neck, N.Y.

- Kel Instruments Co., Inc., P.O. Box 744, New Brunswick, N.J. Kemp Mfg. Co., P.O. Box 975, 1027 E. 29th St., Erie, Pa.

- LaMotte Chemical Products Co., Chestertown, Md. L. L. Larson Machine, Inc.

- L. L. Larson Machine, Inc., 215 Walnut St., Princeville, Ill. Lebanon Chemical Corp., P.O. Box 532, Lebanon, Pa. Lely, Ltd., P.O. Box 523, Burlington, Ontario, Canada A. M. Leonard & Son, Piqua, Ohio Lethelin Products Co., 15 MacQuesten Parkway, S., Mt. Vernon, N.Y. Limestone Products Div
- Limestone Products Div., North Western-Hanna Fuel Co., 320 First St., Menominee, Mich.
- Lindig Manufacturing Co., 1875 W. County Rd., "C", St. Paul, Minn. Little Giant Products, Inc., 1600 N.E. Adams St., Peoria, Ill. Lobel Chemical Corp., 165 Broadway, New York, N.Y.

M

- M Neil A. Maclean Co., Inc., 1536 Industrial Way, Belmont, Calif. Magnet Cove Barium Corp. 702 Western Savings Fund Bldg., Philadelphia, Pa. Mallinckrodt Chemical Works, 3600 N. 2nd St., St. Louis, Mo. Marathon Div. of American Can Co., Neenah, Wis. Marine Industrial Supply Co., 645 W. Anaheim St., Long Beach.

- Marine industrial Supply Co., 645 W. Anaheim St., Long Beach, Calif. Marlow Pumps, P.O. Box 200, Midland Park, N.J. C. J. Martin & Sons, P.O. Box 6248, Austin, Tex. Martindale Electric Co., 1275 Hind Avec Cleveland, Okie

- 1375 Hird Ave., Cleveland, Ohio

- Massey-Ferguson, Inc., 12601 Southfield Rd., Detroit, Mich. K. C. Mattson Co., 5392 Alhambra Ave., Los Angeles, Calif. McCulloch Corp., 6101 W. Century Blvd., Los Angeles, Calif. McLaughlin Gormley King Co., 1715 Fifth St., Minneapolis, Minn. The Ben Meadows Co.

- The Ben Meadows Co., 315 Pharr Rd., N.E., Atlanta, Ga. Merry Mfg. Co., P.O. Box 370, 138 Railroad Ave., Edmonds, Wash. Metalsalts Corp., 200 Wagaraw Rd., Hawthorne, N.J.

Mathiou Aver, Johnson, Wash.
Metalsalts Corp., 200 Wagaraw Rd., Hawthorne, N.J.
Michigan Chemical Corp., Velsicol Chemical Corp., Sales Agent. (See Velsicol)
Michigan Peat, Inc., 202 E. 47th St., New York, N.Y.
Michin Chemical Corp., 9045 Vincent, Detroit, Mich.
Mico Corp., 669 Ultimo Ave., Long Beach, Calif.
Miller Chemical & Fertilizer Corp., 3006 W. Cold Spring Lane, Baltimore, Md.
Miller Products Co., 7737 N.E. Killingsworth, Portland, Ore.
Miller-Robinson Co., 700 Avalon Blvd., Los Angeles, Calif.
Milwaukee Sewerage Comm., Milorganite Div., Box 2079, Milwaukee, Wis.
Minerals & Chemicals Div., Mississippi Lime Co., 7 Alby St., Alton, III.
Mitts & Merrill, Inc., Dept. WT, 109 McCoskry St., Saginaw, Mich.
Mobil Oil Co., Inc., 150 E. 42nd St., New York, N.Y.
Mobile Aerial Towers, Inc., 2314 Bowser Ave., Fort Wayne, Ind.
Molded Fiber Glass Companies, 4601 Benefit Ave., Ashtabula, Ohio
Monarch Manufacturing Works, 2501 E. Ontario St., Philadelphia, Pa.
Montrose Chemical Co., Montrose Chemical Co.,

Philadelphia, Pa. Montrose Chemical Co.

104-12 Lister Ave., Newark, N.J. Morton Chemical Co., 110 N. Wacker Dr., Chicago, Ill. Mott Corp.,

500 Shawmut Ave., La Grange, Ill. The F. E. Myers & Bro. Co., 400 Orange St., Ashland, Ohio

N

Nalco Chemical Co., 6216 W. 66th Pl., Chicago, Ill. Narvon Mines, Ltd., Keller Ave. & Fruitville Pike, Lancaster, Pa.

National Chemsearch Corp., Box 10087, Dallas, Tex. Naugatuck Chemical, Div. of U.S.

Naugatuck Chemical, Div. of U.S. Rubber, Naugatuck, Conn.
Niagara Chemical Div., FMC Corp., 100 Niagara St., Middleport, N.Y.
Nitrogen Div., Allied Chemical Corp., 40 Rector St., New York, N.Y.
Norda Essential Oil & Chemical Co., 601 W. 26th St., New York, N.Y.
Nursery Specialty Products, 202 E. 47th St., New York, N.Y.
Nutrilite Products, Inc., 5600 Grand Ave., Buena Park, Calif.

Oakes Manufacturing Co., 516 W. Dearborn, Tipton, Ind. Ohio Lime Co., Main St., Woodville, Ohio Oil-Dri Corp. of America, 520 N. Michigan Ave., Chicago, Ill.

WEEDS TREES AND TURF, December, 1964

- Olin Mathieson Chem. Corp., Chems.

- Olin Mathieson Chem. Corp., Chems. Div., 420 Park Ave., New York, N.Y.
 Oliver Corp., Industrial Div., 400 W. Madison, Chicago, Ill.
 Omark Industries, Inc., 9701 S.E. McLaughlin Blvd., Portland, Ore.

- P Panama Pump Co., Meadow Lane, Hattiesburg, Miss. Parker Sweeper Co., 91-99 N. Bechtle Ave., Springfield, Ohio Pennsalt Chemicals Corp., Box 1297, 2901 Taylor Way, Tacoma, Wash. Pest Control Equipment Co., 24 N. Bond St., Mt. Vernon, N.Y. Robert B. Peters Co., Inc., 2833 Pennsylvania Ave., Allentown, Pa. Petrochemicals Co., 1825 E. Spring St., Long Beach, Calif. Phelps Dodge Refining Corp., 300 Park Ave., New York, N.Y. Phoenix Gems, Inc., 1701 E. Elwood St., Phoenix, Ariz. The Pioneer Rubber Co., 638 Tiffin Rd., Willard, Ohio. Piper Aircraft Corp. Bald Eagle St., Lock Haven, Pa. Pittsburgh Plate Glass, Chem. Div., 1 Gateway Center, Pittsburgh, Pa. Piant Marvel Laboratories, 622 W. 119th St., Chicago, Ill. H.K. Porter, Inc., 74 Foley, Somerville, Mass.

 - H. K. Porter, Inc., 74 Foley, Somerville, Mass.
- 74 Foley, Somerville, Mass. **B. G. Prott Co.**, 204 21st Ave., Paterson, N.J. Precision Chemical Pump Corp., 1396 Main St., Waltham, Mass. Premier Peat Moss Corp., 25 W. 45th St., New York, N.Y. Prentiss Drug & Chemical Co., Inc., 101 W. 31st St., New York, N.Y. Pulmosan Safety Equip. Corp., 644 Pacific St., Brooklyn, N.Y.

- K Rain Bird Sprinkler Mfg. Corp., P.O. Box 37, Glendora, Calif. Rain-O-Mat Sprinklers, 11701 E. Washington Blvd., Whittier, Calif. Ra-Pid Grow Corp. 88 Ossian, Dansville, N.Y. B. G. Reilly Co., P.O. Box 231, North Scituate, R.I. Rental Equipment Mfg. Co., 1924 S. Navajo St., Denver, Colo. Republic Aviation Corp., Helicopter Div., Farmingdale, L.I., N.Y. Residex Corp.,

- Republic Aviation Corp., Helicopter Div., Farmingdale, L.I., N.Y. Residex Corp. 225 Terminal Ave., Clark, N.J. Retzloff Chemical Co., P.O. Box 45296, Houston, Tex. Richfield Oil Corp., 555 South Flower St., Los Angeles, Calif. Riverdale Chemical Co., 220 E. 17th St., Chicago Heights, III. Riverside Manufacturing Co., 11th St. S.W., Moultrie, Ga. Robeco Chemicals, Inc., 25 E. 26th St., New York, N.Y. Rohm & Haas Co., 222 West Washington Sq., Philadelphia, Pa. Rolatape, Inc., 1301 Olympic Blvd., Santa Monica, Calif. Root-Lowell Corp., Lowell, Mich. Roseman Mower Corp., 2300 W. Lake Ave., Chicago, III. Rowco Manufacturing Co., Inc., 48 Emerald St., Keene, N.H. Royer Foundry & Machine Co., 158 Pringle St., Kingston, Pa. Ryan Equipment Co., 2055 White Bear Ave., St. Paul, Minn.

Sandvik Steel, Inc., 1702 Nevins Rd., Fair Lawn, N.J.

WEEDS TREES AND TURF, December, 1964

- Schneider Metal Mfg. Co., 1805 S. 55th Ave., Chicago, Ill.
 O. M. Scott & Sons Co., 160 Main St., Marysville, Ohio
 Seacoast Laboratories, Inc., 156-158 Perry St., New York, N.Y.
 Shell Chemical Co., Ag. Chem. Div., 100 W. 51st St., New York, N.Y.
 The Sherwin-Williams Co., 101 Prospect Ave., Cleveland, Ohio
 Signal Oil & Gas Co., Houston Div., Box 5008, Houston, Tex.
 Sikorsky Aviation Div., United Aircraft Corp., Stratford, Conn.
 Silver Creek Precision Corp., Central Ave., Silver Creek, N.Y.
 Simplex Manufacturing Co., 5224 N.E. 42nd Ave., Portland, Ore.
 Simplicity Manufacturing Co., 6414 Spring St., Port Washington, Wis.
 D. B. Smith & Co., Utica, N.Y.
 Smith Douglass Co., Inc., 5100 Va. Beach Blvd., Norfolk, Va.
 Smith Precision Products Co., 1299 Lawrence Dr., Newbury Park. Smith Precision Products Co., 1299 Lawrence Dr., Newbury Park,
 - Calif.

 - Seymour Smith & Son. Inc., Main St., Oakville, Conn. Snow Aeronautical Corp., P.O. Box 516, Olney, Tex. Sod-Master, 3456 N. Washington
 - Ave., Minneapolis, Minn. Sole Chemical Corp., 7740 S. Chicago Ave., Chicago, Ill.
- Chicago Ave., Chicago, III. Solo Industries, Inc., Box 128, 37-41 57th St., Woodside, N.Y. Southern Mill Creek Products Co., P.O. Box 4297, Tampa, Fla. Southwest Potash Corp., 1270 Ave. of Americas, New York, N.Y. Spraying Systems Co., 3201 Randolph St., Bellwood, III. A. E. Staley Mfg. Co., Box 151.

- A. E. Staley Mfg. Co., Box 151, 2200 E. Eldorado, Decatur, Ill. Stauffer Chemical Co.,
- 380 Madison Ave., New York, N.Y. Wm. Steinen Mfg. Co., 29 E. Halsey Rd., Parsippany, N.J. Stepan Chemical Co., Edens &
- Winnetka, Northfield, Ill. Stephenson Chemical Co., Inc., P.O. Box 188, College Park, Ga.
- Sudbury Laboratory,
- Sudbury, Mass.
- Sun Industry, Inc., 12418 W. Rosemary, New Berlin, Wis. Sunnyhill Research & Mfg. Co., Imperial, Pa.
 - Т
- Tarrant Manufacturing Co., 110 Jumel Pl., Saratoga Springs, N.Y. **Telsco** Industries
- P.O. Box 18205, Dallas, Tex.
- Tenneco Oil Co.
- P.O. Box 18, Houston, Tex.

- P.O. Box 18, Houston, Tex.
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 Tennessee Corp., 44 Broad St., Atlanta, Ga.
 Thompson Chemicals Corp., 3600 Monon St., Los Angeles, Calif.
 Thompson Equipment Co., Box 750, Starkville, Miss.
 Thompson-Hayward Chemical Co., P.O. Box 768, Kansas City, Mo.
 Thuron Sprayer Mfg. Co., Box 14231, Dallas, Tex.
 Toro Mfg. Corp., 8111 Lyndale Ave. S., Minneapolis, Minn.
 Tote Systems Div., 656 S. 7th, Beatrice, Nebr.
 Tradewinds, Inc., P.O. Box 1191, Tacoma, Wash.
 Trailevator Div., Magline, Inc., P.O. Box 446, Pinconning, Mich.
 Transtan Co., Cont Mill Ct. Origet Object Transtan Co.
- 5314 Mill St., Orient, Ohio Tree-Ject Co., P.O. Box 396, 1309 Grove Ave., Waycross, Ga.

- Triangle Chemical Co., Box 1501, 206 Lower Elm St., Macon, Ga. Troy Blanket Mills, 132 W. 34th St., New York, N.Y. Tryco Mfg. Co., P.O. Box 1277, 1160 S. Monroe St., Decatur, III. Tyler Manufacturing Co., Inc., Benson, Minn Benson, Minn.

Ulrich Mfg. Co., Bump Pump Div., Roanoke, Ill.

Roanoke, Ill. Union Carbide Corp., Olefins Div., 270 Park Ave., New York, N.Y. United Clay Mines Corp., Box 1201, Trenton, N.J. U. S. Borax, 3075 Wilshire Blvd., Los Angeles, Calif. U.S. Industrial Chemicals Co., 99 Park Ave., New York, N.Y. Universal Metal Products Div., Leigh Products, Saranac, Mich. The Upjohn Co., 7171 Portage Rd., Kalamazoo, Mich.

Vandermolen Export Co., 378 Mountain Ave., N. Caldwell, N.J. Velsicol Chemical Corp., 341 E. Ohio St., Chicago, Ill. Vermeer Manufacturing Co., Port 100 Della Corp.

Box 190, Pella, Iowa Viking Pump Co., 4th & State, Cedar Falls, Iowa Vineland Chemical Sales Corp., W. Wheat Rd., Vineland, N.J. Vineland Laboratories, Inc., P.O. Box 70, Vineland, N.J. Virginia-Carolina Chemical Corp., 401 E. Main St., Richmond, Va.

w

W W-W Grinder Corp., 2957 N. Market, Wichita, Kans. Waco Aircraft Div., Allied Aero Ind. Peters Ave., Troy, Ohio. Walker Mfg. Co., Fowler, Kans. "Water-In" Inc. P.O. Box 421, Altadena, Calif. Waverly Petroleum Products Co., 3018 Market St., Philadelphia, Pa. Wayne Manufacturing Co., 1201 E. Lexington St., Pomona, Calif. West Point, Pa. West Point, Pa. Western Peat, P.O. Box 308, 5800 Monroe St., Sylvania, Ohio Western Turfgrass, Inc., 305 Agostino Rd., San Gabriel, Calif. Wichita Equipment Co., Box 1329, Old Burk Rd., Wichita Falls, Tex. Willson Products Div., Ray-O-Vac Co., 2nd & Washington St., Reading, Pa. Andrew Wilson Co., Inc. Baltusrol Way, Springfield, N.J. The Wilson Rubber Co., 1200

Andrew Wilson Co., Inc. Baltusrol Way, Springfield, N.J. The Wilson Rubber Co., 1200 Garfield Ave., S.W., Canton, Ohio Woodbury Chemical Co., P.O. Box 788, St. Joseph, Mo. Wood Ridge Chemical Corp., Park Place, E., Wood-Ridge, N.J. Wood Treating Chemicals Co., 5137 Southwest Ave., St. Louis, Mo. Woolfolk Chemical Works, Ltd., Fort Valley, Ga.

Worklon, Inc., P.O. Box 117, Huntington, N.Y. Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

Y-Z

York Modern Corp., Unadilla, N.Y. Zonolite Div., W. R. Grace & Co., 135 S. LaSalle St., Chicago, Ill.

43

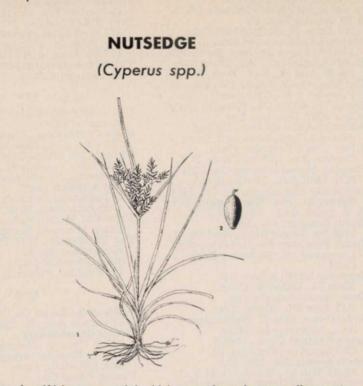
Fort Valley, Ga.

Kalamazoo, Mich.

Utility Chemical Co., 145 Peel St., Paterson, N.J.

Box 190, Pella, Iowa

Know Your Species



Nutsedge (1) is a perennial which reproduces by spreading rootstocks, underground tubers, and partially by seeds. Although nutsedge bears a superficial resemblance to some grasses and is sometimes called nutgrass and coco grass, it is not a true grass, but instead is a sedge. Nutsedge grows best under moist lowland conditions and is found in fields, waste areas, gardens, and lawns.

Nutsedges may grow to a height of 6 to 36 inches and are characterized by a solid (not hollow) stem which is triangular in cross section. Stiff, coarse, yellowish-green leaves are borne in rows of three about the base of the stem (grass leaves are two ranked).

Flowers and seeds are borne atop a relatively long leafless stem. Yellowish-brown flowers are inconspicuous and produce coarse spikelets of seeds. Seeds (2) attached to radiating branchlets (spikes) appear umbrellalike.

Scaly rootstocks bear small nutlike tubers at the ends.

There are two species of nutsedge in this important group of lawn pests: yellow nutsedge, Cyperus esculentus, and purple or common nutsedge, C. rotundus. These differ in geographic distribution, size, and coloration. Yellow nutsedge is a native North American plant and is most commonly found in northern areas of the United States, although it does extend its range at times into the South. Purple nutsedge is believed to have been introduced from tropical areas into the South. It is now common from Florida to California. Nutsedges are serious pests wherever they grow.

Upright stems of purple nutsedge grow longer than the basal leaves, whereas leaves are longer than the main stem in yellow nutsedge. Spikelets of purple nutsedge are colored a brownish purple, but yellow nutsedge has yellowish-green spikelets. Underground tubers of purple nutsedge measure 1 inch long and $\frac{3}{4}$ inch in diameter, but yellow nutsedge tubers seldom exceed $\frac{1}{4}$ inch in diameter.

2,4-D can be applied repeatedly until nutsedge is eliminated. EPTC has also proven useful as a control. Controls should be applied within two weeks of shoot emergence.

Prepared in cooperation with Crops Research Division, Agricultural Research Service, United States Department of Agriculture, Beltsville, Maryland.

(DRAWING FROM NORTH CENTRAL REGIONAL PUBLICATION NO. 36, USDA EXTENSION SERVICE)

U. S. Borax Builds New Regional Office, Warehouse

Construction of a new regional office and warehouse is already under way in Des Plaines, Ill., announces Hugo Riemer, president, U. S. Borax, Los Angeles, Calif. The proposed structure will occupy 27,750 square feet of a two-acre site.

W. W. Wilson, regional marketing manager, says the new building will serve as regional and district headquarters for midwestern distribution of the company's products, including industrial and agricultural borates, potash, herbicides, and 20 Mule Team line of household and industrial maintenance products.

The new facility will also serve as national headquarters for the firm's railroad sales organization which supplies weedkillers and application equipment for railroad rights-of-way.

Completion of the new building late in 1965 will consolidate U. S. Borax' Chicago warehouse on Lumber St., and the Peterson Ave. offices.

In another announcement, J. F. Corkill, U. S. Borax marketing department vice president, says the company's Atlanta regional sales office has been moved from 1627 Peachtree St. N.E. to 1720 Peachtree Rd. N.W., in Atlanta, Ga.

WACA Reelects Stewart

Frank B. Stewart was reelected president of the Western Agricultural Chemical Association at the annual convention held recently at Pebble Beach, Calif.

This association, comprised of agricultural chemical companies from 13 western states, cooperates with the U.S. Dept. of Agriculture and state departments of agriculture in enactment of laws and regulations for safe use of insecticides, fungicides, and weedkillers.

Stewart is executive vice president and general manager of Miller Products Co., Portland, Ore.

International Turf-Grass Conference Scheduled for Cleveland, Feb. 7-12

More than 40 speakers. an exhibition of equipment, supplies and services occupying a 33,000square-foot exhibition hall, will be major attractions when the 36th International Turf-Grass Conference and Show is held in Sheraton-Cleveland Hotel, Cleveland, Ohio, Feb. 7-12.

Advance registrations exceed those of previous years and indicate that a record-breaking attendance will be realized at the forthcoming event.

"We really look forward to being in Cleveland," said Dr. Gene C. Nutter, executive director of the sponsoring Golf Course Superintendents Association of America. "It is fitting that GCSAA again takes its conference and show to Cleveland for it was there in 1923 that GCSAA really had its beginning with the birth of the Cleveland Greenskeepers Association. Appropriately, too, the Northern Ohio Chapter is host. Every member of this chapter is also a GCSAA member making it the largest 100% chapter in North America."

John J. Spodnik, superintendent of the Westfield Country Club courses, LeRoy, Ohio, is cochairman with Dr. Nutter. Serving with Spodnik as co-chairman of the host committee is Malcolm E. McLaren, superintendent of the Oakwood Club in Cleveland.

Officials are enthusiastic over the outstanding array of speakers chosen to address the superintendents during the 5-day educational program. They include superintendents, educators, researchers, golf course architects and other turf experts. There will be six educational assemblies.

While the conference and show is primarily for superintendents and others involved in the care and maintenance of turf, those who are interested may attend upon payment of registration fees. Information may be obtained from the Golf Course Superintendents Association of America, Box 1385, Jacksonville Beach, Fla. 32050.

Further details on this important meeting will be given in the January issue of this magazine.

"Water-In" Tests Successful

Recent tests conducted with "Water-In," a product that is said to eliminate waterlogging due to a tendency of water to remain in soil capillaries, have been reported as successful by "Water-In," Inc., Altadena, Calif. The most recent test was conducted by Soil & Plant Lab, Inc., Orange, Calif.

In one test, roses growing in hard compacted or adobe soils tend to have waterlogged roots. With a treatment of "Water-In" the soil was aerated and the plants fed and watered at regular intervals with no ill effect.

Other tests in various areas of the Los Angeles City Recreation and Parks Department have proven likewise satisfactory. At the Sepulveda golf course, half of a green treated with "Water-In" remained open and aerated, while the untreated half remained compacted with water runoff.

Further details are available from "Water-In," Inc., by writing to P.O. Box 421, Altadena, Calif.

IMC Opens West Coast Office

A fertilizer sales office was recently opened by International Minerals & Chemical Corp. as part of its West Coast expansion program.

A company spokesman reports that successful completion of IMC's potash mine at Esterhazy, Canada, enables the company to expand its activities. The new office is located at 16 E. Third Ave., San Mateo, Calif.



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Weeds Trees and Turf Wins National Award for Editorial Excellence; Aquatic Weed Series Singled Out for Citation

In a ceremony at the Waldorf-Astoria Hotel in New York City, November 12, Weeds Trees and Turf received a 1964 Award of Merit for Editorial Excellence from Industrial Marketing magazine. The awards were initiated 25 years ago as a means of recognizing superior editorial quality in America's business press.

Basis of the award to WTT was the three-part series, "Applicator's Manual of Aquatic Weed Control," which appeared in the October, November, and December 1963 issues.

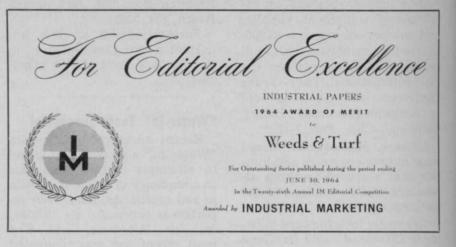
Other winners in the WTT category were Steel and Chemical Engineering magazines.

In presenting the awards, *Industrial Marketing* spokesmen said the panel of judges, drawn from the communications industry, looked for importance of subject matter, quality of writing, ease of communication, and effectiveness of illustrations.

When WTT began the series in fall of 1963, the full effects of Rachel Carson's *Silent Spring*, a violent attack on pesticides, were just beginning to be felt. Scientists, applicators, and public health officials were particularly concerned about application of chemicals to control aquatic weeds. It was feared such applications, if not properly handled, might adversely affect potable water supplies.

But rampant weeds pose a major threat to the utility of lakes and ponds, irrigation ditches, and other waterways. Because of the lack of useoriented information on this subject, Weeds Trees and Turf decided to present readers with a series of articles which would serve as an "on-job" manual.

WTT's Staff Biologist, David E. Schneider, began to prepare a three-part series on the subject, using as a guideline the concept that the series should tell readers: (1) how to identify aquatic weeds; (2) what chem-



icals to use for control; and (3) how to select application equipment.

Because of the project's complexity, copies of the first draft were mailed to leading researchers with federal and state agencies, universities, and chemical manufacturers, for review and comment. When these annotated copies were returned, they were reviewed and pertinent comments were incorporated into the final version.

Besides using previously unpublished photographs from the Plantation Field Laboratory, USDA, in Ft. Lauderdale, Fla., WTT staffers made field trips into problem aquatic weed areas and shot additional species.

The project was six months in preparation; the series was one of three award winners in its category (Industrial Publications) in the annual competition sponsored by *Industrial Marketing*.

Luncheon speaker during the presentation of the awards. Philip Gisser, told the assembled editors that the function of the business press today is vital to all productivity in industry and science. Moreover, he said, it is not enough to communicate data: editors must avoid overcommunication in a time when so much technical material is being produced. Gisser, Director of Advertising and Publicity for U.S. Industrial Chemicals Co., advised the editors to be selective in presentation of their materials. WTT's citation is a recognition that its editors are achieving this selectivity for its readers.

Certificate of Editorial Excellence was presented by S. R. Bernstein (left), president of Advertising Publications, Inc., to WTT editor Charles D. Webb, Bernstein's company publishes Indus-trial Marketing magazine, which for 25 years has presented the annual awards to business papers judged outstanding by a panel of judges selected from the communications industry.



Patterson to Head New Mexico Turf Group; Conference Studies Turf Varieties, Mowing

A. S. Patterson of Albuquerque was named president of the New Mexico Turfgrass Association at the 10th annual Turfgrass Conference on the New Mexico State University campus at University Park, October 9.

Other officers named were Bernard Corley, El Paso, vicepresident, and C. E. Watson, NMSU agronomist, secretarytreasurer. Bill Leftwich of Holloman Air Force Base, Julian Serna of Albuquerque, and Harvour Jones of Los Lunas, were named to the board of directors.

In a report on new developments in grasses, John A. Long of O. M. Scott Company of Marysville, Ohio, said Texturf 10, also known as T-47, and Tifway, two varieties of bermudagrass, are the best all-around warm-season grasses for lawns and play areas. Tifgreen is recommended for putting greens but not for general planting because of the extra care it requires.

Windsor, Park, and Newport varieties of bluegrass have shown more disease resistance than Merion or common Kentucky bluegrass of the cool-season grasses.

J. R. Watson of Toro Manufacturing Company, Minneapolis, Minn., in a report on mowing, said "growing grasses for lawns and turf defied the natural processes of the plants. The extreme mowing required for the neatappearing lawn requires that everything else be ideal. Mowing removes the parts of the grass that manufacture food for the plants weakening them and if other conditions of moisture and fertility are not ideal the plants don't make it," he said.

Bunch-type grasses—ryegrass, tall fescue, and bluegrass—need higher mowing than the creeping grasses, Watson said, because the bunch grasses grow upright and more of each plant is removed in mowing.

Zoysia and bermuda can be

clipped closer because they naturally grow close to the soil and only occasionally send up shoots which are clipped by a mower.

A sharp mower is important to lawn appearance. A dull mower bruises the ends of the leaves as it cuts, leaving a burned appearance. A sharp mower cuts cleanly.

Marvin Ferguson, U.S. Golf Association, Green Section, College Station, Texas, said golf courses in recent years have too often been designed without regard to drainage, foot, and car traffic, and efficiency of watering systems. He reported an excessive number of golf courses are in trouble because these factors were not considered when the courses were laid out.

The two-day conference was attended by about 50 persons.

HSAF Convention Takes Steps

To Form National Trade Group

(from page 10)

prompted skilled turfman White to say he uses the Mott hammer knife back on the sod farm. He added that many commercial lawn companies, such as the ones gathered at the Pier 66, are now using the Ryan and the West Point machines. These were developed initially to prove them-

New recreational areas management curriculum at New Mexico State University was explained by Arden Baltensperger (left), Head of the Department of Agronomy, and C. E. Watson, Associate Agronomist, at a meeting of the New Mexico Turfgrass Association. The new course is one of the few offered in the U.S. to specifically train superintendents for golf courses, parks, forest areas and to build a background for research in this area. The course is offered jointly by NMSU's departments of agronomy and horticulture.

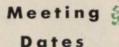
selves on the fairways, but now they're keeping the nation's lawns green as well.

Smaller in number than usual. bigger than ever in ambition, and as cordial and warmhearted as always, the Florida 1964 convention was universally praised when it came time to wind up the note taking and step out to a banquet and dance on the last day. Officers promised to continue in the same fruitful spirit throughout the coming months as the national trade association takes its last wavering steps before striding full-fledged into the future of vegetation maintenance and control, a billion dollar business in America today.

Two kinds of spray programs for lawn service companies were described by horticultural spraymen Larry Nipp (left) and Jack Cuthrell during the 1964 convention at Pier d6 Hotel in Ft. Lauderdale. Out-of-staters found the various programs offered by Florida industrymen of particular interest.



WEEDS TREES AND TURF, December, 1964





- Connecticut Nurserymen's Assn. Annual Meeting, Statler-Hilton Hotel, Hartford, Dec. 30.
- North Central Weed Conference, Inc., Meeting, Kellogg Center, Michigan State University, East Lansing, Mich., Dec. 14-16.
- North Carolina Nurserymen's Assn. Meeting, North Carolina State College, Student Union, Raleigh, Jan. 3-5.
- New York State Nurserymen's Assn. Meeting, Concord Hotel, Kia-mesha Lake, N.Y., Jan. 4-7.
- Indiana Association of Nurserymen Meeting. Claypool Hotel, In-dianapolis, Jan. 6-8.
- Northeastern Weed Control Conference, Hotel Astor, New York City, Jan. 6-8.
- Illinois State Nursery Assn. Trade Show and Convention, LaSalle Hotel, Chicago, Jan. 11-13.
- North Carolina State, Annual Pesticide School, Raleigh, Jan. 11-12
- Kentucky Nurserymen's Assn. Meeting, Kentucky Hotel, Louis-ville, Jan. 17-20.
- Oregon Association of Nurserymen, 32nd Annual Meeting, Marion Motor Hotel, Salem, Jan. 19-21.
- 17th Annual California Weed Conference, Hacienda Motel, Fresno, Jan. 19-21.
- Southern Weed Conference, Annual Meeting, Hotel Adolphus, Dallas, Tex., Jan. 19-21.
- Kansas State Shade Tree Conference, Umberger Hall, K.S.U., Man-hattan, Jan. 21-22.
- New Jersey Association of Nurserymen, Annual Winter Meeting, Princeton Inn, Princeton, Jan. 21-22.
- Ohio Nurserymen's Assn. Annual Meeting, Columbus Plaza, Columbus, Jan. 25-28.
- Utah Association of Nurserymen, Annual Convention, Ramada Inn, Salt Lake City, Jan. 31-Feb. 2.
- 35th International Turf-Grass Conference and Show, Sheraton-Cleveland Hotel, Cleveland, O., Feb. 7-12.
- Aquatic Weed Control Society Annual Meeting, LaSalle Hotel, Chicago, Ill., Feb. 11-12.
- National Arborists Association Winter Meeting, Guy Lombardo's Port-O-Call Inn, Tierra Verde, Florida, Feb. 14-15.
- Midwest Regional Turf Foundation Meeting, Purdue University Memorial Center, Lafayette, Ind., March 1-3.
- 35th Annual Michigan Turfgrass Conference, Kellogg Center, Mich-igan State University, East Lansing, March 11-12.

Northeastern Weed Conference Plans Full "Industrial" Day

For the first time the annual Northeastern Weed Control Conference will devote a full day to industrial weed and brush control topics, according to John A. Meade, secretary-treasurer. The industrial sessions will be part of the three-day meeting set for January 6-8 at the Hotel Astor in New York City.

In addition to the industrial weed discussions, the yearly affair will include talks on agronomy, horticulture, and related subjects. As usual, there will be examinations of latest techniques and chemicals for weed control in turf, for highway weed control, and aquatic weed control. Farm crop subjects will round out the program.

During first-day sessions, five key addresses will be offered. Included are: (1) "From Test Tube to Label," by L. L. Coulter of The Dow Chemical Co., Midland, Mich.; (2) "The Mechanics of Herbicide Application," by Art Williams of Agway, Inc.; (3) "Other Dimensions of the Weed Problem," by L. Holm of the University of Wisconsin, Madison; (4) "Progress of the CRF-1 Project on Aquatics and Woody Plants," by Dr. Stanford Fertig of Cornell University in Ithaca: and (5) "Standardization of Terminology in Weed Science," by Dr. Dayton Klingman, Agricultural Research Service, U.S. Department of Agriculture, Beltsville, Md.

Also in the offing is the traditional "New Herbicides from Industry" presentation on Wednesday evening.

Highlights of the industrial sessions include a talk entitled "Eighteen Years of Chemical Brush Control Experiences," by Fred Ashbaugh of West Penn Power Co., Greensburg, Pa.; and talks on such products as Tordon, new brush killer from Dow, and MH-30T, growth retardant from Naugatuck Chemical Co.

For more information, write Dr. John A. Meade, Department of Agronomy, University of Maryland, College Park. Make reservations directly with Hotel Astor, New York City.

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INDEX TO ADVERTISEMENTS The Ansul Co.21 Baird & McGuire, Inc. 4 John Bean Div., FMC.....11 The R. H. Bogle Co...4th Cover Bowie Machine Works, Inc... 7 Brayton Chemicals, Inc.35 **Buffalo Turbine Agricultural** Equipment Co....3rd Cover Diamond Alkali Co.31 Miller Products Co.23 The F. E. Myers & B. G. Pratt Co.45 **Rowco Manufacturing** Solo Industries, Tennessee Corp. 6 Triangle Chemical Co.25 Union Carbide Corp., Vandermolen Export Co. ... 30 Velsicol Chemical Corp.17

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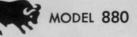
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New Jersey Certified Sod Program Started; Will Establish High-Quality Producer

The first square foot of certified sod in New Jersey was harvested recently during a program arranged to celebrate the occasion. The top-quality sod received the admiring scrutiny of state officials, agricultural leaders and sod producers at the LaBarre and Schuch Sod Farm in Springfield, New Jersey, where it was produced.

The sod certification program was initiated in the spring of 1963. It is being conducted as a cooperative program between the College of Agriculture, Rutgers-The State University, and the Bureau of Seed Certification of the New Jersey Department of Agriculture. The program is under the guidance of Dr. Henry W. Indyk, extension specialist in turf management, at the College of Agriculture. Inspections and all regulatory aspects of the program are under the supervision of William Cranstoun, chief of the Bureau of Seed Certification, New Jersey Department of Agriculture.

A number of factors have stimulated the initiation of a program of this nature. The use of sod in establishing lawns is rapidly increasing. A high degree of variation in quality of sod available to the public exists. Certified sod will protect the customer investing in sod by guaranteeing genetic identity and a high quality product, Dr. Indyk says.

The producer as well as the customer stands to benefit from the program. It will provide the high quality producer the recognition he deserves for his efforts. Competitively, also, he will be in a better position, it is reported.

The procedure in certifying sod begins with preplanting field inspections to assure their acceptability in the program. Inspecting officials must approve the seed before it is planted. Throughout the growing period of the grass, fields are periodically inspected. A final inspection is conducted at the time of marketing before issuance of certification tags if the sod meets all standards of certified sod.

Producer interest in the program is rapidly increasing. A substantial acreage is enrolled in the program at the present time and the availability of certified sod to the public should increase substantially within the next year, Dr. Indyk told Weeds Trees and Turf. Up in the Air. Speaking of varied services, there's an aerial operator in Gettysburg, Pa., whose direct mail pieces are indicative of what's happening today with those contract applicators who have taken to the air and who now offer an unusual panorama of custom spraying. Company is Agrotors, Inc., which offers rights-of-way spraying and similar service by helicopter. Agrotors' president is Dr. Carl M. Voss, and Charles M. Mark is vice president and chief pilot. Services offered include spraying of shade trees for canker worm and gypsy moth, weed control in field crops, utility brush control, etc. Now the company has branched out south, where "Ski" Bykowski heads the Lake Wales, Fla., operation. A modern and aggressive outfit, Agrotors, Inc. is jet-age example of industry advancement.

- Trimmings —

All's Fair. In New York last week a member of our staff rode by the World's Fair site on his way into the city from the airport on Long Island. While the Fair has been closed for several weeks, it was refreshing to see the tiptop shape surrounding turf areas are being kept in, presumably to continue right up to snowtime! A good plug for the maintenance company which is keeping the fairgrounds ready for the crowds to come next spring.

Stose Away! In our editorial on page 6 we talk about the "rounding out" of industry firms into more than one kind of vegetation maintenance and control, and we have a good case in point, a Pacific Northwest operator who's away and running with his thriving business of weed control, insecticide application, and tree pruning. He's Glenn L. Stose of Portland, Oregon. Glenn's calling card outlines the variety of his services, and adds that his company is licensed and bonded. Here's another of that active group of forwardthinking applicators who've done so much to upgrade the profession in the Northwest!

To the Notebooks. Conference time is upon us. Checking our calendar of coming events, we see that hardly a week will go by from now until March without an important weed control, turf management, or tree maintenance seminar everywhere from New York City, where the Northeastern Weed Control Conference meets next month, to California, where the state weedmen are also congregating in January (details in Meeting Dates, p. 48). We again urge all our readers to take time out to attend one or more of these helpful technical sessions. The small cost of registration and transportation is nil compared to the worth of the great scientific brains one traditionally finds gathered at the conferences!



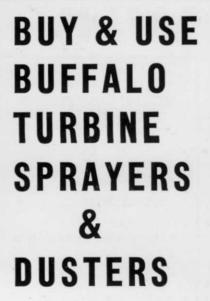
Officials witnessing the harvesting of the first certified sod in New Jersey are presented with certified sod. On the left is William Cranstoun, chief of Bureau of Seed Certification presenting Frank Soraci, Director of Bureau of Plant Industry, both representing the New Jersey Department of Agriculture, with certified sod. On the far right is Dr. Henry W. Indyk, extension specialist in turf management, College of Agriculture, doing the honors for Dr. Leland G. Merrill, Jr., Dean of the College of Agriculture, Rutgers—The State University.



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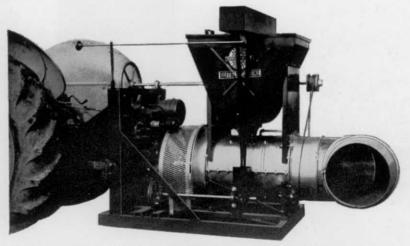
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