John Bean leads the way when you “spray for pay”. You select from four basic sprayer series...plenty of choice to let you get size, type, capacity and price just right for your needs. Bean Bond lined tanks and lifetime Sapphite cylinders assure long, trouble free service. Trailer-type, skid-mounted or PTO models. Wide choice of accessories. Versatility unlimited: weed and brush control, turf spraying, applying liquid fertilizer, shrub and tree spraying, root feeding, dust abatement, row crop spraying. To be sure sprayday is payday, get the facts on John Bean high-pressure sprayers.

Choose from four basic series

“ROYAL” SPRAYERS—25 to 60 GPM, pressures to 800 p.s.i., 200 to 1000-gallon tanks.

“ROYALIER” SPRAYERS—15 to 20 GPM, pressures to 400 p.s.i., 200 to 500-gallon tanks.

“ROYALETTE” SPRAYERS—5 to 10 GPM, pressures to 400 p.s.i., 50 to 300-gallon tanks.

“TROJAN & SPARTAN” SPRAYERS—Mobile, push-type. 3 GPM, 60 p.s.i. (Trojan) or to 300 p.s.i. (Spartan)

Get the facts! Clip coupon to your letterhead.

☐ Royal ☐ Royalier ☐ Royalette ☐ Rotomist Mist-Type Sprayers
☐ Trojan-Spartan ☐ Mosquito Control Facts ☐ Dutch Elm Disease Facts

When Writing to Advertisers Please Mention WEEDS TREES AND TURF
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 Os terdamia. 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 lawn grass, 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 re-assortment 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 accolades, 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 zoysia 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 lawn grasses available for the South, aristocrats the equal of the better bermudas. Zoysia 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

---

**Turfgrass Portraits VI:**

**Zoysia**

**By DR. ROBERT W. SCHERY**

Director, The Lawn Institute
Marysville, Ohio

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.
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

Zoysia spreads by above-ground 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 zoysia 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 homeowner-with-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 ¼ 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.

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

A
Accidents, Arborists' Big Job: Cut Out the "Little" (f) Aug 8
Aeration Help "Old Turf," Report Says, Controlled Italians, Dethatch, Turf Areas (ns) Jul 31
Aeria, Dethatch, Turf Areas for Dry Spot Control (ns) Oct 21
(Aquatic Weed Control) Hyacinth Control Report (nf) Aug 26
Aquatic Weed Control, How We Use Scuba Divers in, by Henry Carser and Ralph Greentel (f) Feb 16
Aquatic Weed Control Spec for Ill., New (f) Apr 30
Aquatic Weedmen Stir Up More Questions Than Answers (f) Jun 15
Bacillus thuringiensis, Report on (f) May 28
Bahiagrass Kept at Desirable Level by Dr. W. H. Daniel (f) Nov 15
Bahiagrass; Know Your Species (c) Apr 24
Bermudagrasses, Turfgrass Portraits V: by Dr. W. H. Daniel (f) Jun 8
Bermudagrass Mite, Controlling the, by Dr. Robert W. Schery (f) Apr 19
Bermudagrass, Turfgrass Portraits III: by Dr. Robert W. Schery (f) Sep 16
(Betamethasone) to Select the Right Turfgrass, by Dr. Robert W. Schery (f) Apr 18
(Betanis) Making Sense About Crabgrass, by Dr. Robert W. Schery (f) Oct 9
(Betanis) Making Sense About Crabgrass, by Dr. W. H. Daniel (f) Nov 15
Bluegrass, Annual; Know Your Species (c) Apr 24
Bluegrass, Turfgrass Portraits I: Kentucky, by Dr. Robert W. Schery (f) Jul 12
Bluegrass How to Select the Right Turfgrass, by Dr. Robert W. Schery (f) Apr 19
Bromacil, Weed Society of America Report (nf) Mar 18
Bromacil, Weed Society of America Report (nf) May 8
Bromacil, Weed Society of America Report (nf) Oct 21
Bromacil, Weed Society of America Report (nf) Nov 15
Bromacil, Weed Society of America Report (nf) Dec 8
Bud Break, Dormant Season Brush Control, by Dr. Robert W. Schery (f) Oct 21
Brush Up On Brush Control (f) May 10
(Brush Control) Southern Weed Conference Reports (ns) Mar 27
Bud Break, Dormant Season, by Dr. B. A. Sprayberry (f) Sep 7

C
(Calcium Arsenate) Making Sense About Crabgrass, by Dr. W. H. Daniel (f) Mar 11
(Calcium Propyl Arsenate) Making Sense About Crabgrass, by Dr. W. H. Daniel (f) Mar 11
(Carbaryl) Controlling Japanese Beetles at Cleveland's Airport (f) Oct 12
(Caterpillars) Dichondra Pests and Controls Outlined in Council Bulletin (ns) Oct 20
(Caterpillar) How to Select the Right Turfgrass, by Dr. Robert W. Schery (f) Apr 18
Chlorine, Silver Controls (ns) Apr 14
Chlordane Making Sense About Crabgrass, by Dr. W. H. Daniel (f) Mar 10
Chlorosis Iron Shortage May Cause Yellow Color on Pin Oak (ns) Sep 28
Cool Season Grasses, Advice on (ns) Aug 26
(Contracts, Spraying) HASA Convention Report (nf) Dec 8
Crabgrass, Making Sense About, by Dr. W. H. Daniel (f) Mar 10
(Crime) Florisil Trade Show Report, by Walter D. Anderson (nf) Jul 14

D
(Dacalone) Colorado State Lists Results of Herbicide Tests (ns) Jul 10
(Dacron) Making Sense About Crabgrass, by Dr. W. H. Daniel (f) Mar 11
(Dacron) NE Weed Control Conference Report (nf) Feb 19
(Daun) Making Sense About Crabgrass, by Dr. Robert W. Schery (f) Apr 18
(Dicamba) Colorado State Lists Results of Herbicide Tests (ns) Jul 19
(Dicamba) NE Weed Control Conference Report (nf) Feb 19
(Diclofenol) NE Weed Control Conference Report (nf) Feb 19
Dichondra Pests and Controls Outlined in Council Bulletin (nf) Apr 18
(Diphenatrile) Making Sense About Crabgrass, by Dr. W. H. Daniel (f) Mar 19
(Diquat) Aquatic Weed Control Society Report (nf) Mar 18
Disease, Called Fusarium Blight, Penn State Finds New Test For, by Dr. B. A. Sprayberry (f) Aug 8
Disease, Dutch Elm Intelligent Tree Planting Will Determine America's Future Beauty, by Dr. Robert W. Schery (f) Apr 16
Disease, Littleleaf I, I1nternatinal Shade Tree Beauty, Minn. Treemen Hear (ns) Nov 19
Disease, Effects of Cold Injury and Freezing, Noninfectious Tree, Part I, by Dr. Richard Compana (f) Aug 19
Disease, Littleleaf I, I1nternatinal Shade Tree Beauty, Minn. Treemen Hear (ns) Nov 19
Disease, Littleleaf I, I1nternatinal Shade Tree Beauty, Minn. Treemen Hear (ns) Nov 19
Disease, LittIetree Diseases and Moth Populations Studied at New England Tree Meeting, by Dr. B. A. Sprayberry (f) May 26
(Dicamba) Weed Society of America Report (nf) Mar 18
(Dicamba) NE Weed Control Conference Report (nf) Feb 20
(Dicamba) NE Weed Control Conference Report (nf) Feb 20
(Dicamba) NE Weed Control Conference Report (nf) Feb 20

E
Elm Leaf Beetle Virus Diseases and Moth Populations Studied at New England Tree Meeting, by Dr. B. A. Sprayberry (f) May 26
(Equipment, Custom) Texas Know-How Creates Turf, by Dr. W. H. Daniel (f) Oct 11
(Equipment) Dick Evans, Inc., Contract Applicator (f) Jun 12
(Equipment) Dick Evans, Inc., Contract Applicator (f) Jun 12

F
Fertilizer Advice on Tap at 5th Univ. of Missouri Lawn and Turf Conference, Tips on Spring Dead Spot, by Dave Miller (f) Nov 14
Fertilizer Applications Improve Turf in Southern California, Wint-Timed, by Howard H. Hawkins (ns) Jul 18
Fertilizer Needs, Undaunted by Dora, Delegates at Annual Turf Course Study Soil Chemistry, Learn of, by R. E. Stevenson (nf) Oct 18
(Fescue) How to Select the Right Turfgrass, by Dr. W. H. Daniel (f) Apr 19
Fescues, Turfgrass Portraits II: Fine, by Dr. W. H. Daniel (f) Apr 18
(Formulations) Quick-Breaking Emulsions Not Necessarily Cheap (L) May 8
Formulations You Buy? How Good Are the, by Dr. W. H. Daniel (f) Jun 8
(Fumigants, Soil) What Turf Managers Need to Know About Nematomes (f) Feb 18
Fusarium; Know Your Species (c) Jun 20

G
(Gypsy Moth) Report on Aerial Application of Bacillus thuringiensis (ns) May 29
(Hadacridine) Weed Society of America Report (nf) Mar 14
Hemlock Looper, Air Striking the, by Tom Burner (f) Apr 12

I
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21
Irrigation) Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control (ns) Oct 21

J-K
Japanese Beetles at Cleveland's Airport, How to Control (f) Sep 22
Kentucky Bluegrass, How to Select the Right Turfgrass, by Dr. W. H. Daniel (f) Apr 19
(Kentucky Bluegrass) NE Weed Control Conference Report (nf) Feb 20
(Kentucky Bluegrass) NE Weed Control Conference Report (nf) Feb 20
(Kentucky Bluegrass) NE Weed Control Conference Report (nf) Feb 20
(Kentucky Bluegrass) NE Weed Control Conference Report (nf) Feb 20
(Kentucky Bluegrass) NE Weed Control Conference Report (nf) Feb 20
(Kentucky Bluegrass) NE Weed Control Conference Report (nf) Feb 20
(Kentucky Bluegrass) NE Weed Control Conference Report (nf) Feb 20

L
Lambsquarters; Know Your Species (c) Jul 20
Landscaping) Intelligent Tree Planning WILL Determine America's Future Beauty, Minn. Treemen Hear (nf) Oct 19
Landscape) Proper Grade Is Key to Successful Lawn (ns) Jun 20

WEEDS TREES AND TURF, December, 1964

Page 14
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.

**HERBICIDES**

**SOIL STERILANTS**

**AMIZINE***
Amchem Products, Inc.
R. H. Bogle Co.
Dow Chemical Co.

**BORATE-CHLORATE-BROMACIL**
Chipman Chemical Co.

**BORATE-DIURON MIXES**
Nalco Chemical Co.

**BORATE-MONURON MIXES**
Chipman Chemical Co.
U. S. Borax
Miller Chemical & Fertilizer Corp.

**BORATE-UREA MIXES**
Chipman Chemical Co.

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

**CALCIUM CHLORIDE**
R. H. Bogle Co.
B. F. Goodrich Co.

**CHLORA*E**
Brayton Chemicals, Inc.
Chipman Chemical Co.
Hub States Chemical & Equip. Co.
Miller Products Co.
Residex Corp.

**DIURON**
Armour Agricultural Chemical Co.

**MONOBOR-CHLORATE* **
Armour Agricultural Chemical Co.

**ERBON**
Brayton Chemicals, Inc.
Dow Chemical Co.
Nalco Chemical Co.
Residex Corp.

**FENAC**
Amchem Products, Inc.
R. H. Bogle Co.
Brayton Chemicals, Inc.
Nalco Chemical Co.
Residex Corp.

**FENATROL**
Amchem Products, Inc.
R. H. Bogle Co.
Brayton Chemicals, Inc.
Residex Corp.

**HCA* **
General Chemical Div., ACC
Southern Mill Creek Products Co.

**MONOBOR-CHLORATE**
Armour Agricultural Chemical Co.

**MONOBOR**
R. H. Bogle Co.
Brayton Chemicals, Inc.

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

**PROMETONE**
Arch Corp.
Armour Agricultural Chemical Co.
R. H. Bogle Co.
Brayton Chemicals, Inc.
Geigy Agricultural Chemicals
Hub States Chemical & Equip. Co.
Miller Products Co.
Prentis Drug & Chemical Co.
Residex Corp.
# VELSICOL TURF CHEMICALS

For Complete Turf Pest Control

<table>
<thead>
<tr>
<th>Turf Disease Control</th>
<th>VELSICOL &quot;2-1&quot; MERCURIC FUNGICIDE</th>
<th>Controls brown patch, dollar spot, and snow mold. New formulation has greater wettability, more stability in suspension and less foaming action than any other comparable product.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VELSICOL MEMMI .8-EC MERCURIC FUNGICIDE</td>
<td>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.</td>
</tr>
<tr>
<td>Weed Control</td>
<td>VELSICOL BANVEL® D 4S</td>
<td>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 broadleaf weeds.</td>
</tr>
<tr>
<td>Soil Fumigation</td>
<td>VELSICOL PESTMASTER® SOIL FUMIGANT-1</td>
<td>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 soil before new grass is planted. Economical, easy-to-apply, fast acting.</td>
</tr>
<tr>
<td>Pre-Emergence Crabgrass Control</td>
<td>CHLORDANE BANDANE®</td>
<td>Chlordane provides exceptionally effective pre-emergence crabgrass control, and complete protection against damaging soil insects. Bandane is a newer pre-emergence control, notable for effective control plus safety to seeding grass and established turf. It also kills ants, grubs, and other insects.</td>
</tr>
<tr>
<td>Turf Insect Control</td>
<td>CHLORDANE HEPTACHLOR</td>
<td>Both Chlordane and Heptachlor kill most common insect pests of turf, plus many harmful or annoying insects that live on the surface of the soil. Grubs, mole crickets, wireworms, cutworms, ticks, chiggers, ants, mosquitoes, sod webworms, earwigs and many other insects can be controlled with these versatile insecticides.</td>
</tr>
</tbody>
</table>

Contact your distributor now for the complete line of Velsicol Turf Pest Control Chemicals! For more information write VELSICOL CHEMICAL CORPORATION/341 E. OHIO STREET, CHICAGO, ILLINOIS 60611

When Writing to Advertisers Please Mention WEEDS TREES AND TURF
If you can't find the herbicide you're looking for in the new Residex Catalogue—try this.

The new Residex catalogue provides technical information, prices and product listings for our complete line of 19 herbicides, especially formulated for industrial weed-control operations.

Since 1954, Residex has pioneered in distributing superior weed and turf products for custom applicators.

Why not use our experience to help you get started in this new and profitable field. Let us first help analyze your weed problems. Then, let us supply the specific herbicide, or mixture of herbicides, to solve the problem quickly and economically. Start cashing in on the weed and turf market now. Call or write today.

RESIDEX CORPORATION
225 Terminal Avenue, Clark, New Jersey
HERBAN*  
Brayton Chemicals, Inc.  
Hercules Powder Co.  
Triangle Chemical Co.  
IPC  
Pittsburgh Plate Glass Co.  
LINuron  
E. I. du Pont de Nemours & Co.  
NEBuron  
Brayton Chemicals, Inc.  
E. I. du Pont de Nemours & Co.  
Residex Corp.  
O. M. Scott & Sons  
PRE-SAN*  
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.  
Brayton Chemicals, Inc.  
Dow Chemical Co.  
Miller Products Co.  
Residex Corp.  
Riverdale Chemical Co.  
Southern Mill Creek Products Co.  
THIAMine  
Armour Agricultural Chemical Co.  
Brayton Chemicals, Inc.  
Miller Products Co.  
Residex Corp.  
Riverdale Chemical Co.  
Southern Mill Creek Products 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.  
Naico Chemical Co.  
Residex Corp.  
Riverdale Chemical Co.  
Wood Treating Chemicals Co.  
AMMONium METHYL ARSONATE  
Armour Agricultural Chemical Co.  
Brayton Chemicals, Inc.  
W. A. Cleary Corp.  
Doggett Fison Co.  
General Chemical Div., ACC  
B. G. Pratt Co.  
Seacoast Laboratories, Inc.  
Southern Mill Creek Products Co.  
Vineland Chemical Sales Corp.  
Wood Treating Chemicals Co.  
AMMONIUM THIOcyanATE  
J. T. Baker Chemical Co.  
Utility Chemical Co.  
AMMONIUM Sulfamate  
See Soil Sterilants  
ARSENIC ACID  
Alco Chemical Co.  
Armour Agricultural Chemical Co.  
R. H. Bogle Co.  
Chipman Chemical Co.  
General Chemical Div., ACC  
Hub States Chemical Co.  
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 Anslu Co.  
Bonide Chemical Co., Inc.  
Chipman 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.  
Southern Mill Creek Products Co.  
DALAPON  
Armour Agricultural Chemical Co.  
R. H. Bogle Co.  
Brayton Chemicals, Inc.  
Dow Chemical Co.  
Hub States Chemical Co.  
Hub States Chemical Equip. Co.  
Miller Chemical & Fertilizer Corp.  
Miller Products Co.  
Naico 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 Anslu Co.  
Armour Agricultural Chemical Co.  
Chipman 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.  
Naico 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.  
Naico Chemical Co.  
Riverdale Chemical Co.  
MCPP  
Chipman Chemical Co.  
W. A. Cleary Corp.  
Doggett Fison Co.  
Miller Products Co.  
Morton Chemical Co.  
Naico Chemical Co.  
Niagara Chemical Div., FMC  
MSMA  
The Anslu Co.  
METHANE ARSONIC 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.