

Ag-Organics Department, Midland, Michigan 48640

Dursban insecticide. Bugs have another name for it.

They call it "The Unsurvivable One!" Because nothing wipes out chinch bugs, sod webworms and many other serious turf pests like Dursban* insecticide. And Dursban insecticide won't leach. It has excellent residual activity. It's safe, too, for all common turf grasses. And economical—you get more bugs for your buck, because so little goes a long long way. Ask your Dow distributor or your contract applicator for "The Unsurvivable One!"



Jacklin And Vaughan's Seed Company To Merge

A merger of two nationwide seed, garden and nursery suppliers into a single corporation will become effective June 30.

The Vaughan Jacklin Corporation is being formed from Jacklin Seed Co., Inc. and Vaughan's Seed Company, according to Arden W. Jacklin and Gager T. Vaughan, presidents of the two firms, respectively.

Jacklin, a Spokane valley based

firm, is well-known as one of the world's largest producers of Merion and 0217 Brand Fylking Kentucky bluegrasses. It supplies seed and sod producers and distributors throughout the world.

Vaughan's is one of the world's primary horticultural suppliers to greenhouses, garden stores and nurseries. The company originated in Chicago in 1876 and currently is headquartered in Downers Grove, Ill. Other offices are located in Bound Brook, N.J., Ridgefield, N.J., and Ovid, Mich.

As a division of the new corporation, the Jacklin operations with its many growers will continue to function much as before, Arden Jacklin

The two firms reported annual sales in excess of \$21 million last

Geigy's Shortstop Herbicide Registered In California

A registration for the State of California has been granted the Ciba-Geigy Corporation for Shortstop 80W terbutryn herbicide.

Shortstop, a triazine herbicide, controls most annual broadleaf weeds and grasses for short-term weed control in non-crop areas.

According to Geigy, primary uses of the herbicide include reducing possibilities of fires in vacant lots and keeping roadsides and intersections clear of weed-caused visual obstructions.

When used according to recommendations, the product eliminates the need for mowing or cutting weeds. Lawns, shrubs and other ornamentals may be planted 6 to 12 months following application.

Shortstop may be applied preemergence or postemergence until weeds are eight inches tall. When applied on growing weeds, it may be mixed with a surfactant to increase effectiveness

Amchem's Directa-Spra Reduces Spray Drift

Directa-Spra, a spray applicator that fits into the palm of a man's hand, yet does the work of a 25-foot boom and reduces drift to a minimum, has been announced by Amchem Products.

The applicator has a rotating nozzle that is particularly adapted for roadside, railroad and ditchbank spraying, according to R. R. Johnson of Amchem.

Conventionaly as well as specialized formulations of herbicides can be applied with the Directa-Spra. The uit has been used successfully on nearly every vehicle commonly used for spraying, including boats for aquatic weed control.

"We can spray a 20- to 30-footswath at 30 psi," he says. "With different inserts, we can spray sectors of 90° and 180° with the unit mounted directly on the side of a spray vehicle. The unit has removable tips which enables the operator to change the spray pattern and the swath width."

"EVER-GREEN" TURF IRRIGATION VALVE BOX COVERS...



... other advantages are more obvious!

Golf courses, estates, parks, cemeteries, private clubs, landscaped lawns-why put up with ugly concrete or rusty cast iron turf irrigation valve box covers? Now you can have green covers that blend beautifully with the turf. And they're made of tough SUPERFLEXON® thermoplastic that lasts and lasts. Thermoplastic valve and meter boxes are resistant to moisture, and unaffected by temperature changes. They're also less brittle than concrete or cast iron . . . and much lighter, easier to install and to store. And they cost less! Thousands are in use from coast-to-coast-Philadelphia, Pa. to Sunnyvale, California.

Thermoplastic turf irrigation valve boxes with "ever-green" covers offer a new dimension in appearance as well as utility.

For complete details, write: AMETEK, INC., Plymouth Plastics Division, 502 Indiana Avenue, Sheboygan, Wisconsin 53801.



Meter Pits (round) and Meter Boxes (rectangular) can be supplied with "ever-green" cover.



Also available: Durable, easyto-install AUTOSTOP®, less costly than concrete curbs. Weather and crumble proof. Never needs painting; impregnated yellow, green, forest brown or white. Write for facts.



For More Details Circle (124) on Reply Card

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FOR AN ACTION-PACKED SOD GROWERS FIELD TOUR

AND THE ANNUAL MEETING OF THE AMERICAN SOD PRODUCERS ASSOCIATION

July 10-12, 1972

ALL SOD GROWERS ARE INVITED

ASPA members extend a special invitation to all sod growers to join them in a major Canadian event hosted by the Ontario Nursery Sod Growers Association.

Featuring:

July 10 — 7:00-9:00 p.m.

Registration and Get-Acquainted Party

July 11 -

Loading and Transporting Equipment; Sod Marketing; Harvesting Equipment; Pre-Marking Tillage Equipment; Sweeper; Evening Annual Meeting July 12-

Hauling Fork Lift; Muck Sod Production; Irrigation; Bentgrass Production; Pallet Plant; Sod Harvester Manufacturing Plant; Demonstration of Various Makes of Sod Harvesters

Annual Meeting Headquarters: Skyline Hotel, Toronto, Ontario, Canada



Call or write: Dr. Henry Indyk, Executive Secretary, P.O. Box 231, New Brunswick, N.J. 08903. Tel. (201) 247-1766, Ext. 1453

SOD TERMS (from page 50)

SYRINGING—Applying light amounts of water to reduce temperature, transpiration and wilting.

TERRACE—An essentially level and defined area, often raised, either paved or planted, forming part of a garden or building setting.

TERRAIN—An area of the earth's surface immediately under observation.

TEMPORARY GRASSES—Those grasses which are not expected to persist in a permanent turf. Usually germinate very rapidly.

THATCH-The accumulation of an undecomposed





and leaves on the soil surface and below the green topgrowth of the turf.

TILLAGE—The cultivation of loosing of soil: (to layer of dead and dying stems, roots, rhizomes make it more favorable for plant growth.)

TILLER—A stem developing from crown, a sprout or stalk.

TOP-DRESSING—Application of material (topsoil, manure, or gravel for example) to a surface without working in, as in turf maintenance or in road surfacing.

TOPSOIL—1. A fertile soil or soil material rich in organic matter. 2. Surface soil. 3. The original darkcolored upper soil ranging from a fraction of an inch to many feet in depth.

TOXIC—Poisonous, injurious to animals or plants through contact or systemic action.

TOXICANT—A specific ingredient that gives a preparation or mixture its principal value as a poison.

TRACE ELEMENTS—The rarer micro-nutrients.
TRANSITION AREA—An area between adjacent

areas where the influence of each is dispersed, diminished or changed to that of the other. (see zone map)

TRANSPIRATION—The emission of water vapor from the aerial parts of a plant chiefly through leaf stomata.

TRANSPLANT—To move a plant from one growing area or medium to another.

TURF—The live dense topgrowth of turfgrasses maintained at a specific height by frequent mowing, together with the thatch roots and upper stratum of earth. (See also sod.)

TURFGRASS—Those species used in the production of Turf.

VARIETY—A subgroup of plants in a species with similar characteristics as prescribed.

VIABLE—Capable of germination or growth.

WARM SEASON GRASSES—Those surviving winter by dormancy or survival in milder climate and grow only in warm weather bermudagrass, zoysiagrass, Bahiagrass, carpetgrass, St. Augustinegrass. See "Zones" for turfgrass adaption.

WATERING—Application of water to plants to aid their growth and survival.

WEED—An unwanted plant, especially if it aggressively competes with desired varieties of plants.

WILT—Plant diseases whose symptoms involve wilting, such as oak wilt.

WILTING—The limp and drooping condition of leaves and stems, a symptom some plants display when the tissues are inadequately supplied with water.

WILTING POINT—The point in decreasing soil moisture when a plant is unable to extract sufficient water for its needs, ceases to grow and wilts.

WINTER INJURY—Various types of damage ascribed to cold weather, extreme temperature drops, wind desication, etc., such as freeze back and bark splitting.

WINTER-KILL—The death of plants in winter due generally to sudden changes of temperature or to the ground becoming frozen too

deeply.

ZONE—1. An area characterized by similar conditions such as a planting season or growing season. 2. A land use classification.

fast, easy, inexpensive.

RAIN JETS fit any size yard. Installation is

SEND FOR FREE "HOW TO INSTALL" BROCHURE

RAIN JET CORPORATION, Dept. SS 301 S. Flower St., Burbank, Calif. 91503



a new one-two punch for tough weed problems

Krovar I is really two great herbicides in one—bromacil and diuron. Each chemical has certain advantages over the other, and together they produce a single product with many superior advantages . . .

Controls more weeds and grasses.

Krovar I controls a wider spectrum of weeds and grasses than Hyvar* X or Karmex.* It even gets tough ones like water grass, groundsel and filaree. Applied at higher than normal rates, it actually suppresses the tougher perennials, such as bermuda grass, salt grass and yellow nut grass.

Gives you an edge on the weather.

In high-rainfall areas, Krovar I doesn't dissipate as rapidly. In low-rainfall areas, it takes only a little moisture to start Krovar I working against weeds. Result? Better control in a wide range of rainfall.



The interval between application and rainfall is less critical than with other residual herbicides. Krovar I effectively reduces weather as a factor in weed control.

Economical.

KROVAR I gives such effective, longlasting control that it substantially reduces the need for follow-up sprays later in the season. In many areas, one application takes care of weeds and grasses all season long. Additionally, KROVAR I used in retreatment extends the desired controls and reduces the need for "touch-up."

Large safety factor.

When used as directed, Krovar I is safer to trees, shrubs and other desirable vegetation than "straight" Hyvar products. It's non-volatile, non-flammable, non-drifting. Pick up a supply of Krovar I soon and specify it in your orders for custom application.

With any chemical, follow labeling instructions and warnings carefully.



GOLF COURSE (from page 42)

- 2. Adding to and/or replacement of an inadequate manual irrigation system. Golfers demand high quality turf, which has created a market for better and more irrigation equipment. Most courses "trade up" to automatic systems when they need to replace an old system.
- Rebuilding an/or enlargement of small or worn-out greens and tees. Some old courses were not designed or built properly. Time and increased play have compacted soils.
- Increased use has worn-out turf. Few public courses old or new have large enough tees or greens with enough cup areas to permit good rotation during constant, heavy play.
- 4. Improvement of drainage by reconstruction and/or slit trenches (French drains). In dry climates such as in parts of Colorado, wall-to-wall irrigation systems create situations where much water falls daily on our golf courses. It has to drain somewhere. On clay soils, this water stands and causes

turf problems. It also interfers with the golfer's game. Slit trenches have been used to solve the problem on some courses. On others, major remodeling with design that considers total drainage is the best answer.

5. Creation of a long-range planting plan to remove and replace undesirable vegetation and generally improve appearance and play of wide-open courses. Trees are living things and have a life cycle Any golf course, old or new, needs a long-range planting plan that can guide the superintendent in his course improvement program.

An experienced golfer or superintendent can probably find faults on his own course. Some are easily corrected; some will require major construction. Here are examples to consider:

Problem: Distance from tee to dogleg corner too far (more than 225 yards) or too near (under 175 yards) to tee. Solution: Move tee so tee shot requirement is 175-225 yards for men, 150-200 yards for women, and/or lengthen fairway elbow area.

Problem: Not enough safety space between greens and following tees. Solution: Move tee areas to one side or ahead to allow greater spacing from previous green, and/or to shorten hole.

Problem: Greens all too much alike, or too flat for good drainage or too small. **Solution:** Redesign and rebuild new greens with variety of shapes and sizes according to shot requirements, allowing good drainage and several cupping areas.

Problem: Severe slopes on edges or across middle of some greens, making putting unfair and maintenance difficult. Solution: Strip sod, flatten base contours and replace sod.

Problem: No separate tees areas for women, making course play long and too difficult for them. Solution: Review playing yardages vs. difficulty and women's par on each hole, then design and build separate ladies tee areas.

Problem: Blind or severely-sloped tee shot landing areas. **Solution:** Regrading of knobs to make landing zones visible, and resonably level to hit to and from.

Each course has its own unique problems. Some are inherent in the site; most are caused by what man did to the site. But what man did wrong, he can usually improve, with courage, knowhow and money.



For more than 115 years Mitts & Merrill has been making specialized machinery for industry. A major part of our business is equipment to reduce scrap and waste. This experience is incorporated into design features on our brush chippers that result in higher efficiency and longer, trouble-free service for you. Only Mitts & Merrill brush chippers offer features like these:



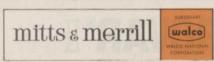
Staggered knife pattern for smoother cutting action. Mounted on an all-steel cylinder that, even without an external flywheel, is heaviest in the industry. Each cylinder revolution gives more cuts, produces smaller chips of uniform size. Self-adjusting knives are reversible; give twice the service between sharpening.



Optional torque converter isolates engine and transmission from cutting shock to minimize maintenance. Makes operation virtually fully automatic; increases operator productive time. Available on all models.

Plus ..

Positive safety-lock pin for greater operator safety
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 Heavy duty construction includes coil spring, torsion-type suspension, and box tubular steel frame.



Dept. WT-67, 109 McCoskry St., Saginaw, Michigan 48601

classifieds



When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

Rates: "Position Wanted" 10¢ per word, minimum \$3.00. All other classifications 20¢ per word, minimum \$4.00. All classified ads must be received by Publisher the 10th of the month precading publication date and be accompanied by cash or money order covering full payment. Boldface rule box: \$25.00 per column inch.

USED EQUIPMENT

FOR SALE: 1972 Chevy ¾-ton and 10′ camper \$4,800. IHC Twin Screw tractor, \$2,200. 7 gang Roseman mowers \$1,000. 13-gang Roseman \$2,200. Single mowers \$150. KB 8 Twin Screw off road \$500. 1957 Dorsey 34′ flatbed \$850. 6000# Towmotor forklift \$1,700. Pellets 32 x 48 \$1.00 each. 130-acre farm. Phone: 414 484-3941.

RECONDITIONED brush chippers, sprayers, log splitters, stump routers, bucket trucks. Let us know your needs. Equipment Sales Company, 5620 Old Sunrise Highway, Massapequa, New York 11758. Phone 516 799-7619.

1966 DODGE WITH Prentice loader, 14' bed, \$7,000. 1969 Ford F750 with 62' R & O crane, \$10,000. Vermeer No. 18 stump cutter, \$2,500.00. Bob's Tree Service, 5148 No. Flora, Kansas City, Mo. 64118. Phone: 816 454-2242.

TM-700 Tree mover, TS-44 tree spade, model 10 Vermeer Stump chipper, and (3) Elliott hi-reach basket trucks. York Tree Service, RR1, East Peoria, Illinois, 61611 or call 309 566-8575, 309 566-8562.

FOR SALE

DOUBLE EDGE sod cutter blades. Will fit any Ryan sod cutter. Works like double edge razor blade. Cuts much more sod per blade. Made to bolt on both ways. \$24.00 plus postage. New automatic sod loaders for direct loading to pallets, trucks or trailers. No workers needed on ground. Both products developed and designed by Hadfield. Write or call Glen Hadfield, 4643 Sherwood, Oxford, Michigan 48051. Phone 313 628-2000.

LANDSCAPE BUSINESS, nursery and garden center. Located in progressive college town in south Alabama for sale. Has been operated as

sideline by present owner, with volume in excess of \$50,000. Call or write John Harvell, Country Club Road, Troy, Alabama 36081.

FOR SALE: Stump cutter teeth at realistic prices. Distributor inquiries also invited. From the folks who make the tough teeth. D. J. Andrews, Inc., 17 Silver St., Rochester, N.Y. 14611. 716 235-1230 or 716 436-1515. It costs nothing to investigate.

SEEDS

LAWN GRASS SEED — Full line including sod-quality Merion, Fylking, bluegrasses, fescues, bentgrasses, ryegrasses, etc.

We specialize in custom mixing.

Phone 216/753-2259

SOD QUALITY MERION SEED for discriminating growers. Also Fylking, Delta, Park, Newport, Nugget and Pennstar bluegrasses as well as fine fescues. We will custom mix to your specifications. Michigan State Seed Company, Grand Ledge, Michigan 48837. Phone 517 627-2164.

CROWNVETCH SEED Penngift and Chemung varieties in good supply. Direct all inquiries to: Walter C. Mehlenbacher, Castile, New York 14427. Phone 716 493-2553.

EDUCATION-BOOKS

LEARN AUTOMATIC IRRIGA-TION. Easy to follow text and diagrams on latest valves, heads, controllers. System design, operation and trouble shooting. Write for free outline on this ten lesson low cost course. Larson Company, P.O. Box 4453, Santa Barbara, Calif. 93103.

MISCELLANEOUS

LANDSCAPE DESIGN KIT, 37 rubber symbol stamps and ink pad. Postpaid \$25.00. C.O.D. \$26.00 plus postage. Order direct or brochure sent. California add tax. T-Gordon's Box 741T, Reseda, Calif. 91335.

HELP WANTED

HELP WANTED: Distributors to stock our stump cutter teeth, blocks and bolts. Our high strength carbide combined with a patented braze assures you of a top quality tooth. Add to this the best price in the U.S.A. Exclusive territory, advertising at our expense, and you have our story. Why not drop us a line and say hello. D. J. Andrews, 17 Silver St., Rochester, N.Y. 14611. 716 235-1230 or 716 436-1515.

Betasan Literature Released by Stauffer

Stauffer Chemical Company has released a new brochure on the control of crabgrass and poa annua on many kinds of turf with Betasan selective herbicide.

The literature states that Betasan also controls redroot pigweed, lambsquarters, henbit, shepherdspurse and barnyardgrass.

A major advantage of Betasan, according to the brochure, is its safety to established turf grasses. These include bluegrass, fescue, bentgrass, Bermudagrass, Zoysia, Bahiagrass, Centipedegrass, perennial Ryegrass, Red Top and St. Augustinegrass.

A special section covers application rates.

For more details, circle (726) on the reader service card. SUPT. OF PARKS—City of McPherson, Kansas (Population 11,000). With overall responsibility under Park Board for planning, administering and directing municipal park system, (approximately 100 acres), swimming pool and city forester. Salary open. Send complete resume to City Clerk, Box 650, McPherson, Kansas 67460.

WANTED — Graduate Landscape Architect. Key position with large established firm in Central Florida. Operational and financial background and experience helpful. Send resume to Box 85, Weeds, Trees & Turf, 9800 Detroit Ave., Cleveland, Ohio 44102. All inquiries confidential.

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WORLD'S WORST WEEDS, not necessarily a best seller but certainly an informative publication, is being written by Drs. LeRoy Holm, Juan Pancho and Donald Plucknett, senior fellows at the University of Hawaii's East-West Food Institute. About 200 species of about 5,000 weeds surveved are considered acute problem weeds. Thirty weed species have wide geographic distribution and may be an important economic threat to 10 or more of the world's major crops. What's the worst weed? Purple nutsedge. It is found in almost every crop in nearly every country with tropical agricultural areas.

MISTER YUK is the latest euphemism for the skull and crossbones that adorns containers containing poisonous substances. Results of a study conducted for the Poison Control Center at Pittsburgh Children's Hospital revealed that the skull and crossbones may actually attract children's attention. The new symbol is a nauseous green face with a tongue hanging out. While it may be effective in warning of danger, it connotes a rather vivid impression of Saturday morning cartoons.

A COLLISION COURSE was cried 30 years ago when it was discovered that the U.S. harvested 20 percent more trees than it grew each year. Today we grow 61 percent more wood than we harvest or lose to fire, insects and disease.

DANVILLE JUNIOR COLLEGE, an Illinois school, has developed a three-prong system of education and training in landscape horticulture, turf management and commercial floriculture. Since 1965 there have been 175 participants in the twoyear programs. The triad approach features technical classroom training and instruction, practical laboratory experience and supervised occupational experience with on-thejob training. Among the many facilities are 43,000 square feet of turf plots, a golf course green constructed by former students and maintained by present students, two acres of nursery stock and a 500 square foot lath house.

When surveyed, 57.9% of WTT readers use irrigation commercially in their business or service operation.

Penn State Bulletin Features Pollution Solutions

A special issue of "Science in Agriculture" the research quarterly of the Agricultural Experiment Station at Penn State University features solutions to several problems of wastes and pollution.

Describing research findings and studies underway by scientists of the Experiment Station, the 24 page publication is free of charge and is available in large quantities for use by schools as well as organizations dealing with pollution abatement and environmental improvement.

"Science in Agriculture" opens with an article stressing the need to develop corrective systems to curb environmental pollution. This is rollowed by 15 articles describing solutions to pollution abatement and improvement of the environment.

The 15 topics describe reclamation of coal mine refuse banks, milkhouse wastes, liquid cattle manure, organic wastes, cheese whey, poultry manure, and sewage effluent and sludge. Protection of the environment is described as one longtime objective of the College of Agriculture.

One article shows that stream qualtiy influences recreational expenditures and regional income level. Problems with septic tanks on certain soils of Pennsylvania are stressed. Possible use of a "dry phosphoric acid" to deactivate herbicides in soils is featured. Soil chemists state a need for a new approach to soil testing, a method to provide minimum soil pollution with economical crop yields. And potential hazards endangering foods are described.

For more details, circle (724) on the reader reply card.

Major Turf Diseases

By DR. HOUSTON B. COUCH

Head, Department of
Plant Pathology and Physiology
Virginia Polytechnic Institute
and State University



There are a great number of turfgrass diseases. Fortunately, however, not all are capable of causing extensive damage, and the more destructive ones are fairly easy to recognize.

Four of the major turfgrass diseases—snow mold (Fusarium nivale), leafspot (Helminthosporium spp.), dollar spot (Sclerotinia homoeo carpa), brown patch (Rhizoctonia solani)—are identified from various degrees of closeness on the adjacent chart. The chart also illustrates which months the four diseases are active.

Brown patch, for example, may become a significant problem during the hot, humid months from mid-May to mid-September. The cool, moist weather from November through March often brings an attack of snow mold. Dollar spot may occur during hot, dry weather while leafspot, one of the most destructive turf diseases, is active during the spring, early summer and fall when moist conditions exist.

EDITOR'S NOTE: An 8½ x 11-inch color print of the disease chart shown at the right is available, at no charge, by writing to: O. M. Scott & Sons Company, Marysville, Ohio 43040.

