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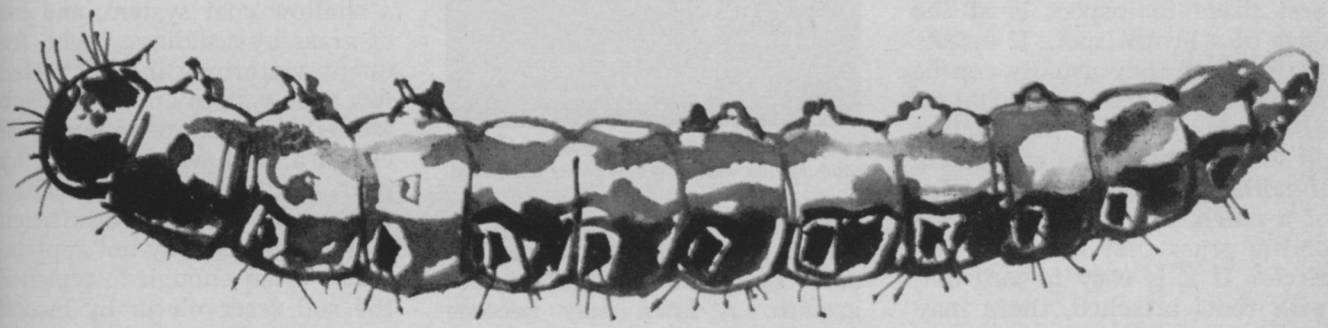

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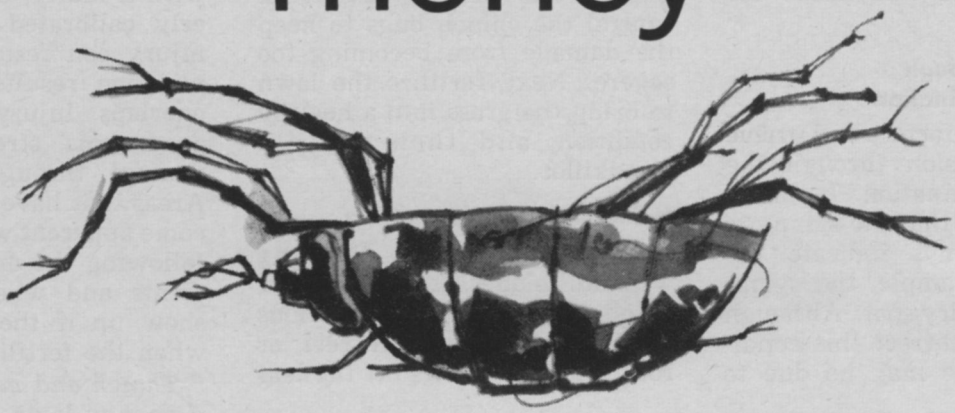


Chinch bugs and sod webworms in any turf and eriophyid mites in Bermuda grass. All three get their comeuppance when you use Ethion. Ounce for ounce no chinch bug killer outperforms it; one application can control up to six weeks or longer.

Ethion

fmc®

FAIRFIELD CHEMICALS, NIAGARA CHEMICAL DIVISION, MIDDLEPORT, NEW YORK

(from page 17)

disease. *Streaks* can be caused by careless application of chemicals, a dripping gas tank on the mower, or improper mowing. A *general decline* of the grass may be due to a shade condition, rhodesgrass scale, an excess of traffic, children's play, or a soil problem. Closely examine any unusual spots to determine if the grass is chewed, dead, wilted, or a yellowish-brown color. The best place to inspect is at the edge of a brown spot. If insects are present, they usually can be found in this area and a fungus disease is generally most active on the circumference of a patch. If nothing is found at the edge of a patch, try pulling up some of the grass that is left in the circle. If it is easy to pull out, with roots attached, there may be pests working on the roots. If nothing is found above ground, then use a shovel or a soil tube to look beneath the soil, sampling both good and bad areas for comparison.

Conclusion Through Process of Elimination

Consider all factors and arrive at the conclusion through the process of elimination. It should be pointed out that the symptom does not always indicate the cause. For example, the symptom may be a dry spot. Although water would correct this condition, the cause may be due to subsurface insects, compaction, layering, nematodes or numerous other conditions that affect root growth. A lawn may become subject to two or three problems at the same time. As an example, a lawn may have chinch bugs, weeds, and need fertilizing. Should this be the case, first control the chinch bugs to keep the damage from becoming too severe. Next, fertilize the lawn to bring the grass into a healthy condition, and then apply a weedkiller.

Chemical burns on this zoysia lawn in south Florida was caused by faulty equipment.

Mismanagement Symptoms

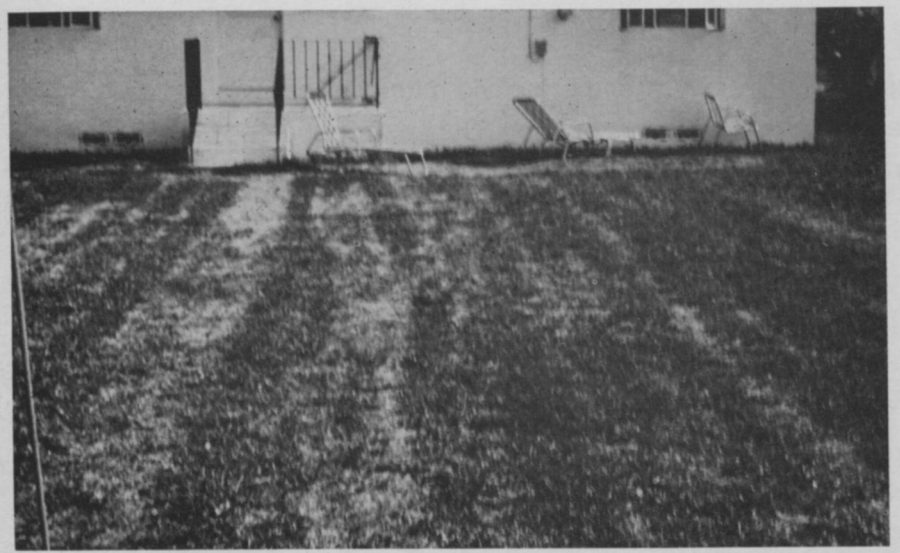
Improper mowing. Mowing with dull blades, at the improper height, or too fast, causes serious lawn damage. A dull reel or rotary mower chews off the leaf blades, leaving the tips split and giving the lawn a grayish-brown cast. A mower set too low scalps the lawn. Mowing too fast gives the lawn a ripple effect. Mower damage is increased if the grass is in a wilted condition at the time of mowing.

Improper watering. Frequent application of too much water usually results in a soggy soil under thin, yellowish grass. This condition does not allow the soil to drain properly and can result also in increased fungus activity, a shallow root system, and loss of grass by scalding. Light, frequent waterings induce a shallow root system and often cause weeds such as pennywort, dichondra, and watersedge to appear. Wilted grass, or localized dry spots, indicate insufficient watering caused by not applying water often enough to replenish the soil reservoir or by insufficient distribution of the sprinklers.

Improper fertilizing. When fertilizer is applied by hand or with a faulty, dirty, or improperly calibrated spreader, grass injury can result. Careless application results in misses and overlaps. Injury can show up as dead spots, streaks, or general damage throughout the lawn. Areas that have been missed become apparent within a few days following the application. Footprints and wheel marks often show up if the grass was wet when the fertilizer was applied.

Thatch and mat accumulation. A spongy lawn, especially if it's only one or two years old, indicates improper watering, fertilizing, and mowing procedures. Thatched or matted lawns are ideal habitats for insects and diseases and make control of these pests difficult. A spongy lawn is more susceptible to cold damage. Also, dry spots develop in thatched lawns because the water has difficulty moving into the soil.

Presence of weeds. Any management practice that reduces the vigor of the grass can pave the way for weed infestation. The presence of certain weeds often indicates corresponding problems. For example, ground



Irregular striations in this st. augustinegrass lawn were caused by 2,4-D improperly applied.

ivy (creeping charlie) or sandspurs frequently denote a need for fertilizer. Pennywort, dichondra, and watersedge show improper watering and poor drainage. Presence of spurge often suggests a nematode or compaction problem.

Improper chemical application. Chemical burns may be generally in a streaked or spotted pattern, and affect the soil as well as the grass. These burns usually are the result of improper calibration, careless application, or poor maintenance of equipment. Almost all pesticides used for the control of insects, diseases, and weeds can cause damage if directions for application are not followed. Careless application results in skips, misses, or overlapping. Burns also result from clogged nozzles and dirty or faulty equipment.

Common causes of chemical burns are: *gasoline* (filling a mower on the grass, or a leaking carburetor or gas line); *oil* (overfilled air-cleaner or adding oil while the mower is sitting on the lawn); and *grease* (excessive grease on fittings).

Common weed chemical damage. High rates of 2,4-D cause grass runners to become looped, the tips curl upwards, and the leaves become brittle. In severe cases there is a brown ring at each joint and the roots are usually dead. Improper rates of Simazine or Atrazine cause the grass to become yellowish with some leaves and stems dead. On st. augustinegrass, the healthy grass usually becomes susceptible to gray leaf-spot fungus.

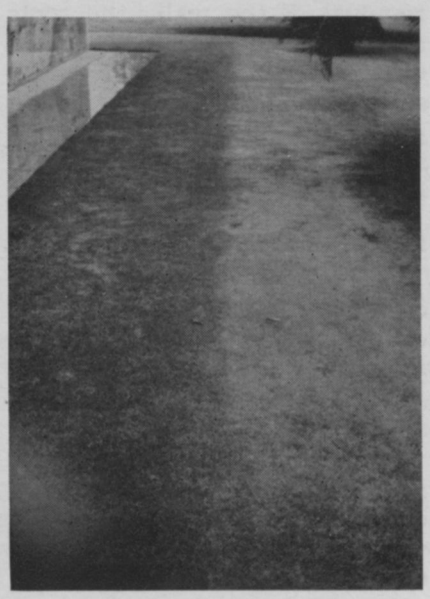
Incompatibility. Some insecticides, fungicides, weed chemicals, and liquid fertilizers are not compatible when applied together. As an example, fungicide containing mercury when applied with liquid fertilizer often will burn the grass. Carefully read the entire label before applying any chemical.

Miscellaneous Symptoms

Excessive traffic. Uneven distribution of traffic in children's play areas, around clothes lines, dog runs, or automobile parking areas causes the grass to become damaged in patterns associated with the cause. The symptom of excessive traffic is worn or ragged grass with loss of color. As the condition becomes worse, most of the grass is killed.

Grass not adapted to area. A general thinning of the grass, weak plants, or worn areas may result when the grass selected was not adapted to the area, or when the maintenance level is not adequate for optimum growth.

Dog damage. Brown spots which resemble disease damage are often caused by dog urine or feces. The grass in these spots often has a speckled appearance,



This drought damage to zoysiagrass was caused by nematode and mole cricket damage to roots. Areas protected from sun survived.

but also may be brown, bleached, or dead.

Salt damage. Usually occurs on grass where salt spray or water washes onto the lawn, such as on the ocean, gulf, or waterways. If the lawns are not watered with fresh water, the salt tends to accumulate, causing tip burns on the leaves of grasses that are more tolerant. On grasses not tolerant of salt, the grass declines and eventually dies. This same condition may occur when fertilizer is applied and a small amount of water added following the application. The tip burn usually shows up in two to three days. Water from swimming pools can cause grass to have a purplish-brown, streaked appearance if allowed to drain on lawns.

Shade. All lawngrasses in Florida need some sunlight. Heavy shade from buildings or trees cause the grass to become weak and thin and the stems and leaves tend to elongate.

Plant roots. Roots of many trees and bushes compete with grasses for water and fertilizer. The grass in areas where there is root competition usually is thin and does not hold its color or may wilt before other areas of the lawn.

Cold damage. When grass has been maintained under a low fertility level, the blades and stems turn a reddish purple with slight cold damage.

Frost damage. First symptom of frost damage is greasy-looking grass. Later the leaves turn a bleached brown. Frost damage is most likely to occur in areas of the lawn that are exposed, with dry soil, or thatched lawn.

Drought damage. Almost all lawns are subject to drought conditions at some time or other. This results from high temperatures and uneven rainfall distribution. Poor moisture retention is a cause in most Florida soils. Many times the same area of the lawn will wilt first. At first, the leaves roll up. If the condition continues, the grass turns brown or a straw color, and may die.

This is the first of two articles. Next month, author White will take up soil problems, nutritional symptoms, insects and diseases.—Ed.

Kansans Should Order Trees Now for Spring Planting

Orders for trees, shrubs, and stratified nuts to be planted this spring are being taken at county extension and soil conservation district offices throughout the state, Harold Gallaher, Extension Forester at Kansas State University, Manhattan, announced recently.

Interest in the Kansas tree distribution program has grown with each succeeding year. In the last 8 years, 8½ million trees, shrubs, and stratified nuts have been distributed in this program.

Tips on Parkway Trees Included on Varied Program For Calif. Nursery, Landscape Tree, and Turf Meet

By RICHARD D. VAN BRACKLE, Extension Information Specialist, University of California, Riverside

In selecting trees for parkway plantings, it is wise to consider tree selection, the size of the parkway, soil conditions, root structure, ultimate size, shape, freedom from pests, and habit of growth.

This is the advice of Robert N. Berlin, Parks and Recreation Superintendent for the City of South Pasadena. He spoke before nearly 1,000 delegates to the annual Nursery, Landscape Tree, and Turf Conference at the University Theatre, University of California, Riverside, Feb. 3-5.

Other topics on the diverse program included an updating on dichondra for turf areas, and observations on roadside maintenance.

In his talk on trees and sidewalk damage during the landscape tree portion of the 3-day program, Berlin said, "Many of us in the profession inherited a problem where trees were planted some 40 to 80 years ago. These trees were planted in parkways which were inadequate. Good examples of such trees are the Carob and Camphor trees which were planted in 3-foot parkways.

"Today, the crown of the tree is pushing up the sidewalk and breaking the curbs and gutters along the streets. The roots of such trees are reaching out many, many feet, raising even greater amounts of sidewalk, and in some cases, raising the pavement in the street."

Berlin described a new machine, similar to stump removers, which can go along the sidewalk edge and cut tree surface roots to a depth of 15 inches. He said the roots are cut on both sides of the sidewalk and upon removal of the walk, the roots are removed with little or no effort. With the machine, he said, it will be possible to do preventive maintenance which should cut down sidewalk damage from tree growths.

Dichondra Gaining Favor

Dichondra, a popular ground cover in California today, may even deserve greater popularity, according to Victor B. Younger, associate professor and turfgrass specialist at UCLA.

"We might expect that improvement such as introducing disease tolerance or reducing the seriousness of the common early summer decline will greatly increase dichondra's appeal and usefulness," Younger said.

Varieties of dichondra are being studied at UCLA, Younger revealed, as a possible road to improvement. "It is hoped and anticipated that disease tolerance, salinity tolerance, increased cold and heat resistance, and better growth habits will be found during these studies."

Roadside Maintenance Not Easy

It takes more than a gardener to maintain roadside plantings to achieve the required effect, California highway roadside expert John Smith told the assembly. Smith is Landscape Supervisor for the California Division of Highways, Los Angeles.

Smith said that the design of the road, size and shape of areas, plus the factor of autos traveling at terrific speeds close to the areas and the constant winds, all contribute to the maintenance problem, making it difficult to achieve what is expected by the architect who designs the roads, and by home gardeners.

Smith said that 14 years ago one landscape man maintained approximately 3 acres of highway landscaping; today, one man is maintaining an average of 10 acres.

"Maintenance of freeway landscaping is an expanding business and could be astronomical in cost if allowed to be a 'backyard' process," Smith said.

Chairman William B. Davis, Extension Ornamental Horticulturist for the University of California, said nearly 1,000 persons attended the conference, and that they included landscape nurserymen; commercial vegetation maintenance firms; superintendents of parks, cemeteries, and golf courses; and researchers from state agencies. The event was sponsored by the University of California Agricultural Extension Service and the Department of Landscape Horticulture, in cooperation with the California Association of Nurserymen, International Shade Tree Conference (Western Chapter), Street Tree Seminar, and the Southern California Turfgrass Council.

Error in January Issue Regarding Geigy Prometryne 80W

There was an error in the report of the Oregon Weed Conference on page 27 of our January '65 issue. In discussing Geigy Prometryne 80W for weed control in bluegrass grown for seed, it was mistakenly stated that the product was "recently registered in Oregon only for *preplant* weed control," and that "The company then *prescribes tillage for proper herbicide penetration* into the soil."

Actually, label instructions read as follows in regard to these two points: "Make applications after burning and 7-10 days after sufficient rainfall to germinate weeds or the first post-harvest irrigation. Application should be made before weeds are 1½ inches high. Additional important information: Grass should have a good burn and field should be worked with a tillage implement to scatter unburned crop residues prior to application to permit better herbicide penetration."

What Highway Supervisors Want From Contract Applicators

(from page 14)

their unwarranted fears, has become an important and sizeable requirement in our roadside program.

The areas of management of vegetation along present day thruways, freeways, parkways, turnpikes, and interstate highways are more extensive in width than formerly and must be administered more efficiently.

Thus, from a maintenance standpoint, it is imperative to fully comprehend this growing giant-in-breadth so necessary to erosion control. Therefore, we must devise new methods of control and improvise on the old, since increased competency in ways and means is the only procedure to extend the overburdened maintenance dollar.

Each individual highway must be designed in a tailored fashion according to the dictates of our surrounding terrain. The construction plans must include not only a complete highway, but, one possessing the many facets of built-in maintenance.

Experience has taught us that there is no single phase of our roadside development operations that can be termed a "cure-all" for a reduction in mowing costs. It is rather a well-planned combination of:

(1) Planting and mulching; (2) weed control; (3) soil sterilant; (4) contract mowing. This is the type of program we envision in Massachusetts.

U.S. Borax Offers "Maintain"

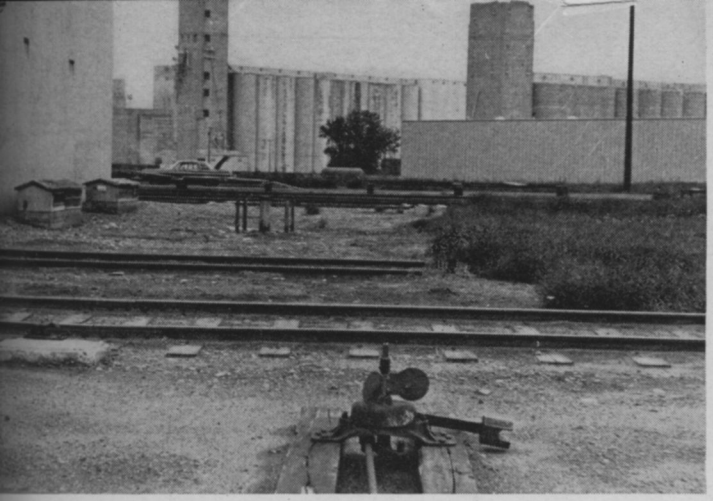
A new herbicidal formulation designed for use as a multipurpose weedkiller is now being marketed by U. S. Borax & Chemical Corp., Los Angeles, Cal.

Called "Maintain," the new weedkiller is described as a liquid emulsifiable concentrate containing 2 pounds of 2,3,6 trichlorobenzyl-oxypropanol, 1 pound of bromacil, and 0.2 pounds of 2,4-D acid equivalent per gallon.

Dr. L. M. Stahler, herbicide products manager for U.S. Borax, said extensive field tests showed "Maintain" to be a long-lasting, nonselective weedkiller for use where complete control of vegetation is desired, such as playgrounds, fuel storage areas, power transformer stations, industrial yards, railroad yards and general track areas, and along highway shoulders and bridges.

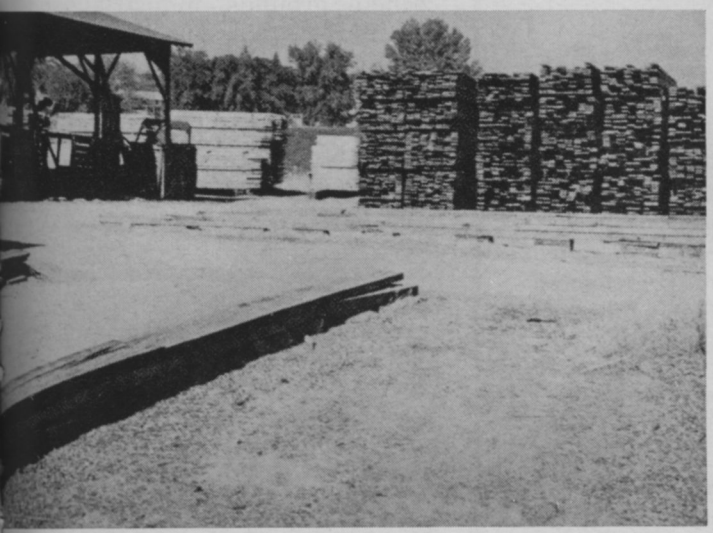
Stahler also says the new herbicide is particularly useful for control of those species which have shown a high degree of resistance to substituted urea and substituted triazine herbicides when applied at maintenance rates. "Rapid initial action and a quick knockdown of existing broadleaf vegetation is obtained at application time. In addition, the formulation has excellent residual effects in the soil," Stahler concluded.

Interested applicators may obtain complete details about this product by writing to U.S. Borax & Chemical Corp., 3075 Wilshire Blvd., Los Angeles, Calif. 90005.

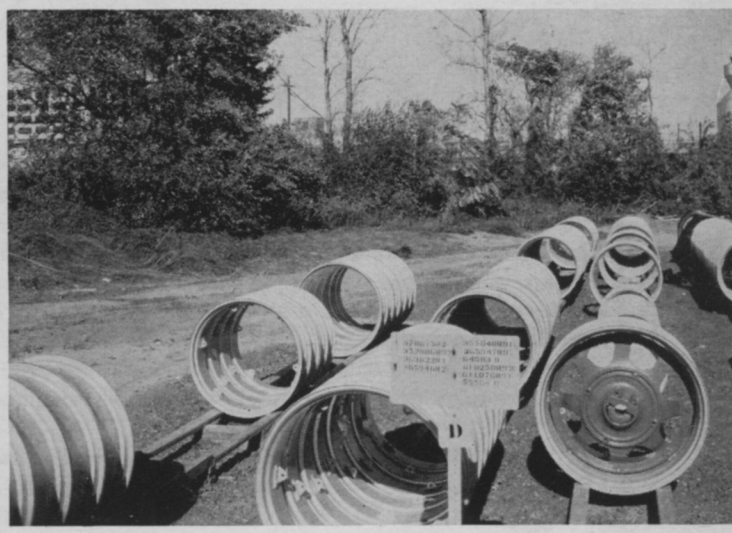


Control hard-to-kill perennial and annual weeds and grasses with new Hyvar® X-WS bromacil weed killer. Vegetation in the foreground and to the left above was effectively controlled with one application of "Hyvar" X-WS; area in right background was not treated. Maintenance cost is reduced by using long-lasting, effective "Hyvar" X-WS.

Easy-to-use "Hyvar" X-WS controlled weeds and grasses around the fence line. Once stirred into solution "Hyvar" X-WS doesn't require additional mixing or agitation. It's easily applied with simple equipment such as knapsack type sprayers. Expensive hand clipping is eliminated when you use "Hyvar" X-WS.



Fire-hazardous vegetation was controlled with Hyvar® X bromacil weed killer in the lumber yard area above. "Hyvar" X is a wettable powder formulation for use in sprayers equipped with adequate agitation. After application "Hyvar" X gives the same effective control as new "Hyvar" X-WS. All Du Pont weed killers are non-volatile, non-flammable, non-corrosive and low in toxicity to man and animals when used as directed.



Moisture-holding vegetation that tends to rust expensive equipment was controlled here with Karmex® diuron weed killer. "Karmex" is a versatile weed killer that gives long-lasting economical control of unwanted vegetation. By removing undesirable weeds and grasses in storage and other areas with "Karmex," employees' working conditions are improved and tool and material losses are decreased.

WEEDS!
A menace to everyone/profits for you

There's money in weeds, if you're on the right side of them. Du Pont weed killers make custom weed control jobs easy, effective and profitable for you. Check the typical problems pictured above. Chances are you'll see similar ones within a mile of where you're standing, and that you can solve them with Du Pont weed killers.

In addition to weed control, Du Pont Ammate® X weed and brush killer and Dybar® fenuron weed and brush killer offer your customers effective brush control. "Ammate" X is non-volatile... brush near crops or desirable plants may be sprayed without harmful fume damage when it's used as directed. On light-to-medium stands of brush, easy-to-use pellets of "Dybar," applied right from the package, do an effective job. For complete information, mail the coupon to Du Pont today.

On all chemicals, follow labeling instructions and warnings carefully.

DU PONT REG. U.S. PAT. OFF. **WEED & BRUSH KILLERS**

Better Things for Better Living... *through Chemistry*

Du Pont—Industrial and Biochemicals Department
Room 2311 B
Wilmington, Delaware 19898

Please send me more information on Du Pont Weed and Brush Killers.

Name _____

Company _____

Address _____

City _____ State _____ Zip Code _____

WILD GARLIC

(Allium vineale)

Wild garlic (4) is a perennial which reproduces by aerial bulblets, bulbs (2), and rarely by seed. Its persistent hardshell bulbs are dormant, making it difficult to eradicate even though it is susceptible to common phenoxy herbicides. Found in lawns, grain fields, and pastures in sandy or gravelly soils, wild garlic is considered noxious in many dairy states because when eaten by cattle it imparts an onion flavor to milk. Wild garlic is sometimes found in blank spaces in lawns where disease, insects, or misuse have damaged the lawn. Vigorous competition of well-kept lawn grasses may partially alleviate the problem.

Beneath the ground each bulb (3) produces one stem. The stem is hollow, just like the common onion, and covered around the base with a sheath from the bulb. Leaves are slender, hollow, and emerge mainly from the bulb but also some come from the lower part of the stem. Leaves are grooved and without hairs.

Flowers (1) are borne in an umbrella-like pattern atop the main stem and are greenish pink to greenish white. Flowers frequently develop into small green aerial bulblets which can produce another plant.

Roots are fibrous and emerge from the bottom of an underground bulb which is covered with a thin membranous layer. Bulbs often produce smaller offset bulblets which are hard and dormant and add to eradication problems. Dormant bulbs may persist three years in the soil before producing a new plant.

A similar species which differs only a little is wild onion, *Allium canadense*. Wild onion has no dormant hardshell bulbs and is easier to control. Both species are less common west of the Mississippi Basin, but thrive in both the Northeast and Southeast.

Wild onion bulbs have a matted netlike covering. Wild onion will often have only two leaves arising from the base of the stem in the bulb and no more. Leaves of wild onion are flat but not hollow. Pinkish flowers also form small bulblets.

Both wild garlic and wild onion are susceptible to 2,4-D which gives a top kill, but will not destroy the bulbs. Bulbs resprout several months later and must be treated again with 2,4-D. Adequate control from re-treatments with phenoxy compounds may take 3 years.

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)

Rutgers Turfgrass Field Days Set for April 23-24

Noted for its up-to-date information on turfgrass production and maintenance, Rutgers University again invites turfmen, applicators, and others associated with the turfgrass industry, to attend its two-day turfgrass equipment and products field show scheduled for April 23-24.

Lectures and other educational programs are slated for this annual spring session being held on the campus in New Brunswick, N. J. The first day's sessions are directed to the professional man who associates himself with golf course maintenance, parks, school grounds, industrial, and plant research. The second day is for the general public.

Newest products of manufacturers and suppliers will be displayed.

For more information about this event write to Dr. Henry W. Indyk, College of Agriculture, Rutgers University, New Brunswick, N. J.

Manufacturers and suppliers who may still be interested in displaying products during Rutgers Field Days, may write Dr. Indyk for necessary application forms.

Tordon Weedkiller Report Heard by Calif. Ranchers

Successful eradication of three persistent weeds, in Tordon brush control tests conducted by University of California, Berkeley, were revealed at one of the past meetings of the Central California Brush Range Improvement Assn.

Not yet registered for use on crops or range, Tordon has shown effectiveness against Canada thistle, morning-glory, and Russian knapweed, William A. Harvey, weed control specialist in the Agricultural Extension Service, said. According to Harvey, it killed old chamise with a broadcast foliage treatment of one pound per acre. It also had good effect on some trees where treatment of a single axe cut produced an 80-90% foliage kill. Tordon is a product of The Dow Chemical Co., Midland, Mich.

Three powerful Hooker herbicides for noncrop land

These nonselective weed killers offer broad-spectrum weed control at a low cost.

Used along highways, fence rows, on railroad and industrial sites and other noncrop land, they control a large variety of deep-rooted perennial weeds under a wide range of climatic conditions.

Our new MBC(TM) is fast, easy, highly effective. It gives quick knockdown of vegetation and residual control of broad-leaved and grassy weeds.

Tritac(TM) is a very economical herbicide. As little as four to eight gallons can treat an acre for a season or more. Three formulations—liquid, liquid with 2,4-D, and granular—provide flexibility of treatment.

Hooker sodium chlorate, the original one-shot weed killer, has a forty-year reputation for efficient control.

Our agronomists will be glad to advise you on handling, storing and application of Hooker herbicides and to help with your weed-control problems. Please write Agricultural Chemicals, Hooker Chemical Corporation, 404 Buffalo Avenue, Niagara Falls, N. Y. 14302.

HOOKER
CHEMICALS
PLASTICS

AGRICULTURAL CHEMICALS

Bidrin for DED, Maple Disease Tips, Pricing Hints Conveyed to Arborists at 14th NAA Midwinter Caucus

By DANIEL DOWD, State University of New York, Farmingdale, L.I.

An impressive program that sprang into life despite last minute difficulties with the proposed convention hotel lured some of the nation's leading arborists to Tampa, Fla., for the 14th annual National Arborist Association Midwinter Meeting earlier this year.

Covered in the meeting at Tampa's International Inn were a new Dutch elm disease control called Bidrin, some expert advice on various maple disease problems, three different pricing procedures arborists encounter, and a host of other subjects both new and old. Local convention chairmen had been thrown into a frenzy at the last minute when a previously chosen hotel became unavailable because of operational difficulties. However, the meeting went ahead as planned at the new site.

Of particular interest to the technologist-businessman was a crack panel on the costs and pricing of some tree operations. Lead-off discussion, offered by William A. Rae, distilled his experience with tree moving and planting. Rae is with Frost and Higgens Co., arborists from Arlington, Mass.

Rae said unless estimating tree moving and planting contracts is based on accurate information and knowledge of costs, profit can be wiped out. Collected stock very often costs more per unit than nursery stock because of hidden factors, the expert cautioned. For example, a breakdown of cost figures on a linden, 8″-9″ caliper, showed that actual expense, including all costs, was over three times a nursery's catalog sum of $270.

To such indirect expenses as insurance and overhead, arborists must add the liabilities of transportation, preparation of hole, topsoil, mulch, tree wrap, and planting labor to the final tally before a profit can be determined. Sometimes it is advantageous, when doing a job a long way from headquarters, to hire local labor; it may even be advisable to lease local equipment, the Frost and Higgens expert proposed.

In the second round of the pricing panel, NAA first vice president Edwin E. Irish delivered his views on pruning and fertilization cost analysis. He's with Charles F. Irish Company in Detroit, Mich. The Irish organization is considered unique because it does only private work, a large part of which is with regularly established accounts. "We give priority to our old customers," the Detroiter revealed.

Irish said in his company's relationship with old, private customers, most times there is no contract price and services are computed on a time and material basis. Less than a third of his jobs are estimated in advance.

Some of the details presented were: Time is figured on a portal to portal basis. Air feeding with dry materials is at $35 per hour which includes time of three men and the materials used. Liquid fertilization is charged at 20c per gallon applied. A 20-inch tree takes from 70 to 80 pounds of air fertilization. Unit rate of fertilization is 41 pounds per crew hour.

For a look at the pricing patterns in spraying, bracing, and cabling trees, conference planners slated William P. Lanphear of Forest City Tree Protection Co., Cleveland, Ohio. Lanphear said 60% of his business volume is in elm tree care. For this elm work he considers a spraymeter of essential importance for measuring spray output. Time is recorded on color-coded sheets for each job. Records show gross value of work performed and of materials used, as well as direct labor costs. Lanphear also makes note of such costs as taxes on labor, trucks, etc.; insurance

Aerial Applicators Learn of Safety Needs

An appeal to help develop an effective accident prevention program which focuses more attention on "human factors engineering," was made recently to delegates of the 14th Annual Agricultural Aviation Conference at Texas A&M University.

Speaking on the subject "Accident Prevention," John P. Galipault, principal researcher for the Ohio State University Aviation Department said that state aerial applicator associations should co-operate closely with the federal government to formulate a "realistic set of pilot operating conditions and physiological limits."

Only Texas and California have regulations which require specific pilot competence, the speaker said; most states have little or no regulation of aerial application activities and pilot requirements.

The Civil Aeronautics Board and Federal Aviation Agency estimate that about 80% of all accidents are caused by pilot error.

In other talks to the assembly Dr. Dayton L. Klingman, U. S. Dept. of Agriculture, Beltsville, Md., offered "Research on Control of Weeds and Brush on Grazing Lands"; "Production and Distribution of Sterile Screw-worm Flies," by Charles L. Smith, USDA entomologist at Mission; and "Low Volume Aerial Spraying," by Kenneth Messenger, who is responsible for research at the USDA Plant Pest Control Division at Hyattsville, Md.