

WEEDS TREES and TURF

FORMERLY WEEDS AND TURF

November 1965

Five
Conference
Reports in
This Issue



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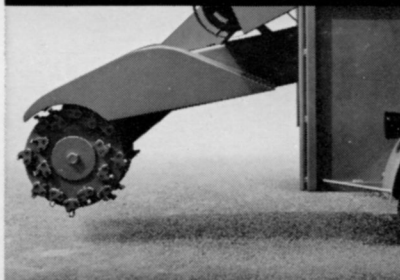
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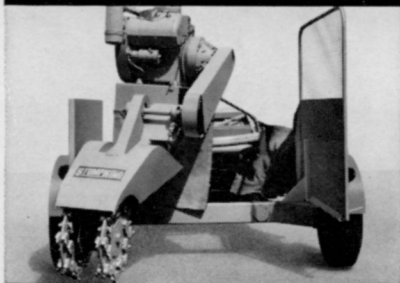
Monthly magazine of methods, chemicals and
equipment for vegetation maintenance and control

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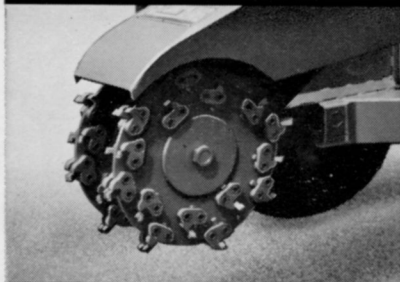
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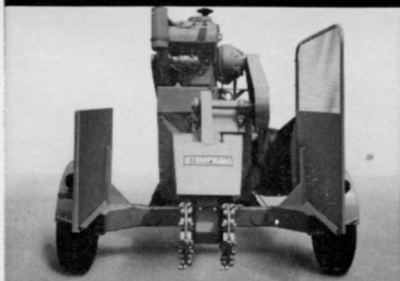
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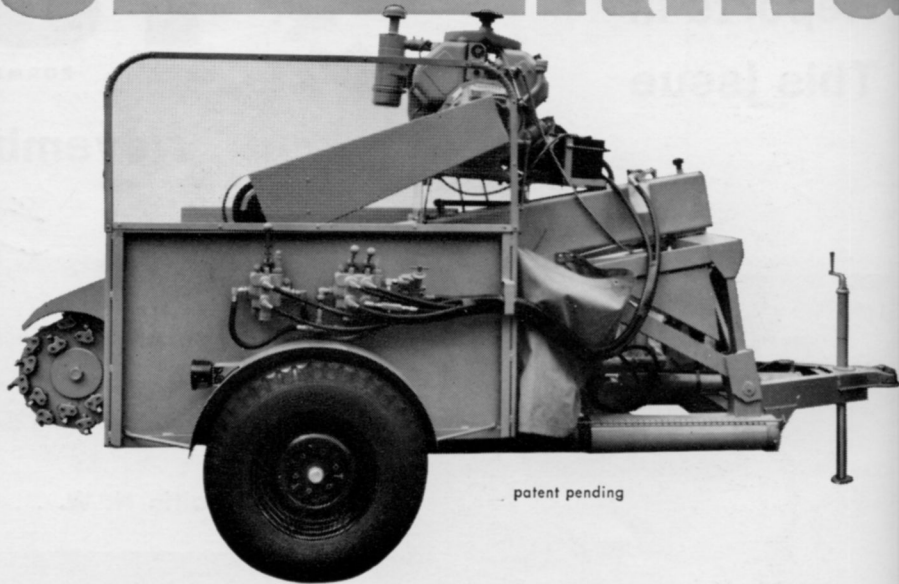
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WEEDS TREES and TURF

FORMERLY WEEDS AND TURF

November 1965
Volume 4, No. 11

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Address

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Advertising Representatives

National Headquarters

1900 Euclid Avenue
Cleveland, Ohio 44115
Phone: Area Code 216+771-4169

DONOVAN E. HENDRICKS

Staff Biologist

MICHAEL I. LAH, JR.

Production Manager

D. BUNKIN

Circulation Supervisor

Chicago 60601

Peck & Billingslea, Inc.

185 North Wabash Ave., Suite 1809
Phone: 312+DEarborn 2-0292-93

New York City 10017

Billingslea & Ficke

420 Lexington Avenue
Phone: 212+532-1632

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Look the Part

This is a touchy subject. No one likes to be told he isn't "dressed" properly. Yet if his appearance adversely affects his livelihood, a friend needs to tell him how he looks to others.


It's not without reason that several speakers on recent conference programs have spoken about the importance of public relations in every phase of the contract spray business. Portland, Oregon sprayman Bill Owen reminded his coworkers at one meeting a few months ago that their unconscious day-to-day business practices constitute their public image. A chemical supplier pointed out that the success or failure of an applicator's business may very well begin with the impression he makes on his prospects and customers.

On several of our field trips we've seen cheap, hastily painted signs on spray trucks that don't do justice to the education and training of the men who own the vehicles. Ofttimes they're covered with weeks of dirt. And then we've watched unshaven field crews in dirty, sloppy old clothes spraying in fine neighborhoods. There are contractors' offices that haven't seen a broom in months; their windows need washing and their outsides could stand a coat of paint.

Before we're accused of living in an ivory tower, we want to remind the relatively few guilty of such practices that it doesn't take a lot of money to make a good impression. A boy can be hired to wash trucks regularly if your own men don't have time to do it. An equitable arrangement can be made to outfit crews in clean, neatly lettered coveralls or uniforms. A professionally executed sign doesn't cost much more than one done by an amateur. By ignoring these things, CAs prevent their own reputations from rising and put the entire industry in bad light.

An investment in the appearance of office and service buildings, of service crews and the equipment they use is just as important as any other sales expense. Self appearance, personal behavior, speech, telephone techniques, carefully typed letters on attractive stationery, courtesy . . . all are part of the total opinion outsiders have of the companies they want to deal with. The impression you make helps build business as effectively, and perhaps more so, than any other type of advertising. Public acceptance of the increasing technical knowledge spraymen have can only be realized if they'll look the part.

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.



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How to Sell Zoned Trees

By H. W. GILBERT

Extension Horticulturist, Landscape Architect
Purdue University, Lafayette, Indiana

SELL TREES in locations that fit problems of the owner of a new home that needs trees. The purpose is to use a few trees that are fundamental to a good landscape plan. Such a plan can be completed after three or four trees are properly chosen, located and planted. These I have chosen to call "primary trees." The majority of new homes are built on lots without trees. Every homeowner desires trees. However, most trees do not have enough shade to enjoy for about ten years after planting.

Homeowners develop their grounds in many ways. For example; a small percentage complete a landscape design for their place in one planting season. Of this group some do it all with young plants. A larger number use some small and some sizeable shrubs.

No doubt the largest number do a little at a time over a five-to-ten-year period.

However, it appears that the percentage of homeowners in the low and medium income levels that plant trees of 3" caliber or larger is very small.

From experience and observation trees 6'-8' tall or smaller have a growth rate that makes them competitive with a 2"-3" caliber tree.

Any of these approaches may

be taken to sell. Each family and each landscape opportunity is different.

In landscape design, trees are the largest and most important woody plant element. In addition to shade they provide some protection. Artistically trees are used to frame and give background for the dwelling. They provide interesting shadows and appeal to the human senses of sight, sound, touch, and sometimes taste.

One always enjoys seeing a completely landscaped home grounds that is not overdone. The average homeowner would like to have this kind of environment.

Too many times one sees shrubs about the house that are overgrown or artistically out of scale. In the same yard the trees may be too small to be in scale; to provide shade, background, and framing for the dwelling.

Professionally we should help the owner select the kind and size of tree; perhaps more important the minimum number that will do the job.

Tree "Zoning"

We are familiar with the term "zoning" as it relates to urban problems. I suggest that home grounds can be zoned into areas for trees. Some points that can

be used to determine "tree zones" on the home grounds are:

1. Estimate that half or less of average home lots need more than one large type tree.

2. Shade on the dwelling is desirable in summer.

3. Shade outside the dwelling is desirable for comfort and beauty.

4. The view of the dwelling should be framed.

5. Sewage, water, and utility lines should not have interference from trees.

6. Shade is desirable immediately.

7. The cost to the homeowner must be compatible with other expenses he must meet in the early stages of home and home grounds development.

The Selling Approach

The selling approach is simple and direct: A total landscape is more desirable than over-expenditure for shrubs across the front of the dwelling. It might include one large tree, not less than 3" or 4" caliber at 6" above the ground, or 5", 6", 7", or 8" caliber at 1 ft. above ground, and two small trees 6'-8' tall, single stem or multiple stem. If the house faces south or west, two large trees may be required (See diagram).

Examples of large trees are sugar maple, pin oak. Examples

ZONES FOR 3 OR 4 PRIMARY TREES

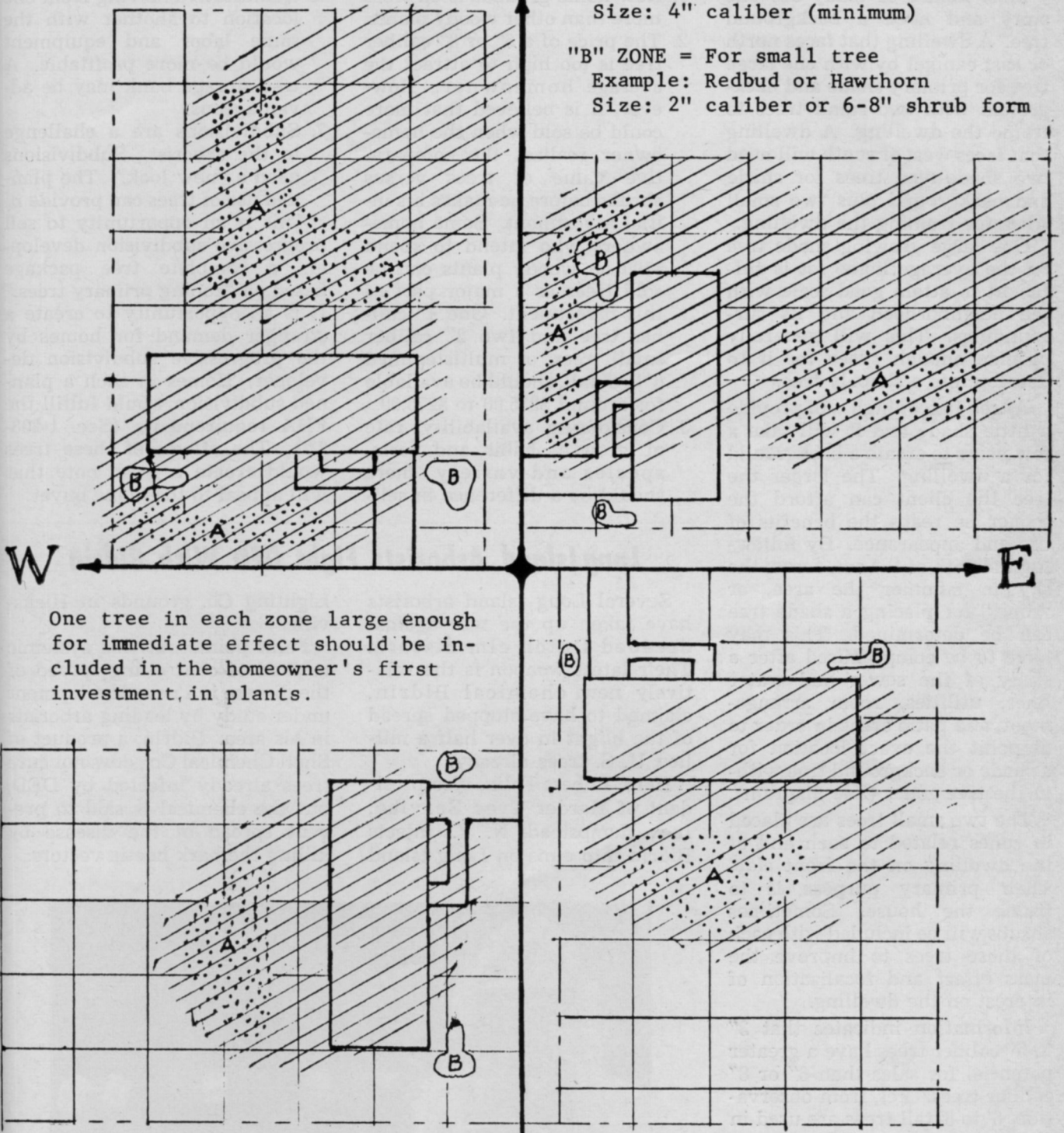
For Bar-Lot 100' x 150.' One Story House.

Plant for shade, protection, background, framing, and family outdoor living.

Crosshatch denotes shade pattern



- "A" ZONE = For shade tree
Example: Maple or Oak
Size: 4" caliber (minimum)
- "B" ZONE = For small tree
Example: Redbud or Hawthorn
Size: 2" caliber or 6-8" shrub form



One tree in each zone large enough for immediate effect should be included in the homeowner's first investment, in plants.

Scale: 1 inch = 40 feet

H.W. Gilbert, Purdue Coop. Extension

The exact tree location in a zone to be determined by kind of tree in relation to total physical situation on the lot and the adjoining property, and family living needs.

of small trees are redbud, hawthorn, crabapple and dogwood.

If there are insufficient funds to do both tree and shrub plantings, the trees should be preferred as more valuable to the homeowner. Every year lost in planting a tree is more realistically a two-year loss. Shrubs are effective soon after planting.

Most homes of today are one story and need a background tree. A dwelling that faces north or east can get by with one large tree for primary shade and background with two small trees to frame the dwelling. A dwelling that faces west or south will need two shade-type trees for shade and background plus two small trees for framing the dwelling.

One large growing shade tree on the average home lot is sufficient to attain good scale with the neighborhood and its surroundings. This will generally provide enough space for it to develop into a shapely tree.

A tree 15 feet high will provide a little shade and it will take a few years to create a background for a dwelling. The larger the tree the client can afford the sooner he reaps the benefits of use and appearance. By following the path of the sun across the sky in summer the area, or "zone," for placing a shade tree can be determined. This may have to be compromised after a study of the sewer and water lines, utilities, room arrangement, and patio areas in order to pinpoint the exact location for a shade or background tree within the tree zone, (See diagram).

The two small trees are placed in zones related to each end of the dwelling on the front side. Their primary purpose is to frame the house. Sometimes shrubs will be included with each of these trees to improve the mass effect and focalization of interest on the dwelling.

Information indicates that 3" to 5" caliber trees have a greater potential for sales than 6" or 8" caliber trees. Yet, from observation, 6' to 8' tall trees are used in greatest quantity. Where trees are needed why not see if one or two trees of 3, 4, 5, 6, 7, 8 inch caliber can be planted for the primary shade tree zones (Zone

A) on the home grounds? Along with this, two small trees (Zone B) to frame the house will be a big step toward good design of the home grounds (See diagram).

The following conclusions have been made from experience and observation in educational work with homeowners in Indiana.

1. New home grounds need trees more than other woody plants.
2. The price of a 6" or 8" caliber tree is too high to attract the average homeowner. However, it is believed that more could be sold when the homeowner realizes the comparative value of trees versus shrubs before he makes his initial investment. Some homeowners who intend to spend \$500 on woody plants can be sold trees as a major part of this investment. One 4" caliber tree and two 2" caliber small trees, or multistemmed 6' to 8' tall, should be available for around \$235.00 to \$275.00.
3. Considering availability, rate of growth, habit and form, species and variety, there should be a difference in sell-

ing price for the same caliber of tree.

4. The many variations in conditions and contingencies that must be met make it impossible to set a uniform price for a given tree that would be acceptable to all arborists.
5. Equipment rental may be feasible in some localities.
6. Quantitative moving from one location to another with the same labor and equipment would be more profitable. A tree storage bank may be advantageous.
7. Subdivisions are a challenge to the arborist. Subdivisions need a "new look." The planned use of trees can provide it. This is an opportunity to sell progressive subdivision developers a complete tree package based on "zoning primary trees." It is an opportunity to create a stronger demand for homes by the progressive subdivision developer. Homes in such a planned subdivision would fulfill the FHA requirements (Sec. 1-208-2.2). The effects of these trees would create a fresh note that will appeal to the home buyer.

Long Island Arborists Fight DED With Bidrin

Several Long Island arborists have taken up the war against dreaded Dutch elm disease. Their latest weapon is the relatively new chemical Bidrin, claimed to have stopped spread of the blight in over half a million U. S. trees already.

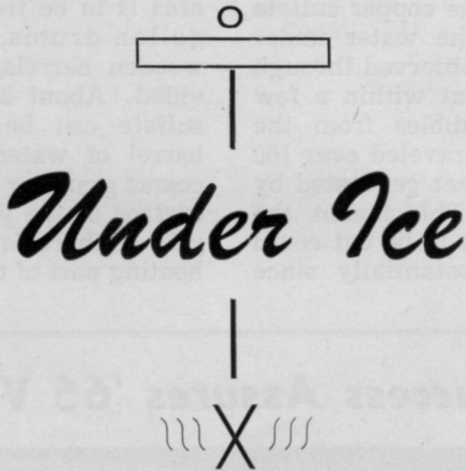
Here, Robert Felix, vice president of Harder Tree Service, Inc., Hempstead, N. Y., injects Bidrin into elms on Long Island

Lighting Co. grounds in Hicksville.

Felix points out this systemic method of controlling spread of the disease is a new development under study by leading arborists in his area. Bidrin, a product of Shell Chemical Co., does not cure trees already infected by DED, but the chemical is said to prevent spread of the disease by killing the bark beetle vectors.



Outboard provides efficient method for treatment of algae



DURING A RECENT study of winter problems of algae control, an interesting method of treatment came to light in Massachusetts.

Iceing of the reservoirs serving metropolitan Boston has brought about the very practical application of 2-cycle outboard motors to disseminate copper sulfate for aquatic weed control.

Hardy Species Develop Under Clear Ice

It is the practice of the Metropolitan District Commission, suppliers of water to the Boston metropolitan area, to clear their reservoirs of objectionable microscopic organisms before winter ice sets in. However, they have found that flagellate protozoa such as synura, uroglenopsis, dinobryon and other hardy



Employees of the Water Division, Massachusetts Metropolitan District Commission, treat for algae under ice. Copper sulfate solution is poured through hole in ice into current generated by outboard propeller. Rotating the complete frame 360°, effectively dispenses the algicide in an area 100' to 150' in diameter. With such a rig a reservoir of 50 to 80 acres can be treated in a minimum of time. Barrel on right holds algicide.

species will develop under the ice, particularly if it is clear enough to permit the penetration of light. Presence of this algae is manifested not only in the samples taken by reservoir personnel, but also in phone calls to the water company by customers complaining of fishy odor and taste.

Treating large bodies of water after the formation of ice has always presented a problem, particularly if the current is insufficient to dispense adequately the necessary application of copper sulfate. A number of methods have been devised at reservoirs facing the problem.

Clarence H. Reed, Principal Sanitary Engineer, of the Boston system, relates that first treating attempts involved cutting holes through the ice in areas 25 foot square and pouring the copper sulfate solution into the holes.

Since there was no appreciable current, the total solution (figured for each hole) had to be poured in three separate portions to prevent an overconcentration. With a 10 to 15 minute interval between each portion an excessive amount of time and labor was consumed treating a total lake area of 50-80 acres.

Fewer Ice Holes Needed

Experimentation led the engineers to evolve the system successfully used for a number of years; addition of an outboard motor to mix the copper sulfate solution with the water under the ice. It was observed through the clear ice that within a few seconds gas bubbles from the motor exhaust traveled over 100 feet in the current generated by the propeller. This meant the number of holes to be cut could be reduced substantially since

the 25-foot-square areas previously required could now be increased to 100 to 150 feet.

The equipment used consists of an 18-hp outboard and a wooden frame 8 ft. long by 3 ft. wide using 3" x 10" planks for the sides and end. The motor is mounted on a 2" plank in the center. The frame is provided with hand holds at the ends so it can easily be picked up with motor attached, set on saw-horses, and slid along the ice to the next hole.

Mr. Reed states that "If a large area is to be treated, several 50 gallon drums, or preferably wooden barrels, should be provided. About 25 lbs. of copper sulfate can be dissolved in a barrel of water by suspending coarse granular crystals near the surface of the water in the barrel. If there is some means of heating part of the water used, it

Hawaii Turfgrass Meet Success Assures '66 Version



An ideal place to hold a conference. These delegates prove it as they pose in casual dress for official photograph during University of Hawaii Turfgrass Management course.



Conference officials paused to check exhibits at Kuykendall Hall. Shown here are (from left): Major Robert J. Bohan, chairman; David A. Akana, County Extension Agent; Dr. Irwin Lane from the City and County Parks and Playgrounds Dept.; and William Y. Hayashi, Oahu Country Club superintendent.

Over 130 attended the First Annual University of Hawaii Turfgrass Management Conference, Aug. 26-27, held in cooperation with the College of Tropical Agriculture. Subjects were geared to discuss soils, fertilizers, weed control, and lawn insects. Exhibits, seen by more than 500, included species of various turf grasses, turf weeds, and turf equipment. On the Mall of the university campus were fertilization plots, and examples of nitrogen evaluation, aeration, verticutting, and topdressing. Several mainland delegates attended, including program speakers George Sandy of Los Angeles and William F. Bell, Pasadena, Calif. Details of next year's conference will be announced early in '66 through WTT.

will facilitate dissolving the copper sulfate. Long-handled wooden paddles are necessary to stir the solution in the barrels."

Keep Holes Small, Round

"The holes in the ice should be cut just large enough to conveniently accommodate the motor shaft housing and propeller. The motor should not be started until the propeller is under water. This means starting and stopping the motor for each hole. As the estimated amount of copper solution is being poured from the barrel into the hole, the frame with the motor running should be rotated slowly; two or three complete turns are sufficient. By rotating slowly, the current set up by the motor will travel farther.

"The holes in the ice should not be too large and cut as round

as possible. The smaller round hole will minimize the bumping of the propeller shaft housing against the sides of the hole while rotating. A short piece of rope attached to the frame handles will enable the men to rotate the outfit without stopping.

"The barrels can be moved easily over the ice on a sled, with a cover or burlap bag over the barrel to minimize slopping. Two men on skates with a 100-foot tape and small ice chisels can

quickly mark the location where the holes are to be cut in the ice. Ten-quart water pails are convenient for pouring the copper solution from the barrel into the holes and also provide a means for measuring the amount of the algicide applied to each hole."

Although simple in construction and extremely low in cost both for construction and operation, this method of treating for algae under ice has proved most effective, Reed reports.

St. Louis to Host Weed Society Conclave Feb. 8-11

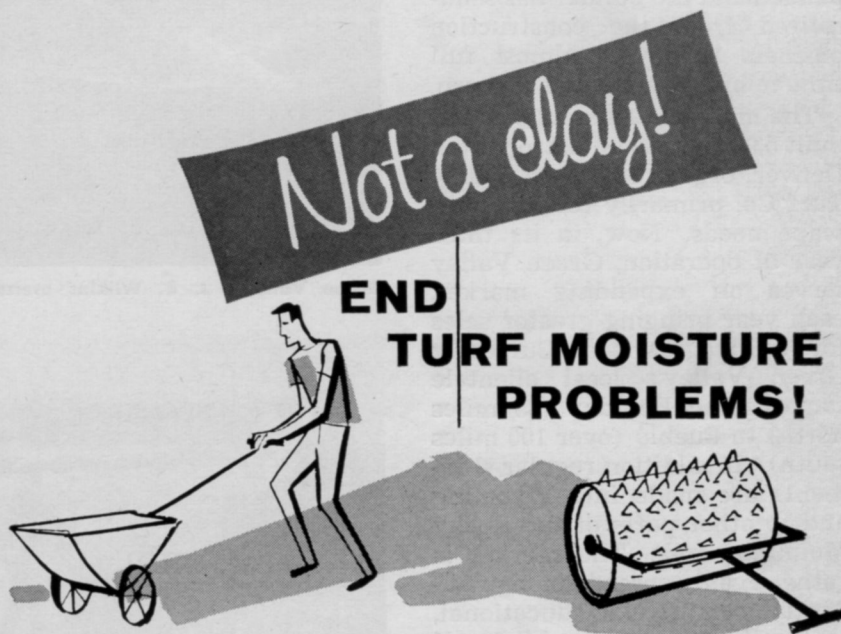
Attendance of 800 research and educational specialists is anticipated when the Weed Society of America holds its 1966 meeting in St. Louis, Mo., Feb. 8-11. The Sheraton-Jefferson hotel has been chosen for site of the conclave.

The program includes newest methods of weed control in industry, public utilities and agriculture. Committees representing seven phases of weed control are screening material to be presented to the meeting.

Chairman of program arrangements is Dr. W. R. Furtick of Oregon State University. Local arrangements for this annual event are in care of Drs. D. D. Hemphill and O. H. Fletchall, both of the University of Missouri.

President of the society is G. Fred Warren, professor of horticulture, Purdue University; Dr. Earl G. Rogers, University of Florida, is secretary; and Dr. Fred W. Slife, University of Illinois, is treasurer.

More details about this annual meeting will be included in the January issue of *Weeds Trees and Turf*.



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Home Builder Becomes Sod Grower

Tired of importing sod 700 miles from Iowa, a Denver, Colorado home contractor decided several years ago to grow sod himself. At the time, sod for lawns was virtually nonexistent in Colorado. But, in the last five years, sod production has expanded and the builder has semi-retired from the construction business to devote almost full time to his growing turf concern.

The man, K. C. Ensor, who has built 5,000 homes in metropolitan Denver, organized Green Valley Turf Co. primarily for his landscape needs. Now, in its third year of operation, Green Valley serves an expanding market, each year bringing greater sales for its bluegrass sod. Currently Green Valley's local clientele ranges from Boulder (35 miles north) to Pueblo (over 100 miles south). In addition regular shipments are made into Wyoming and to other parts of the Rocky Mountain area. The market is rather evenly spread among residential, commercial, educational, and military users, while golf courses and highway departments comprise but a fraction of the sales.

1965 saw 170 acres under cultivation. Despite a ravaging flood early this summer which destroyed almost 50% of the crop, Green Valley has bounced back and now intends to step up its production to 300 to 500 acres in the next three to five years.

Kentucky, Park, and Merion bluegrass are Green Valley's top crops. They are seeded, grown and harvested over a period ranging from 10 to 24 months. Completely new reseeding is done after every harvest. In addition to regular chemical fertilization, some 45,000 yards of humus and animal manure are added annually.

Undesired vegetation such as weeds have been very successfully controlled by frequent applications of weedkillers, in addition to Green Valley's practice



Green Valley's J. R. Wilkins oversees 35-mile irrigation pipe, 5,500 sprinkler system.



Field workers follow sod cutter, rolling sections of turf to be put on pallet ready for market.



In another operation, rolled turf is loaded by conveyor onto truck for delivery to customer.

of carrying each crop through at least one dormant winter season. Only one problem, quackgrass, still plagues the company, but since it only affects a small part of the crop, Green Valley officials are not overly concerned with it now.

Colorado's semi-arid climate poses special problems for the sodman. Constant heavy irrigation is needed, which makes the venture prohibitive to many potential sod growers. Green Valley, using water from river-bottom wells, irrigates up to 2.2 million gallons daily through a network of some 35 miles of light-weight aluminum pipe which feeds about 6,000 rotating Rainbird sprinklers, all automatically sequenced by time-control valves. This elaborate water system also provides the route for closely controlled fertilization.

Good transportation equipment and materials-handling devices are of essence, Green Valley Secretary-Treasurer V. Nelson Shurts points out. "The company's management is involved

in a never-ending search and research for materials handling equipment," he told WTT. To date the most successful method they have found is the palletizing of nine-foot-square rolls. Mechanical conveyers of various sizes and purposes are also utilized wherever possible.

Mowing is done twice weekly during summer months by a combination of two flail mowers, one large diesel-powered seven-gang mower and one custom-built rotary mower. The latter is designed for use under irrigation pipes.

Seven tractors with plows, discs, roto-tillers, land levelers, and rollers ease bulk work. Other equipment includes a power sprayer, a rock picker, three sod cutters, miscellaneous small mowers, sweepers, two on-farm trucks, and three highway trucks (including trailers and special four-dual-wheeled dolly with a fifth wheel to handle semi-trailers in the field). Supervisory personnel find an electric powered golf cart especially useful in moving quickly and softly

over turf and delicate aluminum irrigation pipe. The company maintains a complete repair shop tooled with everything from a blacksmith's forge to modern welding equipment to service this array of equipment.

Green Valley holds membership in the Rocky Mountain Turfgrass Association and in the Mid-America Sod Producers Association. Other company officers include Vice President J. Russell Wilkins and General Superintendent Jim L. Jones. Green Valley headquarters are at 7951 South Santa Fe Drive in suburban Littleton, Colo.

MSU Names S. H. Wittwer Director of Ag Station

Dr. Sylvan H. Wittwer, professor of horticulture at Michigan State University, has been named director of the university's agricultural experiment station, with the title of Assistant Dean in MSU's College of Agriculture.

Wittwer joined MSU's agricultural research division in 1946.

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Society of Municipal Arborists Holds First Meet

City foresters, tree wardens and shade tree commissioners representing cities from many sections of the country, converged Oct. 1-2 on Philadelphia to attend the first meeting of the recently organized Society of Municipal Arborists. The event took place in the Hotel Sheraton.

Principal speakers at the sessions were Dr. P. P. Pirone, senior plant pathologist of the New York Botanical Garden, Dr. Henry T. Skinner, director of the United States National Arboretum, Washington, D. C., and Dr. Russell R. Whitten, research entomologist at the USDA Shade Tree Laboratory, Delaware, Ohio.

President of the association is Frank E. Karpick, of Buffalo, N. Y., with Edward H. Scanlon, Olmsted Falls, O., secretary.

Membership in the new organization is available to full-time arborists, and their assistants, directly involved with street tree planning and management.



Attending Ohio Nurserymen's Association conclave in Cincinnati, Aug. 24-26 were (l. to r.) Bernard Decker, of Paul Offenbergh Nursery, Columbus; A. K. Manbeck, A. K. Manbeck & Son Nurseries, New Knoxville; James Tornes, The Burwell Nurseries, Columbus; Merton Natorp, The Wm. A. Natorp Co., Cincinnati; John Horton, Horton Nursery Sales, Rocky River; Bob Richart, Elmer Heitmeyer Nurseries, Cincinnati; Bob Cole, Cole Nursery Co., Circleville; Merlin Pump, Pump Nurseries, Fremont; Morris Allton, Ohio Farm Bureau Federation, Columbus; and Harold Barnes, Barnes Roses, Huron.

Tax Victory for Nurserymen Announced at Ohio Meeting

A victory for Ohio nurserymen was realized in a decision of the Ohio Court of Tax Appeals which reversed an order of the tax department, ruling in favor of Warner Nursery, of Willoughby.

This information was included in a speech given by Morris Allton at the Ohio Nurserymen's Assn. meeting, held Aug. 24-26 in Cincinnati. Allton, director of public affairs for the Ohio Farm

Bureau Federation, presented other facts, including the recently enacted laws requiring licensing of landscape architects and pesticide formulators.

The original tax order required Warner Nursery to pay a 70% personal property tax on implements and other equipment, rather than the 50% level used for agriculture.

Over 200 nurserymen and their families attended the annual event.

Thiodan Receives Register

Thiodan (endosulfan) insecticide has received U.S. Dept. of Agriculture registration for control of dogwood and lilac borers, it was announced recently by Niagara Chemical Div., FMC Corp.

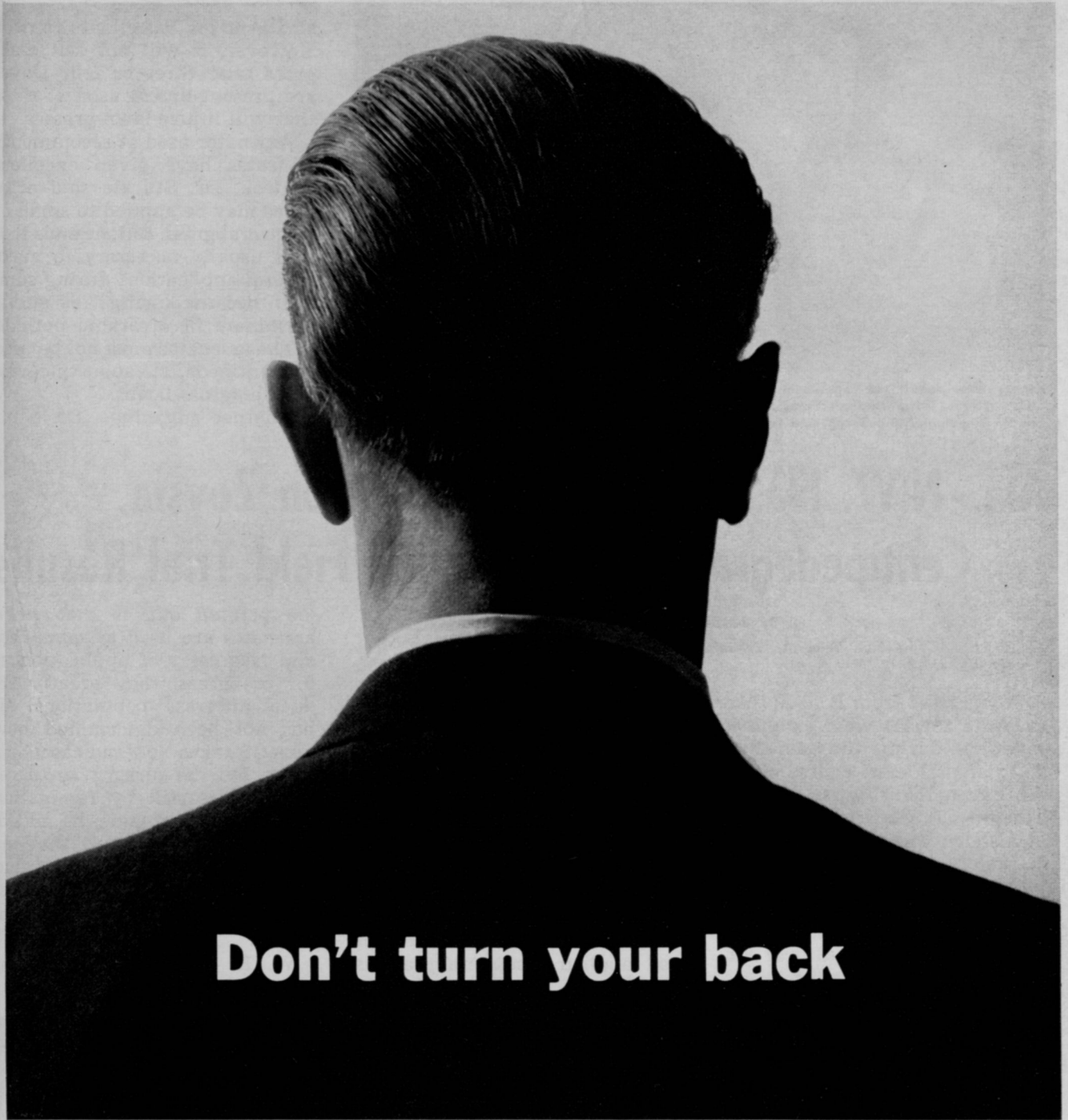
Recommended application of the material is one-half to one pound actual Thiodan per 100 gallons of water. The bark areas of plants should be drenched with the solution in early June and repeated again in 10 to 14 days.

Niagara markets the product in two formulations—Thiodan Miscible and Thiodan 50 WP. It has already been registered for control of aphids, whitefly, cyclamen mite, and rose chafer beetles on bushes, shrubs and flowers.

Complete data on Thiodan can be obtained by writing to the company at 100 Niagara St., Middleport, N. Y.



Recently elected officers who will steer course of the Hyacinth Control Society during 1965-66 are: Seated (l. to r.) James D. Gorman, Tampa, director of Hillsboro County Mosquito Control District, secretary-treasurer; Zeb Grant, West Palm Beach, director of operations and maintenance for the Central and Southern Florida Flood Control District, president; and John W. Woods, Tallahassee, chief, Fisheries Div., Florida Game and Fresh Water Fish Commission, vice president. Standing (l. to r.) are directors Dr. Lyle Weldon, Fort Lauderdale, USDA; Bill Wunderlich, New Orleans, La., chief, Aquatic Growth Control, U.S. Army Corps of Engineers; Bob Blackburn, Fort Lauderdale, USDA; and John E. Gallagher, Amchem Products, Inc., Ambler, Pa. Election took place during the association's fifth annual meeting at Palm Beach.



Don't turn your back


Photo contributed by Paul Duckworth.

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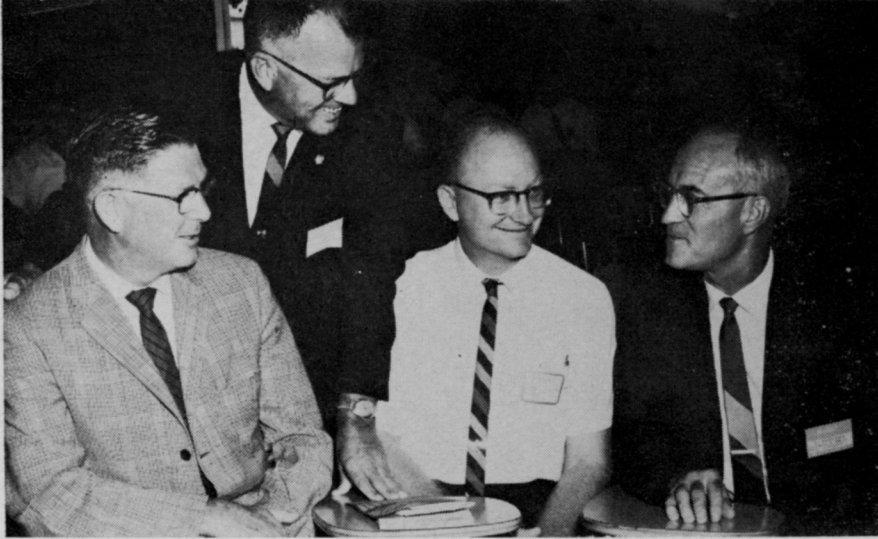
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25 million families benefit from child care, family service, youth guidance, health programs and services for the armed forces through 34,500 United Way agencies.



Happy over results of experiments are these five speakers on this year's program for the Ala.-N.W. Fla. Turfgrass Short Course. They are, from left, James B. Moncrief of Athens, Ga., and Dr. Ben Hcgler, Bill Gregg, and Dr. L. E. Ensminger, all of Auburn University. 150 attended.

small, gives excellent control. However, it will not kill crabgrass after three or four leaves are present unless used at rates that will injure lawn grasses.

Arsenates used at recommended rates have given excellent control. Dr. Sturkie said arsenates may be applied to small or large crabgrass. But, he adds that it is usually necessary to make several applications during summer because crabgrass seeds germinate in favorable periods.

The arsenates must not be used on centipede, st. augustinegrass or bahiagrass lawns.

Another advantage, Dr. Stur-

Ala.-N.W. Fla. Turfmen Get Latest on Zoysia, Centipedegrass, Bermudagrass Field Trial Results

By JOHN PARROTT

Auburn University, Extension Service, Auburn, Alabama

Turfgrasses from B to Z (bermuda to zoysia) were examined in detail during the fact-filled sixth annual short course of the Alabama-Northwest Florida Turfgrass Association, Sept. 9-10, at Auburn University.

One of the biggest interest getters seemed to be the discussion and tour centered around the grass demonstration plots of Dr. D. G. Sturkie, Agricultural Experiment Station scientist.

His experiments now in progress involve fertilizer tests with zoysia matrella on four soil types, fertilizer tests on centipedegrass, strain test of bermudagrass, method and removal time of thatch on zoysia matrella, and herbicide use.

Pre-, Post-Crabgrass Control

For crabgrass control, Dr. Sturkie said the following herbicides have given good control at the corresponding application rates.

1. Pre-emergent

Material	Rate A. I. A.
Azak	20 lbs.
Betasan	10-20 lbs.
Dacthal	10-20 lbs.
Simazine	1.5-3.0 lbs.
Treflan	3-6 lbs.

The effect these chemicals

might have, the soil scientist noted, on stands of ryegrass and winter grass mixtures overseeded in the fall following their application has not been tested. Neither has their effect on shrubs, trees, or flowers been tested.

2. Post-emergent

PMA (phenyl mercuric acetate), used at recommended rates and applied when crabgrass is

Sturkie pointed out, is that when arsenates are used at same rate and frequency of application as for crabgrass, they greatly reduce nutgrass populations. It has not been determined how long it takes to eradicate nutgrass, but the surest way to get rid of it is still by fumigation with methyl bromide, he added.

Experiments showed that arsenates will kill dallisgrass and bahiagrass when used at rates somewhat higher than for crabgrass.

W. R. Thompson, assistant

Early registrants (standing, left to right): Cooper Marcock, Atlanta; T. J. Loftin, Birmingham; Robert L. Tompkins of Jackson; and J. C. Noggle, Gainesville, Fla. Bill Norrie, Jr., of Pensacola, seated left, and Clem Simon, Birmingham, help with the registration. Tompkins is president of the association.



agronomist at Mississippi State University, told about the university's study of golf course turf management practices. He said they are much more effective when performed on a regular schedule than at haphazard intervals.

Thompson observed that most management practices are aimed at both improving air and water penetration into the soil, and controlling thatch accumulation.

Topdressing with soil is the most effective method available for controlling thatch accumulations, the agronomist said. Mississippi research shows that monthly applications of 1/8- to 1/4-inch soil to be best, but bi-monthly applications are far superior to no topdressing.

Thompson also told that vertical mowing is a useful tool for control of thatch and grain accumulation. The danger with vertical mowing, he added, is when it's done at irregular intervals.

"We have found we damage grass less by regular vertical mowing (every 2 wks.) than at wider intervals (6 wks.). To avoid permanent growth patterns, always change direction at each mowing. Begin vertical mowing in the spring and continue until overseeding," he advised.

Spiking is good for spring management. Spike every week to 10 days, beginning just before grass starts turning green. This eases the spring transition by bringing out the bermudagrass faster, according to Thompson.

Monthly aeration allows better water and air movement into the soil and provides a very desirable turf. The agronomist advises to begin aerifying in spring and continuing until 30 days prior to overseeding.

Overseeding Bermudagrass

James B. Moncrief, agronomist, USGA Green Section, Southeastern Region, discussed overseeding bermuda greens. He said that even though ryegrass is still used quite often for overseeding, interest in fine-leaved grasses is growing because:

1. There is poor transition in the spring with ryegrass;
2. Color is retained by fine-

leaved grasses in severe cold weather;

3. Ryegrass is very competitive with bermuda but dies fast when hot weather prevails; and

4. There's a constant disease problem with ryegrass, but it can be controlled with fungicides.

Moncrief added that cost definitely influences the type of seed some courses use for overseeding. However, he said the cost of seed per 1,000 square feet can be deceptive. For instance, 40 pounds of ryegrass at eight cents per pound equals \$3.20 per 1,000 square feet. Bent seed (colonial) at five pounds per 1,000 square feet at \$.60 equals \$3.00 per 1,000 square feet. Pennlawn at \$.60 per pound at 10 pounds per 1,000 square feet equals \$6.00.

Grass Choice Secondary

Dr. Robert W. Schery, director, The Lawn Institute, in his discussion of lawn maintenance said, "Response of the turf is generally contingent upon a number of primary and secondary practices, which, in toto, can be more important than the type grass. Any one of these can limit performance, but mistakes in planting, mowing and fertilizing are apt to be more serious and will show more quickly. All maintenance practices together establish the environment for the lawn, and if they are adjusted to

meet the ecological needs of the particular grasses chosen, there will be a minimum of problems and failures. The grass then fights most of its own battles against pests."

Other speakers on the program were: Marshall S. Helm, program chairman, Alabama-Northwest Florida Turfgrass Association; Tom Mascaro, West Point Products Corp., West Point, Penn.; and Warren Whitney, vice president and general manager, James B. Clow and Sons, Inc., Birmingham, Ala.

Participants in the conference from Auburn University, Auburn, Ala., were: L. E. Ensminger, professor, agronomy and soils; Bill Gregg, agronomist-seed; R. T. Gudauskas, associate professor, Department of Botany and Plant Pathology; Henry P. Orr, professor, ornamental horticulture; and Hoyt M. Warren, assistant director, Extension Service.

Dr. T. B. Hagler, chairman of Plant Science Division, Auburn University Extension Service, was chairman of the short course.

About 150 people attended from the two-state area, including turfgrass producers, country club and golf course superintendents, cemetery managers, park and recreational area caretakers, military groundskeepers, nurserymen, fertilizer dealers and landscape consultants.



Nothing like colored slides to show results, these participants agreed as they readied their part of the Ala. program. Shown are, from left, Dr. R. W. Schery of Marysville, Ohio; Dr. D. G. Sturkie and Dr. R. D. Rouse, both of Auburn University; and H. G. Smock of Montgomery, Ala.

Pruning, Beetles, Pesticide Safety Are Topics at Minn. Tree Maintenance Course

By JOSEPHINE B. NELSON

"The benefits of pesticides to man have far outweighed the small risk taken by their use," Neil Miles, extension horticulturist at the University of Minnesota, told 147 men attending the annual Shade Tree Maintenance Short Course on the University's St. Paul Campus, Sept. 20-21.

Delegates to the two-day meeting were also treated to a comprehensive discourse on that important phase of tree care involving pruning by Dr. L. Snyder, head of Minnesota U.'s Department of Horticultural Science. Entomology department head, Dr. A. C. Hodson told why some trees are more susceptible than others to insects.

Miles defined pesticide safety as "the wise and judicious use of fungicides and insecticides. It requires an intimate knowledge of both host and parasite and an awareness of the ramifications of the procedures used to control the pest. It requires common sense—common sense on when and how to apply pesticides and when and how not to apply them.

Furthermore," said Miles, "it requires an understanding that pesticides are poisons; they are to be feared and respected as all poisons should be. But it is further understood that these poisons can be used in such a manner that they are not dangerous." In conclusion, he challenged the group to plan a pest control program that is "flexible to move in when needed and restrained when no practical use can be foreseen."

Conifers Less Tolerant

Ways of detecting and evaluating insect damage and need for control of common insects of shade trees were stressed by Dr. A. C. Hodson. Conifers, he pointed out, have much less ability to withstand defoliation than broad-leaved trees. Once a conifer has been completely defoliated by insects, the tree is dead. Deciduous trees, on the other hand, can tolerate two or three years of complete defoliation by insects without dying. Although they will show some

injury, they will put out a new set of leaves within about three weeks.

Hodson outlined three major ways shade trees can be injured by insects:

1. By leaf-chewing insects such as caterpillars which defoliate trees.

2. By sap-sucking insects such as aphids and scale insects. Symptoms of such injury include spotting and mottling of leaves, leaf curling or distortion, and some galls. Galls disfigure the foliage but otherwise have little effect on the health of the tree.

3. By boring insects, like bark beetles, which feed just under the bark, and by other borers which go deeper into the wood.

Dying Trees More Susceptible

Actually, bark beetles are secondary rather than primary pests, Hodson explained. The tree was already unthrifty and dying *before* the bark beetles arrived, *not because* they were there. The elm bark beetles, which spread the fungus that causes Dutch elm disease, breed in dead and dying trees.

Pruning Tips

In his discussion on pruning, Dr. L. C. Snyder underscored the importance of understanding the growth habits of a tree in order to prune properly. Among suggestions for proper pruning he listed: making cuts close to the stem to facilitate healing, shaping the cut to facilitate healing, pruning at the right time of the year for each species, using wound dressings on all branches over 2 inches in diameter, and using correct tools. Above all, understand the growth habits of the tree.

Why prune? Snyder mentioned improvement of the



Treemen for parks, and public or private grounds attended the fact-filled conference. Here, at left, Dan Neller, Alexandria, Minn. Telephone Co. registers as Neil Miles and C. G. Hard, right, both extension horticulturists at University of Minnesota, look on. Debbie Grendahl of the Dept. of Agricultural Short Courses supervised registration of nearly 150 delegates.

health and appearance of trees, and safety.

The health of trees, he said, can be improved by (1) removing dead or decaying branches, thus preventing the entry of disease organisms into main branches or the stem; (2) thinning the crown to permit light and air circulation; (3) removing branches that cross and rub each other; and (4) removing branch stubs to prevent decay.

Consider the natural form of the tree in pruning to improve appearance, Snyder advised, since the natural form is the tree's most beautiful form. Except in formal plantings, avoid shaping by shearing, he suggested. For more symmetrical conifers, remove double leaders.

To improve safety conditions, it is important to remove broken or weak branches that might fall and endanger life, to remove branches that interfere with vision at street intersections, and to remove lower branches that interfere with traffic.

While removal of dead wood is one aspect of pruning that is concerned with both the health and the appearance of shade trees, don't be content with merely cutting off the offending branches. Determine the cause of dead wood and correct the cause if possible, Snyder urged. He listed these major causes of dead wood in shade trees: improper nutrition, soil compaction, fill around the tree, injury

to the root by construction, uncontrolled insect or disease injury.

Other speakers included Hugh Thompson, associate professor of entomology at Kansas State University; Bob Wright, Bachman's, Minneapolis; and University of Minnesota professors D. B. White and H. G. Johnson.

The annual Shade Tree Main-

tenance Short Course is an annual event on the University of Minnesota's St. Paul Campus. The course is planned for people professionally engaged in tree maintenance in parks, on public or private grounds. Sponsors of the event are the University's Department of Horticultural Science and the Agricultural Extension Service.

Danville Junior College Introduces

2-Year Ornamental Horticulture Course

A new two-year curriculum to prepare students for specific positions in businesses that require horticultural training, is being offered students this fall at Danville Junior College, Danville, Ill.

Supervisor of vocational agriculture, James Nickell, says the two-year curriculum is a post high school program encouraged by the Vocational Education Act of 1963.

Graduates of the program will be trained as semiprofessional workers to fill positions such as foremen, assistants, and technical workers. They will qualify for employment in such fields as turf management, greenhouse management, park management, floriculture and floral design, highway beautification, tree surgery, arboriculture, and landscape.

According to a study by the Illinois State Advisory Commit-

tee on Ornamental Horticulture, it was learned that if 300 students trained in horticulture were graduated each year for the next 15 years the demand for these technicians would not be met.

In addition to classroom training, students will engage in on-the-job training during summer months with area horticulture businesses. A high school degree is not necessary providing an entrance exam to the college is satisfactorily passed. Some scholarships for students entering the program will be provided by the Illinois Nurserymen's Association.

Persons interested in training for a career in ornamental horticulture can obtain complete information by writing to James Nickell, Supervisor, Vocational Agriculture, Danville Junior College, Danville, Ill.

"Pruning improves not only health, but appearance of trees as well," Dr. L. C. Snyder (second from left) tells this group at Minn. Tree Maintenance Short Course. Listeners are, from the left, Bob Wright of Minneapolis, Eugene Buechner and B. L. Woodward, both from the St. Paul Parks Dept. Snyder's pointers were programmed to come just before fall tree pruning season.



Thompson Mfg. Acquires Hayes

Thompson Mfg. Co., Los Angeles-based producer of lawn and garden sprinklers and turf irrigation systems, has acquired the Hayes Spray Gun Co., of Pasadena, manufacturer of hose sprayers for fertilizers and insecticides. Announcement was made jointly by Stephen F. Hinchliffe, Jr., president of Thompson, and Merle H. Banta, a Thompson officer and new president of Hayes.

Thompson Mfg. is located at 2251 E. 7th St., Los Angeles, Calif. The Hayes Spray Gun Co. is at 98 N. San Gabriel, Pasadena.

"No more legislation a possibility," Washington Ag. Director Moos Tells Pacific NW Sprayorama in Seattle

Area Spraymen Form Regional Assn., Elect Officers

By MARILYN IRWIN

Eventual elimination of the need for additional Federal and local controls in our field of endeavor will come if individual professional applicators show increasing concern for improving and upgrading the image of pesticides in the public mind. This was the outlook forecast by Donald W. Moos, Director, Washington State Dept. of Agriculture, keynote speaker at the 1965 Sprayorama. Sponsored by The Washington Association of Ground Sprayers, the two-day meeting headquartered at the new Seattle Center, Sept. 20-21.

Moos said there are great opportunities for growth in the professional application of pesticides, but underlined the heavy responsibilities which go hand in hand with the future of spraymen.

Hosted by W.A.G.S.' president, Jack Daniels, the conference moved into high gear with a talk on turf diseases by Dr. Charles J. Gould, plant pathologist at Western Washington Experiment Station in Puyallup. He stressed the value of regular, well-timed applications of good fungicides, and pointed up the importance of two fall applications, one about Sept. 15 and the other around the end of October.

Proper preparation of areas before planting, plus good management of already planted areas, play as important a role in effective weed control for ornamental plantings, as do herbicide applications, according to counsel given delegates by Arthur Myhre, association horticulturist at Puyallup. The amount and type of herbicide necessary vary with areas and types of weeds, but the principles of sound preparation and

management do not change. If they are ignored they can render impotent, or only partially effective, an otherwise good weed control program, Myhre cited.

Don't Overuse Surfactants

"An increase of 50% and more effectiveness can be gained from pesticides with the addition of oil-type surfactants," Tom Hall of Colloidal Products, Yakima, Wash. explained in his talk that was accented with full-color microphotographic slides. He used this method to illustrate how results vary with and without surfactants in the spray. But, he cautioned, "Overuse can be even worse than using no surfactant at all." Follow label and manufacturer's instructions, Hall urged.

"Lush Look" Fertilization

Nitrogen fertilizer applied after August 1 each year is vital to proper turf care in the Northwest climate, according to Dr. Roy Goss, extension agronomy specialist, Western Washington Experiment Station. He underlined the basic importance of



Prophetic prediction of less legislation was given northwest applicators in Seattle by Washington State Dept. of Agriculture Director, Donald W. Moos at opening session.

regular fertilizer application for best results. Healthy turf situations resulting from proper fertilization, coupled with careful local selection and usage of herbicides fitted to specific problems, will produce that "lush look" that all customers desire, Goss explained.

Presided over by King County Extension Agent, Art Mehas, second day of the conference centered on plant diseases. Dr. Otis Maloy, extension plant pathology specialist, Washington State University, illustrated at length the complete plant disease pathology, indicating symptomatic detecting techniques which must be employed if proper identification and treatment are to follow.

Misread Symptoms Foil

"Too often," Dr. Maloy reminded the applicators, "improper identification of a disease, due to misreading of symptoms,



Sprayorama host, Jack Daniels (standing), emceed banquet. At the table with him are (left to right) Claude Mills and Mrs. Mills, Lake Grove, Oregon; Errett Deck, Washington Dept. of Agriculture; Mrs. Daniels; Mrs. and Jim Overton, Portland, Oregon; Tom Hall, Yakima, Wash.; Clark Brown, Washington Dept. of Agriculture; and Mrs. Jack Irwin, W.A.G.S. secretary.

results in an ineffective spray program. In fact, most people are not trained enough to recognize a *normal* plant. For example, *Pseudomonas* spp. bacterial blight is very hard to distinguish, in some cases, from a simple Boron deficiency."

Dr. Maloy insists that basic organisms must be isolated and identified before positive identification of disease is possible. The speaker does recognize that often the professional applicator, for obvious reasons, is unable to



George Mock, Jr. (left), past W.A.G.S. president and former chairman of Washington State Pesticide Advisory Board, talks with Harry Kline, owner of Puget Sound Tree Service, about progress spraymen have made.

go this far with his on-the-spot diagnosis.

The other side of proper identification is correct application of the right materials. Spray timing is of utmost importance in plant disease control. "Generally speaking, any of the good fungicides will be effective against most of the more common plant diseases if they are applied at the proper time," Dr. Maloy continued, "but if application timing is poor, no effective control is possible regardless of the material used."

Systemics Evaluated

Systemics still leave something to be desired as pesticides, Dr. Jack Warren of Chemagro Corp., Yakima, Wash., made clear to the group. Though these materials have exciting possibilities, they are not as yet effective against chewing insects and

present serious problems of safety in application, he reported. Warren feels the best method of application is by root injection. It is safer, surer (all material tends to be taken up into the plant's leaf structure), and can be done regardless of weather conditions. The least satisfactory method of systemic use, he opined, is the foliar-spray technique.

Dr. Warren called for additional research into better methods of getting systemic solutions into trees more safely and simply since, in an opinion he reportedly shares with many others, present methods of systemic application are not wholly adequate to accomplish complete control of insects.

Success of "Appearance"

The key to a successful applicator's operation must begin with the applicator himself, according to A. J. "Jim" Overton, Miller Products Co., Portland, Oregon, as revealed in his talk on public relations and the pesticide applicator.

By clever use of examples from real life, he pointed up the importance of a sprayman's public image by first describing what a sprayer ought *not* to look like. The man he described was a bit "creepy." Following this he indicated how, by intensive attention to self deportment, the ordinary applicator can upgrade himself. He summarized by saying that "while we may be operating within an indispensable industry, no one professional applicator is himself necessarily indispensable and, therefore, if he doesn't sell himself to the public through proper PR, a competitor who does will very likely move in." Overton suggested a thorough self analysis as being vital to the successful operation of any pesticide application business.

Applicator problems and solutions was the subject of a four-member panel at an afternoon session. Panelists were: Ray Collier, Collier Spray Service, and William L. Owen, General Spray Service, both of Portland; and Donald Mock, Shamrock

Spray Service and Stan Raplee, Washington Tree Service, both of Seattle.

Don Mock pointed out the need for more diversified equipment in a one-man-type operation to make more efficient use of work time.

Stan Raplee told of the pressing need for sound ethical practices in competitive bidding, since the careless or improper bid can lead to difficulty for the low bidder (sometimes even causing failure to complete the job), and will reflect a dim light of poor business practice on the entire applicator field.

Bill Owen said any applicator may forget that his public "image" is made up of all his "unconscious" day-to-day business practices. He reminded his fellow spraymen that everyone



"Regular fertilization is absolutely necessary," Dr. Roy Goss (right) seems to be reiterating during between-session chat with fellow speaker, Stan Raplee of Seattle.

in the field needs to practice rigid self scrutiny of his personal behavior, appearance, speech, telephone technique, appearance of equipment, etc., to upgrade himself and his own business. Each thereby helps bring credit to his profession, Owen observed.

Ray Collier reflected on the many years of experience the applicator industry has with pesticides as a sound argument for renewed enthusiasm for its

(Continued on page 24)

Form Mo. Valley Turfgrass Assn. at Annual MU Lawn and Turf Conference

By TED HOFFMAN

Highlight of the sixth annual University of Missouri Lawn and Turf Conference, Sept. 15 and 16, was formation of the Missouri Valley Turfgrass Association, Inc.

Charter officers elected were Robert V. Mitchell, St. Louis, president; William Latta, Kansas City, first vice president; Ellary Bennett, St. Joseph, second vice president; and Earl Page, St. Louis, secretary-treasurer.

Election of three directors at large rounded out the board. Named directors were J. B. Lewis, Springfield, one-year term; Stan Frederiksen, St. Louis, three years; and Howard Denny, Overland Park, Kans., two years. Delbert Hemphill, Columbia, was appointed consultant and ex-officio board member.

Mitchell is the superintendent of Sunset Country Club in St. Louis. Latta is manager of Princeton Turf Farms, Inc., Kan-

sas City. Bennett operates a St. Joseph garden center. Page is president of Earl M. Page, Inc., a St. Louis distributor of agricultural supplies.

Lewis is superintendent of the Twin Oaks Country Club at Springfield. Frederiksen is manager of Mallinckrodt Chemical Works distributor products, St. Louis. Denny is superintendent of Meadow Brook Country Club at Overland Park, Kans. Hemphill is professor of horticulture at the University of Missouri. He was conference chairman.

The Missouri Valley Turfgrass Association, Inc., was formed as a formal organization to represent business firms, homeowners, organizations, and governmental departments—especially municipalities—concerned with grasses and ornamentals used in lawns, parks, golf courses, and similar areas.

Those attending the two-day annual conference on the Columbia, Mo. campus heard



Center of attraction was this display of weed samples which were part of a session on weed identification conducted at Mo. Lawn and Turf Conference by Ronald Taven (left), UM associate professor of horticulture, and J. A. Long.

speakers on a variety of subjects concerning turf management such as disease, insect and weed control, plant nutrients, irrigation, and developing new turf grass varieties.

Among conference speakers was Ray Freeborg, with Link's Nursery, Inc., St. Louis.

Cost Limits Zoysia Use

Freeborg, in a talk about zoysia and its future, said Midwest zoysia "looks like a good prospect" but at present rates of increase, it will not be generally available at reasonable cost for some time. He said he expects more work in the future on zoysia seed production.

Al Chandler, University of Missouri golf coach, said a golf course superintendent's first duty is to the golf course, and the second is to the golfer. He noted that golfers complain very little about inconveniences resulting from preventive maintenance.

Regarding tees, Chandler stated that "long grass on a tee



First officers and directors of new Missouri Valley Turfgrass Association, Inc., formed at U. of Missouri Conference, are, left to right, front row, Ellary Bennett, St. Joseph, second vice president; William Latta, Kansas City, first vice president; Robert V. Mitchell, St. Louis, president; Earl Page, St. Louis, secretary-treasurer. Back row, Delbert Hemphill, Columbia, ex-officio board member and consultant; and directors at large, J. B. Lewis, Springfield; Stan Frederiksen, St. Louis; and Howard Denny, Overland Park, Kans. Formation of the organization took place during the sixth annual Lawn and Turf Conference on the University of Missouri campus in Columbia September 15 and 16.

is inexcusable." He advised that tees be cut fairly short.

With regard to fairways, he pointed out that the "esthetic view of a golf course hinges on the fairway appearance." And, "the golfer wants a lush-stand and a short cut on fairways."

Speaking about the rough, Chandler said it is supposed to be a handicap to the golfer, but it shouldn't be an over-severe handicap. He added that a rough cut too long slows play.

He pointed out that an attractive entrance is one of the most important areas of the course. He urged that unusual characteristics of the course be maintained and kept neat. Lakes should be kept clean, and weeds around lakes and ditches should be kept down.

Advocates Automatic Sprinklers

Robert L. Rugar, representative of Rainy Sprinkler Sales, Peoria, Ill., advocated installation of automatic sprinkling systems on golf courses when possible.

Advantages of such systems, he said, were that they eliminate enough labor to justify the cost, add prestige to the course, and maintenance men have complete control over the watering program.

An automatic watering system, Rugar pointed out, should be designed by a competent, experienced engineer. The contractor should also be competent and qualified.

Robert W. Schery, director, The Lawn Institute, Marysville, O., speaking about various mulches for use in seeding turf, said the material to be used should be judged on the basis of "one's individual situation."

He suggested that factors to consider in selecting mulch material are its cost, application costs, appearance, and possibly proximity to the source of supply. He pointed out the merits of some mulches such as fibers, netting, films, and plastic sprays.

Hemphill, in a talk on what is new in weed control, stated that "combinations of various chemicals have real merit." His

Know Your Species

POKEWEED

(*Phytolacca americana*)



Pokeweed or pokeberry is a perennial and reproduces by seed. This plant may be a pest in open woodlands and is usually found on deep, rich, gravelly soil. It may also be found in pastures, along roadsides, fence rows, field borders, and other generally low areas.

Locally, people may call this plant inkberry, Virginia poke, or red ink plant. Leaves and berries, and especially the root of this plant are poisonous.

Pokeweed may grow to 9 feet tall. The stems (2) are smooth and rather flimsy. Plant juices give the stem a reddish hue. The stems die back to the ground each winter. The lower part of stems may have some persistent woody tissue.

Leaves are alternate on the stem. They are ovate to pointed with no teeth or lobes. Leaves are largest near the bottom, and as the leaf petiole gets longer near the top of the plant, leaves become smaller. They have no hairs and are smooth.

The taproot (1) is fleshy and white. It may be 6 inches in diameter in old plants. It is the most poisonous part of this plant.

Flowers (3) are small and white. They have no true petals but there are 5 white sepals which are petal-like. Flowers bloom on a stalk called a raceme (ra as in rabble, seem). First blooms start nearest the stem and continue blooming as the raceme gets longer. Fruits are dark purple berries which have a crimson juice. Each berry has several radiating depressions (4) on the outer side. There are many seeds in each fruit.

Seeds (5) are small black discs, $\frac{1}{8}$ inch in diameter.

Sprays of 2,4,5-T and silvex are more effective than 2,4-D. Repeated sprays will control this plant selectively. It can be killed by most nonselective weed sprays.

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

(DRAWING FROM UNIVERSITY OF ARIZONA AGRICULTURAL EXTENSION CIRCULAR 265, TUCSON)

Meeting Dates



Nebraska Association of Nurserymen Annual Convention, Cornhusker Hotel, Lincoln, Nov. 15-16.

Pennsylvania Grassland Conference, Nittany Lion Inn, State College, Nov. 22-23.

National Weed Committee of Canada, Western Section Meeting, Palliser Hotel, Calgary, Alberta, Nov. 30-Dec. 2.

Illinois Turfgrass Conference, University of Illinois, Urbana, Dec. 2-3.

North Central Weed Control Conference, Broadview Hotel, Wichita, Kans. Dec. 5-7.

Minnesota State Nurserymen's Assn. Convention and Annual Meeting, Curtis Hotel, Minneapolis, Dec. 6-7.

Connecticut Nurserymen's Assn. Annual Meeting, Hotel Statler-Hilton, Hartford, Dec. 30.

North Carolina Nurserymen's Assn. Annual Meeting, North Carolina State University, Raleigh, Jan. 3-4, 1966.

Western Association of Nurserymen Annual Convention, Hotel Continental, Kansas City, Mo., Jan. 3-5.

Rutgers Winter Turf Course, College of Agriculture, New Brunswick, N. J., Jan. 4-Mar. 11.

Northeastern Weed Control Conference, The Hotel Astor, New York, Jan. 5-7.

Indiana Association of Nurserymen Annual Winter Conference, Claypool Hotel, Indianapolis, Jan. 5-7.

Iowa Nurserymen's Assn. Annual Convention, Hotel Roosevelt, Cedar Rapids, Jan. 7-9.

National Landscape Nurserymen's Assn. Convention, LaSalle Hotel, Chicago, Ill., Jan. 8-9.

North Carolina State Annual Pesticide School, North Carolina State University, Raleigh, Jan. 10-11.

New York State Arborists Assn. Winter Meeting, Statler Hotel on Cornell campus, Ithaca, Jan. 16-18.

First Annual Pennsylvania Shade Tree Symposium, Nittany Lion Inn, University Park, Jan. 11-13.

statement was based on data obtained from research plots at the University of Missouri.

Others who participated in the conference program were, from the University of Missouri, Raymond A. Schroeder, chairman, department of horticulture; Charles Sacamano, extension horticulturist; Ronald Taven, associate professor of horticulture; Philip Stone, chairman, department of entomology; Mahlon Fairchild, associate professor of entomology; C. C. Burkhardt, assistant in entomology; Tom Wyllie, associate professor of field crops; J. A. Long, director, biochemical research, O. M. Scotts, Marysville, O.; Charles G. Wilson, sales manager and agronomist, Milorganite Turf Service, Milwaukee Sewerage Commission, Milwaukee.

NW Pacific Sprayorama

(from page 21)

professionalism when its members consider how far the industry has come in a comparatively short time. "The best years are ahead of us if we take the proper approach," he predicted.

Cost Accounting Is Key

Are you really in business or should you sell out, invest your capital, and work for someone else? That's the question asked by Jennings P. Felix, Seattle attorney, in his talk on business planning and cost analysis.

Felix advised the group that, as small businessmen, they must undergo a thorough cost accounting survey to know the real facts about their profit and loss. Presenting a detailed analysis form to each operator, he urged its use as the first step to determine where costs, prices, and profits should be in a sound small business.

4 Assns. Form PNSA

Culminating months of discussions and meetings, the newly formed Pacific Northwest Spraymen's Association was brought to the initial stage of incorporation. It is made up of four separate spraymen's groups: The Washington Association of Ground Sprayers, The North-

west Chemical Applicators, The Oregon Chemical Applicators Association, and The Pesticides Sprayers Association of Portland.

A previously temporary board of directors, elected from each of the four associations, was elected to permanent board status, by-laws were tentatively approved, and permanent board officers elected. Elected to the board as President is William L. Owen. Vice President is Jack Daniels, and secretary-treasurer is Lester Wampole.

"Sole purpose of the Pacific Northwest Spraymen's Association is to provide a regional voice for the Northwest whenever and wherever a regional voice is needed. It is hoped that quick and firm liaison with the new National Spraymen's Association, headquartered in Florida, can be accomplished as one more step toward a truly representative and functional national association of spraymen," Bill Owen stated as he addressed the Sprayorama.

Iron Chlorosis Appears

Iron chlorosis, a disease which occurs in susceptible plants when iron is not available, has been recorded in many lawns and ornamental plants across Kansas, R. E. Odom, Kansas State University Extension Ornamental Horticulturist reports. Symptoms are generally a yellowing of the foliage due to failure of chlorophyll to develop normally.

Nourishment in the form of ferrous sulfate or iron chelates helps combat the iron lack. Ferrous sulfate can be applied as a foliar spray at the rate of two teaspoons per gallon of water, plus spreader-sticker. Repeat the spray in about 10 days if the yellowing persists.

Iron sulfate can also be applied to soil as a fertilizer. Apply to trees and shrubs in holes made in a circle just inside the spread of the branches. A 5-foot high shrub takes ½ lb. A tree should have about ¾ lb. for each inch of trunk diameter.

Close-growing plants such as grass should have 4 lbs. per 1,000 square feet.

Classifieds

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 1900 Euclid Avenue, Cleveland, Ohio 44115.

Rates: "Position Wanted" 5c per word, minimum \$2.00. All other classifications, 10c per word, minimum \$2.00. All classified ads must be received by Publisher the 10th of the month preceding publication date and be accompanied by cash or money order covering full payment.

HELP WANTED

WEED CONTROL supervisor needed. Well-established company working in New York and New England States on roadside, utility and industrial spraying. Give experience, education and salary desired in reply to Box 11, Weeds Trees and Turf magazine.

Develops Winter Fertilizer

A new fertilizer, said to be developed exclusively for fall and winter lawn feeding, is now being marketed by Smith-Douglass Div. of Borden Chemical Co.

Named "Winter Survival," company spokesmen say the new fertilizer is used to promote the root growth of grasses. This takes place during fall and winter when there is little surface growth. Test results are said to have proved that grass roots which have deepened and expanded in the cold weather months will produce a thicker, greener lawn in the spring.

More information about "Winter Survival" may be obtained from the Smith-Douglass Div., Borden Chemical Co., 5100 Virginia Beach Blvd., Norfolk, Va.



Air Boy has tinted face shield, Bac Pac power.

Markets Adjustable Helmet

Air Boy, lightweight, adjustable fiberglass helmets, feature positioning pads and tension adjustment straps to give even-weight distribution and eliminate pressure points, JoArt Industries reports. The safety helmet has a portable air filter system, Bac Pac, adjustable, tinted face shield, and interchangeable filters.

Two reuseable pre-filters remove more than 95% of all particulate matter, JoArt claims. Internal filters of 6/10 micron matrix and a charcoal filter complete the unit. Accessories include heaters, transistorized two-way radios, air conditioners, and a stationary power source. J. B. Folkedale, Jr., JoArt Industries, P. O. Box 4365, Glendale, Calif. 91202 has details.



Christmas tree growers can greatly reduce the job of coloring large tree crops to meet the year-end holiday demand by using mistblowers, suggests Solo Industries, Inc. Weighing only 27 lbs. and developing 5 h.p., these mistblowers can readily apply winterproofing materials to protect trees. Solo products are marketed in the United States through the factory branch, Solo Industries, Inc., at 37-41 57th St., Woodside, N. Y. (photo courtesy of E-Z-Flo Chemical Co.)

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How To Restore Flooded Lawns, Shrubs

Shrubs, trees, lawns, and flower borders damaged by floods need not be considered a total loss, says C. G. Hard, extension horticulturist at the University of Minnesota.

He gives these tips for restoring landscape:

"Some tree species will defoliate because of deep silt and mud around the base. If possible remove silt deposits; if not, prune some branches to help the tree adjust to the root injury.

"On lawns where water has stood 15 to 20 days, the grass will probably be smothered. Remove as many mud and silt deposits as possible, then level the lawn and reseed it. If a lawn needed leveling prior to the flood, level it, add manure, peat, or compost, 1 to 2 bushels to each 5 sq. ft. of grass. Apply 10-10-10 or 0-20-0 fertilizer at 30 to 40 lbs. per 1,000 sq. ft. and mix thoroughly into the soil. Rake the surface and seed.

"In a flooded flower border, remove any silt that covers clumps of perennials such as lilies and peonies. Then broadcast fertilizer to maintain the nutrient level, using 3 to 4 lbs. of 10-10-10 or 8-8-8 fertilizer per 100 sq. ft."

Suppliers Personnel Changes

O. M. Scott & Sons, Marysville, Ohio, has acquired the services of Brian Finger and Harry Fries, both of whom will serve as professional turf consultants. Finger, formerly with the extension service, University of Maryland, will serve Scott clients in Maryland, Washington, D. C., and northern counties of Virginia. Fries resigned from the state agricultural extension service

servicing Nassau County New York, to serve Scott clients in Pennsylvania.

V-C Chemical Co. has named Robert O. Carlson its new Midwest agronomist. Carlson, who formerly held soil science positions with companies in Des Moines, Iowa, and Minneapolis, Minn., is assigned to the regional sales office in Hinsdale, Ill. V-C, a division of Socony Mobil Oil Co., Inc., is headquartered in Richmond, Va.



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Trimmings

Nobody home? Treemen, lawn care specialists and contract applicators with monthly accounts frequently find there's nobody home when they make their regular service call. "The Gardener's Friend Insect Spraying Service" in Monterey, Calif. has come up with an answer to this problem. This contractor uses a 3 1/4 x 7 1/4" green printed card, with a slitted inch-and-a-half round hole at the top so it can be hung on a doorknob, to report what's been done and when. The company name, address, and phone number is beneath the hole, followed by "Has performed the following checked items today (time) for Name; Address of the customer. Under this, these items are listed to be checked off to tell what contractor did: General Garden Clean-up Spray; Slug and Snail Spraying; Trees — Oak or Sprayed; Tree Feeding; Lawn Feeding; Lawn Moth Control; Ants and Earwigs; Poison Oak; Weeds. There are a few blank lines for comments, and a place for the serviceman to sign his name. At the very bottom are the two words THANK YOU. How do other readers handle to Nobody Home problem?"

Off to the woods. After months of planning and detail-following leaving little time for business, Jack Daniels, host for the recent Seattle Sprayorama put on by the Washington Assn. of Ground Sprayers, was privately happy the affair was over. In fact, right after the successful event closed, he went up north for some hunting, away from telephones and business altogether. Bet he's right in the thick of things again, now that he's back, hunting for new ways to better Northwest spraymen.

Accent on youth. Penn State's energetic associate professor of agronomy, Dr. Joseph M. Duich is actively engaged in keeping the industry supplied with promising young men. He takes a group to the International Turfgrass Conference at times, and to other industry meetings to let both his students and prospective employers get to know each other better. He runs refresher courses and seminars for young men in the field and acts as a clearinghouse to bring employee and employer together. Most college profs are instrumental in this way, but this month we want to salute Joe's work. It's a tough battle keeping the supply in tune with the demand, especially with our country's stepped-up military activity.

In all fairness. A few months ago, we plugged the Southern Weed Control Conference (Jan. 18-20) in these columns, but an equally important one which predates the Jacksonville, Fla. meet, is the Northeastern Weed Control Conference at New York City's Astor Hotel, Jan. 5-7. Secretary-Treasurer, Dr. John Meade, of the University of Maryland, has been lining up papers on industrial weed and brush control, aquatics, turfgrass, new products from industry, and on other topics. Over 775 attended the affair this year.

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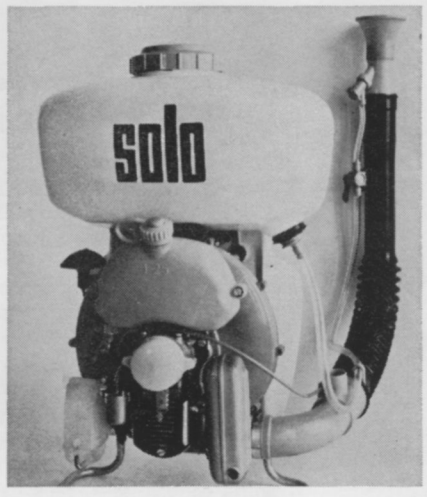


BRUSH CONTROL

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