

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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has this much in common with the St. Bernard: both come through as expected. Copper Sulfate is still the most dependable, economical means of controlling plankton and filamentous green algae, as well as many kinds of fungus. It is widely recommended for treating reservoirs, ponds and lakes... irrigation and filtration systems... pipes and drains. Crash programs clear away scum, murkiness and algae odor within five days. Used in the early stages of algae growth — the better way — Copper Sulfate maintains good conditions.

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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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TURF MANAGEMENT



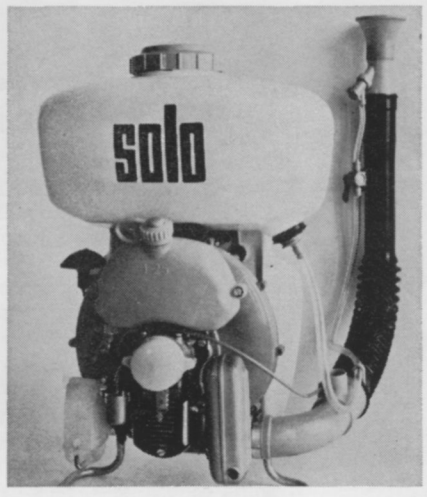
BRUSH CONTROL

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above: Solo Chain Saw 70-A
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TREE CARE



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