

think I'm doing the ash a disservice by recommending it to be put through such rigors, but I honestly believe the ash will respond to such miserable torture as well as any other variety we can grow," the nurseryman concluded.

#### Other Trees Recommended for Boulevards and Streets

L. C. Snyder, head of the Department of Horticultural Science, Albert Johnson, associate scientist, and Robert Mullin, instructor in horticultural science, University of Minnesota, recommended a variety of other trees as possibilities for street and boulevard plantings and as replacements for the elm. Here is the list of trees recommended by the short course speakers:

#### Large Shade Trees—35 or more feet tall

##### Ash

Green (*Fraxinus pennsylvanica*) & cultivars 'Summit' & 'Marshall Seedless'  
White (*Fraxinus americana*)  
Blue (*Fraxinus quadrangulata*)

##### Lindens or Basswood

American (*Tilia americana*)  
Littleleaf (*Tilia cordata*)  
Redmont (*Tilia x cuchlora* 'Redmont')

##### Maples

Sugar (*Acer saccharum*) & cultivars 'Newton Sentry,' 'Temple Upright'  
Red (*Acer rubrum*) & cultivars 'Schlesinger'  
Norway (*Acer platanoides*) & cultivars 'Schwedler,' 'Crimson King'  
Silver (*Acer saccharinum*) & cultivars 'Weirs Cutleaf'

##### Miscellaneous

Black Cherry (*Prunus serotina*)  
Honeylocust (*Gleditsia triacanthos*) & varieties 'Sunburst,' 'Skyline'  
Kentucky Coffeetree (*Gymnocladus dioica*)

##### Oaks

White (*Quercus alba*)  
Eastern Pin (*Quercus palustris*)  
Swamp White (*Quercus bicolor*)



**Preconference study session** gave delegates and speakers a chance to exchange questions. Here, left to right, Wayne Willmeng (Grand Forks, N.D., park board); Wisconsin Department of Agriculture Plant Pathologist Dr. George Hofstad; and Minnesota extension horticulturist C. G. Hard talked about Dutch elm disease. Dr. Hard was chairman of the annual tree course.

Hackberry (*Celtis occidentalis*)  
Shellbark Hickory (*Carya laciniosa*)

#### Medium and Small Trees—Under 35 Feet

##### Maples

Amur (*Acer ginnala*)  
Tatarian (*Acer tatarica*)

##### Mountain Ash

Densehead or Korean (*Sorbus alnifolia*)  
Showy (*Sorbus decora*)  
European (*Sorbus europaea*)

##### Birch

Paper (*Betula papyrifera*)  
River (*Betula nigra*)

Japanese Tree Lilac (*Syringa amurensis japonica*)

Ironwood (*Ostrya virginiana*)  
Amur Corktree (*Phellodendron amurensis*)

Blue Beech (*Carpinus caroliniana*)

##### Hawthorns

Toba (*Crataegus 'Toba'*)  
(*Crataegus crus-galli*)

##### Flowering Crabapples

Siberian (*Malus baccata*)  
Cultivars—Red Splendor,  
Radiant, Vanguard, Flame.

#### Insect Problems Foreseen

John Lofgren, University of Minnesota extension entomologist, warned that a number of

insect problems can be expected in 1965 as a result of environmental conditions.

The weakening of shade trees by the drought makes it easier for bark beetles and borers to get a foothold. Unless dead trees from severe windstorms are cleaned up, Lofgren warned, they will be a source of infestation.

#### Dutch Elm Disease

Minnesota did not see a large increase in Dutch elm disease in 1964, Donald M. Coe, director of the Division of Plant Industry, Minnesota Department of Agriculture, reported. Although 47 new cases were found in Monticello, only three additional trees over last year were found infested in St. Paul and four in Minneapolis.

"Although we're thankful we didn't have a real blowup, don't close your eyes and say it can't happen here," Coe cautioned. He reminded the audience that sanitation, removal of dead trees, and spraying for beetles are essentials in the control of Dutch elm disease.

The Shade Tree Maintenance Short Course was sponsored by the University of Minnesota's Department of Horticultural Science and the Agricultural Extension Service.

# Increased Professionalism, Better Trade Organization Foretold at Northwest Spraymen's Conference Sept. 25-26

"More professionalism and hyperspecificity is the coming thing." This opening remark by Dr. Virgil Freed, head of the Department of Agricultural Chemistry, Oregon State University, spelled out in a few words the complexion of the Northwest Sprayers conference recently hosted by the Pesticide Sprayers Association, Inc. of Portland, Ore. Site for the Sept. 25-26 meeting was Portland's Thunderbird Motel.

Attentive to the general theme, "Our Future with Pesticides," chemical applicators operating in Oregon and Washington had the opportunity to learn much of the views of the spraying business taken by state and federal authorities, the layman, businessmen and chemical suppliers, as well as top research personnel.

From the start, a smooth-flowing, well-organized program gave sprayers something to think about. The opening bell was sounded by an "icebreaker" session in which the need for



Close attention from this sizeable group speaks clearly for the success of the Northwest Spraymen's conference.

regional and national organizations was expressed. It was pointed out that professional status is not achieved by individuals each going his way, but rather by individuals working together to a common end, thus creating a favorable public image as well as increasing the working stature of the applicator. The recognition of this need for better organization resulted in setting a meeting date for the purpose of taking the initial steps for formation of a Northwest regional association and discussing logical moves toward becoming a part of a national group.

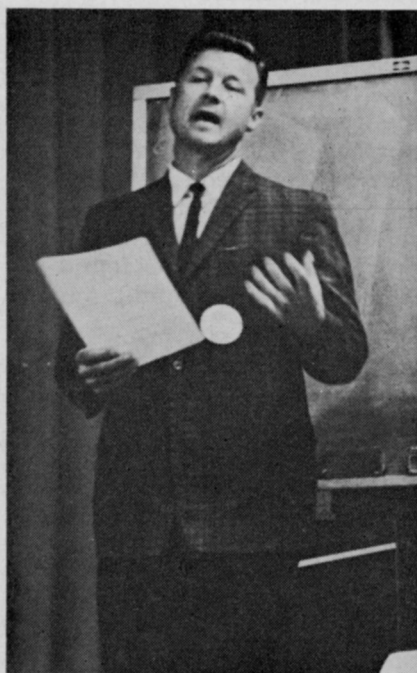
Frank B. Stewart, Executive Vice-President and general manager of Miller Products Co., Portland, Ore., who also serves as president of the Western Agricultural Chemical Assn., touched on a subject so near to all in agricultural chemical work when he said, "Food faddists and their ilk can scare us into bad legislation thereby destroying our wonderful way of life".

In presenting his story, Stewart also reminded the group that the modern complex chemicals require more skill in use, making mandatory honesty, responsibility and ability on the part

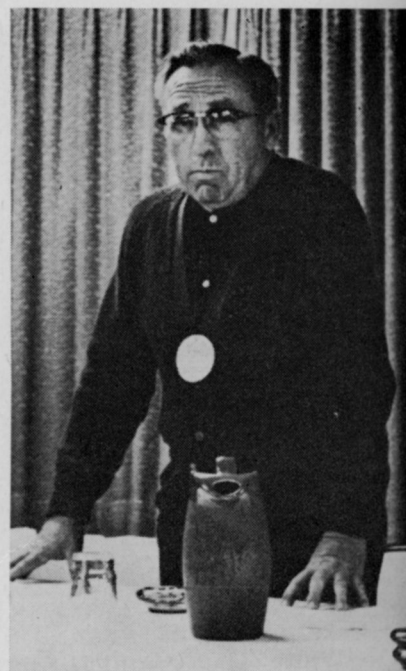
of a spray applicator. Stewart's concluding statement precisely pointed out "Yes, you have a future with pesticides if you are professional."

## Which Way Professionalism?

Speaking as chief chemist for the Oregon Dept. of Agriculture, and one intimately associated with legislation concerning ap-



Welcoming words and an explanation of the program came from William Owen, president of the host group, Pesticide Sprayers Assn., Inc. (Portland, Ore.).



Need for better regional organization among spraymen was expressed by Jack Daniels, president of the Washington Assn. of Ground Sprayers (Seattle).

plicators, J. D. Patterson asked the question, "What is a professional applicator? Legislators want to know—you need to know." Since it is obvious that legislation will play an important part in the future of both pesticides and pesticide applicators, "it follows that we need to do serious thinking about our own place in this industry."

Patterson went on to point out that the influence we as applicators bring to bear toward needed legislation will determine our operating climate; therefore, the need for our efforts is obvious.

The homeowner's view of spray applicators perhaps was the most surprising eye opener of the convention. Mrs. Nat Schoen of Vancouver, Wash., home gardener and sweepstakes rose grower, and the only woman ever elected to serve as president of The American Rose Society, told the convention that sprayers had failed to let people know of their work and what they had to offer the home gardener. Mrs. Schoen pointed out that sprayers should avail themselves of more opportunities to appear before garden clubs, civic organizations, and homeowner organizations with constructive presentations aimed at better



**Mrs. Schoen:** "Let people know what you have for them." This past president of the American Rose Society thinks contract sprayers will become increasingly important to the home gardener.

gardening with professional help.

#### Watch Your Costs!

The sprayer's zeal for good work and increasing his business can cause him to overlook the fact that he is a businessman in every sense of the word. George Goforth, vice president of the First National Bank of Oregon, and manager of their industrial branch in Portland, discussed the ever-present need for attention to dollars-and-cents handling. "The man who does not know his cost of doing business today is lost."

Goforth also pointed out that sound business practice is the same for both the large and the small businessman. He stressed the need for adequate operating capital, complete accounting procedures, market analysis, and careful attention to management, all of which can be had through the use of good accountants, good attorneys, and good bankers. Proper attention to details "not only makes profit but will show adequate returns on invested capital," a point so often overlooked by the small businessman.

What's in store for the unthinking or careless applicator? Trouble! Stuart W. Turner, consulting agronomist, San Francisco, banded no words in pointing out the involvements resulting from application of agricultural chemicals without adequate knowledge of federal, state, and local regulations concerning their use.

"Demands for new and more stringent regulations are the result of damage to crops, ornamentals, and other desirable plants." The professional applicator, through careful attention to labeling and recommendations for use, not only avoids lawsuits and lost business, but also does his share to hold down resultant restrictive legislation that seems naturally to follow damage claims. In Turner's opinion, the professional applicator gives careful attention to detail in all phases of his operation, thereby reflecting credit to the industry and favorably complimenting the buildup of a healthy public image.

A very important asset to any small businessman is his wife, who sometimes is also his secretary and bookkeeper, phone answerer, and girl Friday. With this in mind the very efficient

*(Continued on page 19)*



"What is zero tolerance? We now measure to six parts per billion!" commented Dr. Leon Terriere, Professor of Biochemistry and Entomology at Oregon State University.



**Stewart:** "Yes, you have a future in pesticides—if you are a professional."

# Tips on Spring Dead Spot, Fertilizer Advice on Tap At Fifth Univ. of Missouri Lawn and Turf Conference

By DAVE MILLER, Assistant Agricultural Editor, University of Missouri, Columbia

"Fungicide put into the watering system may be one of the coming ways of treating spring dead spot in bermudagrass," according to Stan Frederiksen, Mallinckrodt Chemical Co.

Frederiksen, speaking at the fifth annual Lawn and Turf Conference at the University of Missouri, Columbia, Sept. 23-24, reported on fungicides that have shown good control of "spring dead spot."

Frederiksen said dead spot can be conquered by good maintenance practices, and treatment with fungicide, using exact treatment techniques. "The damage is caused in the fall. Nothing can be done when you see the spots in the spring. The time to prevent the disease is in August, September, or October," the Mallinckrodt turf expert affirmed.

During the day-and-a-half conference, speakers covered such topics as What Does a Soil Test Mean; Management Problems with Warm Season Grasses in Missouri; Care and Repair of Turf Equipment; Economics of Turf Disease Control; Fraudulent Fertilizers; and the Value of Proper Moisture Environment for Healthy Turf.

James Latham, agronomist



**Early registrants** Glenn N. Morris (left) and Jack Deck looked forward to an exciting program. Deck represents Collier Chemical Co.

with the Milwaukee Sewerage Commission, noted that part of the reason bermudagrass sometimes grows poorly in Missouri is that not enough fertilizer was used in establishing it.

"Golf course turf planting is no time to save money," Latham said. "You are reducing the use of the grass by a month, and likewise losing a month's revenue.

"Berumuda thrives on aeration," Latham continued, "and

weed problems are reduced by aeration."

R. F. Eldred, Toro Manufacturing Co. reminded the group of the importance of selecting the right machine for the job you have to do.

You should consider usage of machine; your location; type of grass to be cut; size of area and terrain; degree of maintenance you can give; manpower, and time available.

He recommended a training period for operators before they run any machine, and definite checks every morning, with maintenance through the day as needed, and close familiarity with the operator's manual. In addition, a well-planned maintenance program of cleaning, painting, regular checks, and proper storage is needed. "A well maintained machine is a safe machine," he said.

## Carry Enough Fungicide

Peter Wildermuth, Mallinckrodt Chemical Works, began the afternoon program with a reminder that "turf pros should carry enough material (for disease control) to take care of any



**Highly cultured golf course turf** was of interest to all turf management personnel at the University of Missouri conference.

emergency." His theory is that if a disease hits one place it will also be somewhere else, creating a demand and possibly a scarcity of disease-fighting chemicals when they're most needed in an area.

He noted that in buying chemicals, several things should be considered: usage . . . amounts, etc., frequency of application, and how many diseases a product controls.

"Lawn Seed Sweepstakes" was the title of a talk by Dr. Robert W. Schery, director, The Lawn Institute, Marysville, Ohio. He noted that "what operators do has as much influence as what is planted," inferring the great influence management has on all grasses.

In discussing seed purity, Dr. Schery said, "The major difficulty is defining a weed. A weed to you might not be one to me. Many a pest in a field crop is of no consequence in a mowed turf, yet must be considered 'noxious' and appear unnecessarily alarming on the label.

"But other weeds can prove harmful in the lawn, though they escape mention in the laws because they are not agricultural pests.

"As to varieties," Schery stated, "most are good, at least for certain purposes or regions. Else they wouldn't have been selected, propagated, and brought to market.

In summing up, Dr. Schery said, "There's perhaps more to be accomplished in tending lawns correctly than in searching out new varieties. But with all seed you can know that the mechanical aspects of quality are tops."

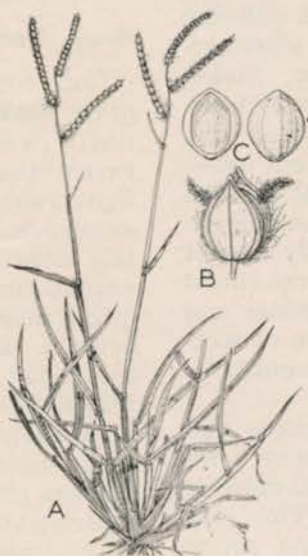
#### Gypsum Bad for Midwest

George Smith, Chairman of the Department of Soils at the University of Missouri, talked briefly about fertilizers, and the need to beware of such things as "secret ingredients, or claims that are not backed up by scientific evidence." He stated that there is no place for gypsum on midwest soils.

In tours of University of Missouri weed control plots, led by  
(Continued on page 19)

## Know Your Species

### DALLISGRASS (*Paspalum dilatatum*)



Dallisgrass (A) is a tall perennial grass which grows from a bunched, knotted base. In the Southeast and irrigated Southwest where it thrives, it can grow 5 feet high. Although it is a perennial, it reproduces only by seeds formed each year. Individual plants survive year to year, however. It is found in moist soil, along roadsides, in fields, and meadows. It is a particular problem on lawns.

Alternating leaf blades are flat, 2 to 6 inches long. Three to five flower-bearing spikes top off the mainstem. The spikes are 1 to 3 inches long; they are also alternate. The small spikelets (B) or flowering parts grow only on one side of the spike branch.

Tiny flowers,  $\frac{1}{8}$  inch long, sit directly on the stem. At times the spike appears to have a purplish cast because of the purple-colored stigmas (female flower parts) which protrude from the individual flowers.

Dallisgrass produces a smooth, shiny, yellowish grain (C), which is just under  $\frac{1}{8}$  inch long.

Selective control on turf has been developed for Dallisgrass. Disodium monomethylarsonate (DMA) broadcast repeatedly over the turf achieves satisfactory control. Manufacturers' recommended rates for such treatment must be carefully followed. Such overall treatments have to be repeated because of the light rate which is necessary for use on desirable turf.

Spot treatments with higher concentrations of DMA or AMA (ammonium methyl arsonate) will eliminate Dallisgrass faster. Treatment must be closely limited to the small areas because injury to adjacent desirable turf may occur if the turf is sprayed. Reseeding of the killed areas should follow before any other undesirable weeds invade the vacancies.

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)

## Effects of Excess Rain on Turf Management (from page 7)

toxic to turfgrass. More will be said about this situation later.

Both desiccation and wilt are more likely to occur when internal drainage is poor. Sometimes in the summer it may become necessary to syringe the turf frequently to prevent loss—in spite of the fact that the soil may be at or near the saturation point. This is especially true if temperatures or wind movement is high. In the late winter and early spring, desiccation of turfgrass areas may be prevented by applying water.

One of the more serious and direct effects of excessive rainfall on soil is structural deterioration (compaction). This may result from the beating action of the raindrops, or from the traffic—both player and equipment—to which the area is subjected. Soil displacement—permanent rutting and footprinting—is likely to occur if the wet soil is subjected to traffic during these periods.

### Spike Disking Helpful

Spike disking of greens during the summer months will do much to offset some of these adverse effects. Spiking is recommended over aeration during the summer because of the reduced growth activity of cool season grasses during the summer.

*Growth.* The prevailing temperature and the fertility level of the soil also must be considered in a discussion of the effects of excess rainfall on growth activity.

Prolonged rainfall will tend to extend the springlike growth of turfgrass if the temperatures are moderate. Such conditions result in a soft, succulent turfgrass that is easily damaged by traffic (has poor wearability) and which is more susceptible to attacks by disease and insects. These factors weaken the permanent turfgrasses and open them up for weed invasion. Sudden "hot spells" during such periods intensify these situations

and may prove disastrous. In very early spring, a sudden cold snap with snow or freezing rain may result in substantial loss of turfgrass. A recent example of this is the New England area in the spring of 1963.

### Heavy Traffic Harmful

Golf courses and other turfgrass areas subjected to heavy traffic will suffer to a greater extent than those subjected to light traffic. Under conditions of excessive rainfall or moisture, this situation may cause an abnormal loss of turfgrass. Obviously, such soils would be poorly aerated. Because of the important role of aeration and the effect it has on root function and plant growth, a brief review may be in order.

Roots growing in well-aerated (adequate-oxygen) soils are long, light colored, and well supplied with root hairs. These roots have a longer portion covered with root hairs; hence, a longer portion over which absorption of water and nutrients may occur. Roots growing in poorly aerated (low-oxygen) soils are short, thick, and dark, and have less than the normal number of root hairs.

Absorption of ions (plant food nutrients) by roots is one of the most important physiological functions of living plants. It represents the connecting link between soil conditions and plant growth. Failure to obtain normal plant development in poorly aerated soils is related to restricted ion uptake by roots.

Inadequate aeration decreases the intake of water by plants directly through its effect on absorption, and indirectly by reducing root growth. Reduction of water uptake occurs only at relatively high carbon dioxide concentrations, and even then its effect is reduced by presence of oxygen; hence, carbon dioxide is of minor significance in water economy, *except in those cases where roots are growing in waterlogged soils in the presence of large amounts of readily decomposable organic matter.*

In the absence of adequate oxygen, anaerobic reactions pre-

dominate and large amounts of reduced soil constituents are built up. Among reactions most strongly influenced by changes in aeration are those involving manganese and iron. Iron chlorosis is usually quite prevalent under such conditions and the spraying of iron sulfate or related iron compounds during such times will be most beneficial.

### Bad Aeration Hurts Seeds

Germination of seed is strongly affected by the concentration of oxygen and carbon dioxide. A faulty aeration condition is one of the primary causes of poor germination, and often occurs in soils having poor structure or excessive water content.

Root growth at various levels of oxygen is strongly influenced by temperature. Experiments have shown that at an oxygen concentration of 3% and at temperatures of 64 and 86 degrees, root growth is inhibited; whereas at an oxygen concentration of 10%, root growth is normal at 64 but reduced at 86 degrees. This indicates that at the higher temperature, 10% oxygen is deficient. Further work has shown that: (1) at oxygen concentrations of less than 1% roots lose weight; (2) concentrations from 5% to 10% are necessary for the growth of existing root tips; and (3) oxygen concentrations greater than 12% are required for root initiation.

Within the temperature limits for root growth, the greater the temperature of the soil, the higher must be the concentration of oxygen in the soil atmosphere for normal root growth. Canon attributes this relationship to decreasing solubility of oxygen in the soil solution with increased temperature. *Although this may be a factor, the effect of increasing temperature on respiratory demands of the roots for oxygen certainly plays an important part.*

From the standpoint of disease incidence, it is well to remember that in addition to creating conditions more conducive to disease development, the effectiveness of fungicides may be reduced by

heavy rainfall. More frequent applications may be necessary and the use of a wetting or "sticking" agent is recommended. Algae and fairy ring activity may be greater.

The frequency of fertilizer applications, especially of nitrogen, will have to be increased to offset that utilized for the additional growth as well as that lost by leaching.

Annual weed growth, especially grasses—such as crab, barnyard, pigeon, foxtail, etc., as well as clover, chickweed and knotweed—will be much greater during wet, rainy seasons. Chemical treatment of these weeds with the appropriate herbicide will aid materially in controlling their increase.

It must be remembered, of course, that chemicals are only a tool, and that unless the basic cause for turf deterioration (with subsequent weed invasion) is corrected, the elimination of weeds with chemicals will be of little permanent value.

### Sidewalk Salt Threat to Lawns

Heavy use of salt on sidewalks to remove snow and ice may damage lawns and shrubs, says C. M. Drage, Colorado State University extension horticulturist. He suggests minimum use of salt and care in its application near grass and shrubs.

Drage explains that although plants are dormant during the winter, roots are still active. Salt solutions draining or swept off melting walkways may penetrate the soil around grass and shrub roots. This salt concentration in the soil around the roots results in the roots losing large amounts of water to equalize salt concentration.

This phenomenon is the result of osmosis, the horticulturist explains. Water already existing in plant or grass roots will move out through root membranes in order to dilute and equalize the salt concentration in the soil. Without necessary water in the root system, the plant dies or is damaged, Drage concludes.

### North Central Weed Control Conference Meets Dec. 14-16

"Pesticides in Our Environment" will be the main subject for panel discussion when the North Central Weed Control Conference meets Dec. 14-16, in Kellogg Center, East Lansing, Mich.

Dr. Delbert D. Hemphill, Department of Horticulture, University of Missouri, Columbia, president of the conference, will

address the group at its opening session.

Other topics to be presented turfmen are: New Products From Industry, Application Methods and Equipment, Industrial Areas, Aquatic Weeds, Horticulture, and New and Problem Weeds.

Program of the meeting and other information can be obtained from the program chairman, John D. Furrer, Department of Agronomy, University of Nebraska, Lincoln, Neb.

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## Southern Weed Conference Set for Dallas, Jan. 19-21

Further progress in the already highly developed science of weed control is the goal of the 1965 Southern Weed Conference, scheduled for the Hotel Adolphus, Dallas, Texas, Jan. 19-21.

Approximately 800 research, education, and technical development workers are expected. They represent state and federal agencies, private chemical and equipment companies, railroads, utility companies, municipalities, aerial applicator associations, and other organizations. Delegates will exchange information on better ways to control weeds in lawns; on farms, industrial sites, and rights-of-way; and in parks, waterways, and other areas.

This is the 18th annual meeting of the Conference, and the first time it is convening in Texas. Other states represented include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, and Virginia.

Officials of the conference are Dr. R. E. Frans, University of Arkansas, Fayetteville, president; Dr. Dale E. Wolf, E. I. du Pont de Nemours, Atlanta, vice president; and Henry Andrews, University of Tennessee, Knoxville, secretary-treasurer.

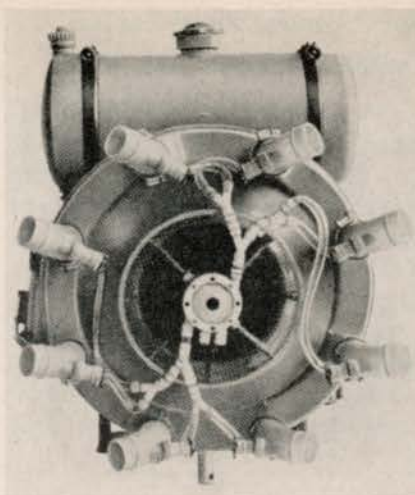
Dr. A. D. Worsham of North Carolina State College, Raleigh, will be in charge of the 3-day program. T. J. Paulson of Amchem Products, Inc., Ft. Worth, will handle local arrangements. For details, write Dr. Worsham at N.C. State.

### New Solo for Custom Sprayers

A brand-new spray unit especially built for contract applicators has just been introduced by Solo Industries.

The new unit, according to Solo General Manager A. J. Mook, has its own 9½-horsepower engine and can be used with a tank of any size to suit the individual's requirements.

Solo says the "Super Custom,"



Solo's new Super-Custom is specially designed for custom applicators.

as the unit is called, can be used for concentrated spray or regular dilutions. It can be mounted on any kind of carrier.

For details, write Mook at Solo Industries, P.O. Box 128, Woodside, New York 11377.

### Brown Needles on Evergreens Natural Shedding Process

Arborvitae, spruces, or pines with a definite brown discoloration are experiencing a natural shedding process. Evergreens, like other woody plants, make new growth and new foliage each year. Unlike deciduous plants, they do not shed all their foliage each fall.

Evergreens do, however, shed some foliage each fall—the foliage that is the oldest. Some evergreens, depending on the species, retain two year's growth and drop the three-year-old needles; other species retain three-year foliage and drop the four-year-old needles. Thus, each fall some needles turn brown and eventually drop.

This type of drop can be easily distinguished. The browning occurs throughout the plant and on all plants of the same species in the same locale. Also, only the oldest or innermost leaves or needles are affected. These evergreens are not in any danger of dying.

If evergreens show discoloration of the newer growth at the tips of branches, then further checks should be made.

## Meeting Dates



Washington State U. Workshop—Retest for 1965 License, auditorium, Puget Sound Power & Light Co., Bellevue, Nov. 17-19.

Northwest Chemical Applicators Assn. Annual Conference, Chinook Hotel, Yakima, Wash., Nov. 30-Dec. 1.

Washington State U. Workshop—Retest for 1965 License, Chinook Hotel, Yakima, Dec. 2-4.

National Weed Committee of Canada, Western Section Meeting, Royal Alexandria Hotel, Winnipeg, Dec. 1-3.

North Central Weed Conference, Inc., Meeting, Kellogg Center, Michigan State University, East Lansing, Mich., Dec. 14-16.

Northeastern Weed Conference, Hotel Astor, New York City, Jan. 6-8.

17th Annual California Weed Conference, Hacienda Motel, Fresno, Jan. 19-21.

Southern Weed Conference, Annual Meeting, Hotel Adolphus, Dallas, Tex., Jan. 19-21.

Midwest Regional Turf Foundation Meeting, Purdue University Memorial Center, Lafayette, Ind., March 1-3.

35th Annual Michigan Turfgrass Conference, Kellogg Center, Michigan State University, East Lansing, March 11-12.

Southeastern Turfgrass Conference, Tifton, Ga., April 12-14.

Pines, hemlocks, or spruces on lawns will undoubtedly have an accumulation of dropped needles beneath these trees. These needles should be raked from the lawn as they will exclude sunlight from the grass. Evergreen needles are also acid and as such are detrimental to good grass growth.

Needles, slow to decay, make a good mulch. Their acidity makes them ideal for mulching rhododendrons, blueberry, and other plants preferring an acid soil.



## Pesticide Safety Is Subject Of New Film by Ortho

A new film, titled "Prescription for Safety," has been released by California Chemical Co. as part of the chemical industry's program to emphasize the need to follow precautions found on product labels.

A noncommercial concept, the film features "Brand X" chemicals. According to L. F. Czufin, Calchem's advertising and public

### Northwest Conference

(From page 13)

wives of the Pesticide Sprayers Assn. members of the Portland group planned an interesting two-day program for the "lady-bugs" attending the conference.

The realistic views presented by the speakers during the convention were reflected by the many serious conversations during the social hour and banquet that marked a successful end to the meetings. A definite air of responsibility and rededication prevailed—even into the fun and laughter that was a part of the closing program. As one guest said, "for the professional applicator, the future with pesticides can indeed be bright if we will just make it so."



More organizational suggestions were offered by Don Rasmussen, immediate past president of the Oregon Ground Sprayers Assn.

relations manager, any agricultural chemical company can adapt this safety film for its use and distribution by adding a film "leader" and "trailer" containing its firm's introduction and signature. Prints are being made available at cost.

The 18-minute film stresses commonsense practices portrayed by the lead character through a workday made safe by the proper mixing, application, and storing of pesticides. Destruction of chemical containers, hygienic care, and protective clothing are among the subjects treated.

The film may be obtained on free loan from the company by writing to L. F. Czufin, California Chemical Co., 571 Market St., San Francisco 20, Calif.

### Missouri Turf Conference

(From page 15)

Delbert Hemphill, Professor of Horticulture at the University of Missouri, the group inspected results of herbicide testing. Hemphill pointed out that the University has had outstanding results with Tupersan for preemergence control of crabgrass in spring-seeded bluegrass and red fescue plantings. These turf grasses show high tolerance to this chemical even though it is applied immediately after seeding, according to Hemphill.

The second day of the Lawn and Turf Conference began with the large group dividing into two groups. One group was interested in lawns, parks, institutional grounds, athletic fields, etc., and discussed problems peculiar to them, while the second group was composed of people interested primarily in golf courses.

Each group held a problem-solving clinic, panelists being Earl Hornbuckle, Kansas City, and Charles Denny, Webster Groves, and members of the University of Missouri staff, for the first group; and for the golf group, James Latham, Tom Mascaro, Ed Shoemaker, and staff of the University of Missouri.



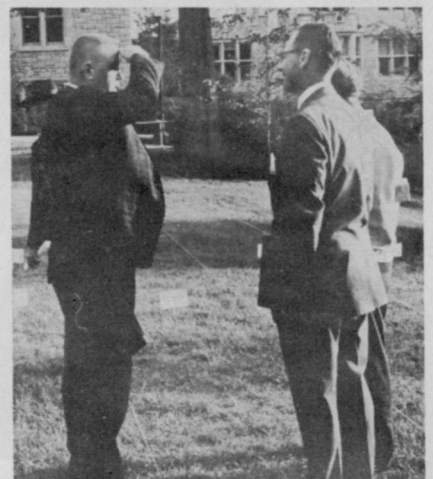
Said to develop pressures up to 100 psi, this knapsack-type sprayer is manually operated.

## Manually Operated Sprayer Introduced by Root-Lowell

A lightweight, manually operated sprayer, said to develop pressures up to 100 psi, was recently introduced by the Root-Lowell Corp. Named the Spraymore Model 1773, this unit has a ventilated back for added comfort when carried as a knapsack.

Easy stroking of the pump handle actuates a dasher-type agitator said to keep sediment-bearing solutions correctly mixed during use. Discharge equipment includes a 5-ft. hose, rotatable shutoff, and 24-inch brass spray extension. A fully rotatable nozzle is adjustable to all spray patterns.

Interested spraymen can obtain complete details from Root-Lowell Corp., Lowell, Mich., 49331.



Weed control plots at the University of Missouri attracted delegates as U staffer Delbert Hemphill (right) explained experiments to touring group.

## Black Spot, Powdery Mildew Defoliate Roses in Fall

Nurserymen who noted that some roses suffered severe defoliation in late summer, may suspect black spot and powdery mildew as the cause, suggests Claude L. King, Extension Plant Pathologist at the Kansas State University.

The black spot fungus infects leaves during moist weather or even in dry periods if the plants are irrigated. Infection causes dark spots on the leaves which then turn yellow and drop.

Powdery mildew affects climbing roses and other types growing in shaded areas. King says this disease appears as a light, whitish, powdery growth over affected areas on leaves and buds. Buds and affected leaves are distorted by the fungus growth.

King suggests a regular spray schedule using maneb or captan for black spot, although these chemicals are not successful in controlling powdery mildew. Another fungicide, folpet, will give good control of black spot and is fairly effective for powdery mildew.

Where powdery mildew is a problem, King likes to add Actidione PM, capryl, karathane or sulfur, to maneb, captan, and to folpet, for maximum effectiveness. Avoid burning the foliage by applying chemicals when tem-

peratures are below 90 degrees. Use of a spreader-sticker in these sprays is recommended when treating roses for powdery mildew.

## Rutgers Field Day Redated

An extended drought made it necessary to postpone the Rutgers University turf equipment and products field day which was scheduled for last Oct. 10.

Dr. Henry W. Indyk, Extension Specialist in Turf Management at the College of Agriculture, Rutgers University, said this decision was made after consultation with an advisory committee composed of industry representatives and other college specialists.

The university is planning this event for next spring, and will announce dates later in *W&T*.

## Oregon Entomologist Warns Of Timber Beetle Attack

Northwest stands of timber will be subjected to a massive attack next March or April by the Douglas fir bark beetle, says Dr. J. A. Rudinsky, Professor of Forest Entomology at Oregon State College, Corvallis.

Unless checked, the insect could destroy from three to six billion board feet of standing

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timber—enough to build a quarter to half million average-sized homes.

He said the Douglas fir beetle has been breeding during the past cool summer under ideal conditions and will emerge sometime early next spring. Rudinsky further added that the beetles will number some 12 times as many as in 1963 following the Columbus Day storm which left blown-down timber highly vulnerable.

Control methods are lacking, Rudinsky continued. The beetles burrow under the tree's bark, out of reach of insecticides.

Scientists are working to duplicate a substance which is secreted by the female when she touches the inner wood of a tree. The substance, which attracts other beetles, could be used to draw beetles away from forests rather than towards them, Rudinsky believes.



When the 1965 meeting of the Northeast Weed Control Conference takes place in New York City, January 6-8, these officers of the organization will be directing the course of events. They are, left to right: Dr. John A. Meade, secretary-treasurer, University of Maryland; Dr. Robert A. Peters, president, University of Connecticut; and Dr. G. D. Hill, vice president, the du Pont Company. The meeting is set for NYC's Hotel Astor.