

## Aquatic Weed Control

(from page W-6)

tential in financial return, and successful aquatic weed controllers find that their services are indispensable and continually called for by those who love, use, and thrive on water resources.

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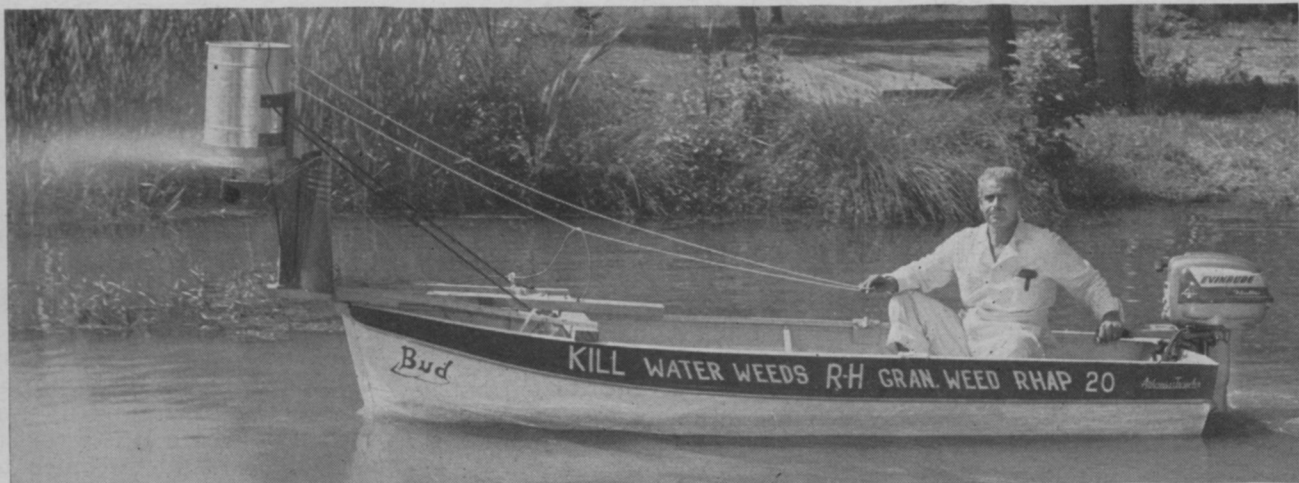
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## Southern Weedmen Gather Jan. 15-17 in Jackson

Nearly 500 weed control personnel from all phases of the industry will gather in the Heidelberg Hotel, Jackson, Miss., Jan. 15-17 for a varied program for weed controllers in industry, public works, and agriculture.

Dr. E. G. Rodgers of the University of Florida, Gainesville, is in charge of the program, and will furnish more information to those who desire it.



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No one fretted about Rachel Carson.

Not a single speaker alluded to "the current furor over pesticides which is raging in our nation's capital."

In fact, for the 120 spray company executives who converged at the Robert Meyer Motor Hotel in Orlando, Oct. 31-Nov. 2, for the Fourth Annual Horticultural Spraymen's Association of Florida Convention, it was no time to be glum nor to look backward.

This was a meeting of professional businessmen, and they meant business from the very start.

Diverse as the program was,



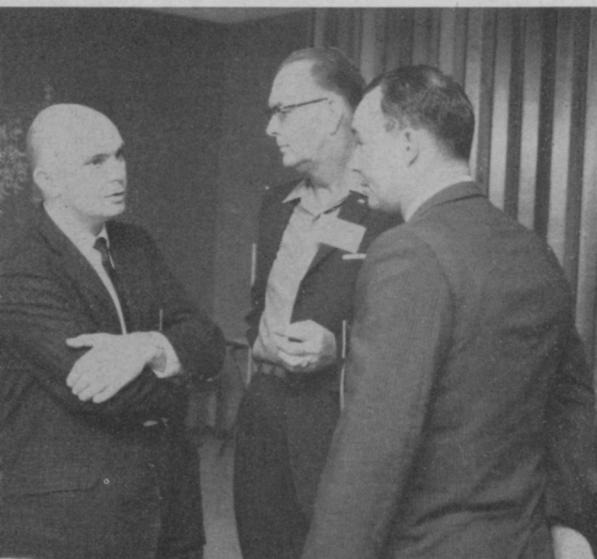
**Panel of pros** is always a highlight of HSAF conventions. Here, Charles Butterworth of Chase and Co. explains a fertilization technique while Ralph White of Ousley Sod Co. (left) and Dr. T. E. Freeman of the Florida Agricultural Experiment Station, listen closely.

## Antipesticide Atmosphere Won't Stop Progress For Florida Spraymen, HSAF '63 Convention Implies

it seemed so logically organized that it gathered momentum with each succeeding address, finally culminating Saturday in a full-fledged equipment demonstration which gave solid bedrock substance to the three days of theory which conference speakers had presented.

A high note of practicality coupled with profound technical competence was sounded on the first day by entomologist Frank Wilson of the Florida State Board of Health in Jacksonville. Always popular with applicator groups, Wilson had some clear-cut observations to make on the

**Popular entomologist** Frank Wilson (left) chatted with spraymen Bob Short (center) and Hugh Sherouse, outside the meeting rooms.



business side of the spray business in the Sunshine State.

Admonishing his audience to remember that spraymen's business structure consists of the interlocking facets of sales, management, and technical know-how, Wilson implied it is far too easy to overemphasize the technical at the expense of sales and management.

This was a welcome observation for the group which had already tacitly agreed to stop making such a fuss over anti-pesticide sentiment and to get on with the problems at hand, namely, more efficient and profitable business management.

Wilson did not confine himself to business observations, however, as he went on to spell out some practical tips for spraymen to use on the job.

For example, the entomologist cautioned that to use less than the recommended amount of water in a spray preparation may result in a partial dose of pesticide and increased deposits on leaves. This is because inadequate water prevents chemical from being carried down into zones where chemicals are most effective.

Wilson also told the assembly to watch out for incorrect pressure and rate of spray. Sometimes the output at the pump varies greatly from the output at the nozzle. Why?

One reason is friction loss, in which fluid passing from the

pump through hose (which may be rough inside, crooked, bent, or otherwise hampering) loses some of the force which initially propelled it, in much the same way a droplet of water, rolling down an inclined surface, loses momentum and eventually halts.

To avoid this hazard, Wilson suggested the group calibrate its spray rigs, and alluded to material he published in *Weeds and Turf* for January, 1963 (page W-12).

### Quartet of Common Turf Enemies Studied in Detail by 4 Experts

Nematodes, lawn insects, diseases and weeds constitute a formidable opposition for any professional turf management operator. But the fund of use-information which HSAF speakers offered should do much to arm Florida spraymen for ever-increasing success in the combat to preserve fine turf.

First in the series of addresses on these common turf ills was presented by Dr. A. A. DiEdwardo, who is Assistant Nematologist at the Florida Agricultural Experiment Station, University of Florida, Gainesville.

DiEdwardo, whose face is familiar to the spraymen of the state, had interesting information about some new compounds for defeating the nematode.

In a series of three tests with several materials, Dr. DiEdwardo was able to establish that at least three compounds look



promising for control of nematodes in turf.

"Based on nematode counts, and visual appearance of the grass in each of the three tests, the following materials gave excellent results within six weeks: Bayer 25141 (at 80 and 160 lbs./acre); Diazinon A-1619 (15 gal./acre); and DBCP (86.5 lbs./acre)."

Dr. DiEdwardo went on to explain that these are experimental materials and are not immediately available. But they're effective tools which applicators can look forward to using soon.

### Insects A to Z

Second in the line-up of thorns in turfmen's sides are the lawn insects, which were discussed at length by Dr. James E. Brogdon, Extension Entomologist at the Experiment Station in Gainesville.

Dr. Brogdon explained that his paper was "Lawn Insects A to Z—Except C," the "C" in this case standing for the chinch bug, which received an entire address of its own from Florida expert Dr. Stratton Kerr.

Caterpillars remain a problem for spraymen, Dr. Brogdon said, especially the sod webworm and the fall armyworm. Best control, he revealed, is achieved with Sevin or toxaphene. Sevin is applied at 1½ lbs. of 80% sprayable per 100 gallons of water for 10,000 sq. ft.

Toxaphene is applied at 3 lbs. of 40% wettable powder or 1½ pints of 60-65% emulsifiable concentrate per 100 gallons of water for 10,000 sq. ft.

Continuing his bevy of helpful advice, Dr. Brogdon suggested that rhodesgrass and Bermudagrass scales could be reduced so that grass does not show injury by applying a series of two or three sprays containing a mixture of malathion and summer oil emulsion. Also, Cygon Dimethoate from American Cyanamid might be helpful, since this compound is a systemic.

Mole crickets are also troublesome in the peninsular state. Aldrin, chlordane, and heptachlor are commonly used with good results, Dr. Brogdon went on. "Kepone is a newer material which has given good control of mole crickets at 4-5 lbs. active ingredient per acre. This is 1¼ lbs. of 50% Kepone wettable powder per 100 gallons of water, applied to 5,000 sq. ft."



From lab and field, experts like Dr. Evert Burt (left), a weed control researcher, and Henry Swanson, Orange County Agent, assembled a fine program for HSAF members.

For billbugs, the scientist recommended VC-13, the insecticide-nematocide from Virginia-Carolina Chemical Corp. Triithion has also proved effective.

### What Ails The Turf?

A close look at turf diseases, and the methods of control, was offered by Dr. T. E. Freeman, who is associate plant pathologist at the Florida Agricultural Experiment Station in Gainesville.

The turf authority said there are 100 diseases which affect grasses in Florida. Worst times for outbreaks are the mild, humid periods when it rains frequently.

Foremost in the fungus-incited afflictions which weaken stands of turfgrasses in Florida is brown patch, Dr. Freeman said. This is caused by a fungus known as *Rhizoctonia*. For control, use preparations which contain thiram, PCNB, organic mercury, Cyclohexamide, etc.

### Fighting Lawn Weeds

A basic lesson in weed control was presented by Dr. E. O. Burt, assistant turf technologist at the Plantation Field Laboratory in Ft. Lauderdale.

He said one of the best ways to have weed-free turf is to fumigate the soil before planting. This can be accomplished with methyl bromide or DMTT, available commercially in such products as Mylone and Mico-Fume.

Dr. Burt has done some experimental work with a variety of preemergence and postemergence herbicides, and found time to detail some of his discoveries for the rapt gathering.

Among the compounds found effective on undesirable grasses

found in warm-season turfgrasses, were Bandane, Betasan, Dacthal, and Zytron. Against broadleaved weeds in turf, Dr. Burt found Treflan (trifluralin) effective.

For postemergence control of annual grasses in Bermuda and zoysia, DSMA has been found valuable.

"Atrazine does a good job of controlling established broadleaved weeds when used as a postemergence herbicide," Dr. Burt advised, "but control of creeping beggarweed is not successful even with this common herbicide."

Among the nonselective herbicides for control of all vegetation, Dr. Burt singled out for comment both cacodylic acid and Diquat, the compound from California Chemical Co.

Cacodylic acid has no residual and is useful when one wishes to knock down all growth in order to reseed the next day.

Diquat is also nonselective, with no residual, but it, as opposed to cacodylic acid, is translocated, which means roots are killed and therefore sometimes a greater degree of kill is achieved.

"This Diquat is going to be a real good tool for us, I think," Dr. Burt concluded.

### The Famous Chinch Bug

Study and discussion of the Florida lawn chinch bug was accorded an entire session separate from the time spent on examination of lawn insects in general.

From the Florida Agricultural Experiment Station came entomologist Dr. Stratton Kerr, a well-known man among Florida spraymen, who has devoted

Leader of the spraymen's group in 1964 is Ted Kaplan, new HSAF president.



years to chinch bug investigations.

Prior to listing his latest recommendations for control of the lawn chinch bugs, Dr. Kerr made several observations on the biology and behavior of the persistent pest.

Apparently high moisture content in lawns helps hold back chinch bug development, and of course rain helps decrease the chinch bug population. Also, there is usually not as much chinch bug damage in shaded areas as in sunny ones.

Among the newer insecticides, some as yet in the experimental stages, Dr. Kerr is particularly impressed with Bayer 39007, a carbamate from Chemagro Corporation which gives "excellent long-term control of the chinch bug" and which cleans up other pest species as well.

"This should be quite a contribution to our arsenal," Dr. Kerr said.

Another promising material is Dow's Zytron, a crabgrass killer which now looks good for chinch bugs as well. Dr. Kerr used it at 10 lbs. active per acre with good results. Dow plans to register it for use at 7 to 10 lbs. active per acre.

#### Renovate for More Profits

"One of the biggest problems in turf maintenance is removal of thatch," according to William E. Colburn, superintendent of the Bay Hill Golf Course in Windermere, Fla.

"Lawn renovation could be a profitable sideline for horticultural spraymen," the golf man

**Update on turf diseases** control came from Dr. T. E. Freeman from the Fla. Ag. Experiment Station.



continued. Machines such as aerators and verticutters, which are too expensive for the homeowner to buy and maintain, and usually too complicated for the amateur to rent and employ on the weekend, can be purchased and pressed into profitable service by professional lawn maintenance companies.

Renovation of any kind should be accomplished in the late spring or summer, Colburn pointed out. The process is best used when temperatures are not apt to drop to the low 60's or high 50's, because then it takes the grass too long to recover from mechanical renovation procedures.

A good application of fertilizer and frequent watering should follow verticutting, Colburn elaborated. In fact, a complete renovation should consist of verticutting, scalping, aerating, removing debris, and fertilizing.

"This is more beneficial than just verticutting, because by aerating, one improves the ability of the grass to absorb water and nutrients by allowing oxygen to enter the soil."

#### Two Views on Fertilization

Since most HSAF members include custom fertilization among their lawn services, two addresses on turf nutrition struck a responsive chord among the assembled operators.

First was a basic summary of turf fertilization principles which was presented by Dr. G. C. Horn, a turf technologist from the Florida Experiment Station in Gainesville.

Dr. Horn reminded his audience that an increase in inorganic nitrogen seems to be accompanied by an increase in chinch bug activity, which bore out a statement made earlier in the program to the effect that fertilization can have profound effects on insect activity.

It is difficult for even the highly trained eye to tell at a glance what element is missing in turfgrass diets, and therefore recommend the proper corrective treatment.

Absence of such elements as nitrogen, potassium, and magnesium produce symptoms which may resemble each other. Chlorosis, the yellowing of leaves brought on by a lack of iron, is one such symptom.

"We do know," Dr. Horn posed, "that when we increase the



Insects A to Z—except C (chinch bugs) was Dr. James Brogdon's slide-illustrated address.

increment of potassium on centipede grass, we increase the increment of chlorosis." This is something to watch out for.

"Geigy's 330 Chelate seems very effective in combatting chlorotic conditions," Dr. Horn summarized. He also recommends operators use the Cyclone-type spreader to apply fertilizers in granular form.

Near the end of each year's convention, planners of HSAF meetings summon to the roster all speakers who have appeared, and then subject the forum to a bombardment of questions from fact-hungry delegates.

This is called the "panel of pros" and has always been extremely popular. The '63 convention was no exception.

—Bill Reimer, who's with Woodbury Chemical Co. in Miami, asked Dr. Burt to compare the triazines to 2,4-D for weed control in St. Augustine grass.

—Dr. Burt replied that the triazines are not as hazardous as 2,4-D, although injury could result. "Grass should be in good shape before any herbicide is used," the weed authority warned.

—A delegate wanted to know what's good to control the Bermudagrass mite. He was told to use Diazinon, Ethion, or Trithion at the same rate which is recommended for chinch bugs.

—Is a fungicide more effective if applied alone rather than mixed with another chemical? Not necessarily, said Dr. Freeman, unless, of course, the two aren't compatible.

—Give us some tips on the use of sulfur. "When you use it, be



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## 18th Annual Northeastern Weed Control Conference

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Dr. John A. Meade, Secretary-Treasurer,  
Northeastern Weed Control Conference,  
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Another

## Weeds and Turf

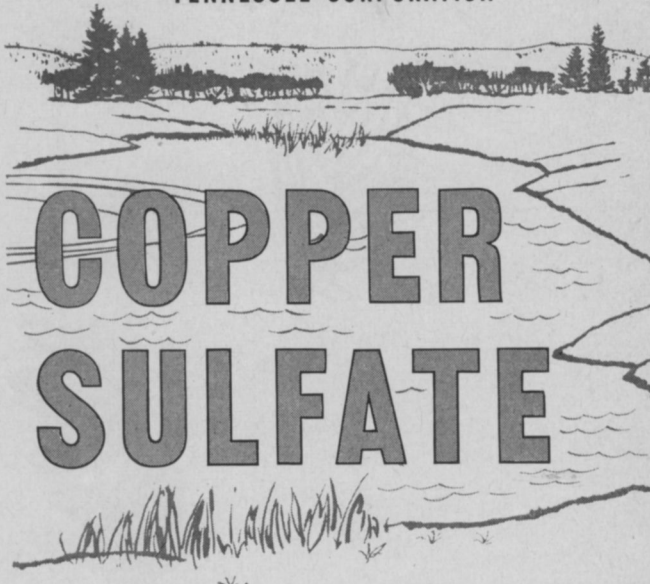
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## CLASSIFIED ADS

As an added service to our readers, classified advertisements will be accepted for publication beginning with the January issue. ■ Categories include Position Wanted, Help Wanted, For Sale, and Wanted to Buy. All copy subject to approval by our editorial and advertising departments. ■ The small charges for these ads are meant only to cover expenses, since the advertising is an aid to readers who wish to resolve individual business problems and projects. ■ Ads for January will be accepted through Dec. 15th. Thereafter, all copy must be received by the 5th of month preceding. ■ Rates: "Position Wanted" 5¢ per word, all other classifications, 10¢ per word. Minimum charge \$2. ■ Address Classified Department, Weeds and Turf magazine, 1900 Euclid Ave., Cleveland, Ohio 44115.

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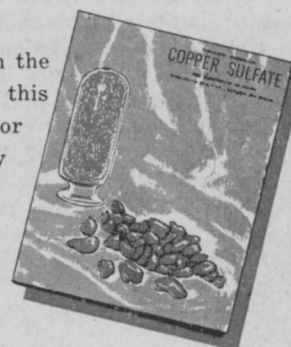


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## WATERMILFOIL

(*Myriophyllum* spp.)



Watermilfoil is the common name for about 20 species of the aquatic plant genus *Myriophyllum*, which means "many leaves." Most common species of watermilfoil are native to the United States and are not generally pests. Worst are those which have been imported from South America, parrotfeather, *M. brasiliense*, and Asia, eurasian watermilfoil, *M. spicatum*.

Leaves of various watermilfoils range from finely divided feathery leaves along most of a plant stem to scalelike leaves (bracts) near the top. Leaves may be arranged circularly in whorls about the stem or may be placed alternately on the stem, depending upon the species. Bases of leaf parts generally encircle the stem.

All major leaf parts resemble feathers enough so that it can be said that this characteristic can be used to identify a watermilfoil. For exact species identification, flowers and seeds found in the axils (junction of leaf and stem) of the scalelike leaves are needed.

Flowers are small and inconspicuous. During flowering, tips of watermilfoil stems extend above the water surface. Stem tips may take on a reddish or pinkish cast; in other species stem tips are typically greenish.

Stems of watermilfoil usually remain under water. Roots extend from the stems to mud where they attach weakly. After watermilfoil matures, wave action may break the root connections and the submerged plants may pile up on the windward side of a lake.

Imported watermilfoils are serious pests on both east and west coasts; local infestations of other species occur across the nation.

Sodium arsenite introduced into water at 4 parts per million will kill watermilfoil and other weed species. This chemical should be handled with great care.

Spraying with 2,4-D is usually unsuccessful because the stem does not transport the chemical downward to any extent. Granular applications of 2,4-D at higher concentrations have been successful provided that the granules can penetrate the dense submerged growth. In this way, 2,4-D is absorbed by roots and carried throughout the plants.

Endothall and silvex have also been useful in watermilfoil control.

Prepared in cooperation with Crops Research Division, Agricultural Research Service, United States Department of Agriculture, Beltsville, Maryland. Drawing courtesy of the Regents of the University of Wisconsin, from N. C. Fassett, A Manual of Aquatic Plants, 1960, the University of Wisconsin Press.

sure you water it in well," said Ralph White. Furthermore, he mused, when you aren't sure of the effects of the chemical you're using, start to apply it at a very low rate, then work up until you get desired effects. "After all, once you put it on, you can't take it off," the turf grower said pointedly.

The crossfire of questions and answers was a lively conclusion to the 1963 convention of the Horticultural Spraymen's Association of Florida, which has vowed to make even more dramatic progress in the coming year, both in service to its members and in more help for the public.

To carry out this momentous task, delegates selected as their new president Ted Kaplan, who runs King Spray Service in Miami. The three regional vice presidents who'll assist are: (southern region) Hugh Sherouse of Hugh's Power Spraying, Pompano Beach; (central region) D. E. VanVolkenburg of Lawns, Inc. in St. Petersburg; and (northern region) William King, King Landscaping, Orlando.

### NWCC Moves to Hotel Astor For 1964's Varied Program

Breaking with the traditional meeting place, the Northeastern Weed Control Conference will convene next year at the Hotel Astor in New York City for its 18th annual session.

In a diverse program Jan. 8-10, delegates will hear technical papers on herbicide-soil interactions, surfactants, pesticide uses, highway weed control, and, as usual, the new chemical report.

General program categories include Agronomic Crops, Horticultural Crops, Turf, Aquatics, Conservation and Forestry, Utilities, and Public Health.

Nearly 700 weed controllers from field, laboratory, and industry are expected to attend. A \$6 registration fee includes admission to all sessions and a copy of the proceedings.

For details, write Dr. John A. Meade, Secretary-Treasurer, Northeastern Weed Control Conference, Dept. of Agronomy, University of Maryland, College Park.





For use in large turf areas, Royer Machine & Foundry is offering the Superintendent, a soil shredder for heavy duty use.

### Royer Has New Soil Shredder

A new shredder-blender for turf supervisors and contractors has been announced by the Royer Foundry & Machine Company, Kingston, Pa.

Increased use of front-end loader tractors on golf courses, parks, and other turf installations, encouraged Royer to produce this model to replace the many hand-shovel-fed shredders now available, spokesmen said.

Called the "Superintendent" Model, the new machine is described as a low-cost, portable shredder that combines automatic trash removal, a receiving hopper for loading with small, tractor buckets, and a high discharge for truckloading or stockpiling.

Only 12 feet long and 6 feet high, the Superintendent is said to be a highly mobile, complete processing plant that provides improved blending of top dressing mixtures as well as fast, mechanical loading for building

tees, greens, and other turf areas.

More information about the Superintendent is available from Royer at 158 Pringle St., Kingston, Pa.

### See Record Crowds for 35th International Turf-Grass Conference Feb. 9-14

"Bigger than ever" is the prediction for the 35th International Turf-Grass Conference and Show which convenes at the Sheraton Hotel in Philadelphia, Pa., Feb. 9-14.

Sponsored by the Golf Course Superintendents of America, this annual event and its accompanying trade exhibit have come to be called "the greatest show on turf."

During educational sessions this year, delegates will hear detailed addresses on both turf-grass fertilization and control of turf pests. In the latter series, authorities will examine aquatic weed control, effect of weather on insect damage, grass wilt, and spring deadspot. A lecture on winter damage problems is also in the offing.

Those interested only in the educational sessions and not in general golf subjects may attend by paying the normal registration fee, according to Dr. Gene Nutter, GCSAA Executive Director. More information is available from Dr. Nutter at P.O. Box 1385, Jacksonville Beach, Fla.

## Meeting Dates



Northeastern Weed Control 18th Annual Conference, Hotel Astor, New York, N.Y., Jan. 8-10.

National Arborists' Association Winter Meeting, Galt Ocean Mile Hotel, Fort Lauderdale, Fla., Jan. 12-14.

Southern Weed Conference, Heidelberg Hotel, Jackson, Miss., Jan. 15-17.

16th Annual California Weed Conference, El Rancho Hotel, Sacramento, Jan. 21-23.

35th International Turf-Grass Conference and Show, Sheraton Hotel, Philadelphia, Pa., Feb. 9-14.

Weed Society of America Biennial Meeting, Pick Congress Hotel, Chicago, Ill., Feb. 10-13.

Aquatic Weed Control Society Annual Meeting, Palmer House Hotel, Chicago, Ill., Feb. 11-12.

Southern Turfgrass Conference, Peabody Hotel, Memphis, Tenn., Feb. 24-25.

Cornell Turfgrass Conference, Cornell Univ., Ithaca, N. Y., Feb. 24-27.

Midwest Regional Turf Conference, Purdue Univ., Lafayette, Ind., March 2-4.

Iowa State Univ. Turfgrass Conference, Iowa State Univ., Ames, March 10-12.

34th Annual Michigan Turfgrass Conference, Michigan State Univ., East Lansing, March 12-13.

### Beginning Next Month

## WEEDS and TURF

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### Winter Turf School at Rutgers Starts Jan. 6

A course open to those who wish to make a career of turf-grass maintenance, and who have experience in the field, is being offered in two 10-week sessions by the College of Agriculture, Rutgers University, New Brunswick, N.J.

Subject matter includes lawn and utility turf maintenance, golf and fine turf culture, control of weeds, and turfgrass establishment.

More information is available from Westervelt Griffen, Assistant Dean of the College of Agriculture at the above address.



**Business Tips Featured at  
NAA Winter Meet Jan. 12-14**

Stressing business management and public relations, a varied program is the keynote attraction for delegates to the National Arborists' Association Winter Meeting in Ft. Lauderdale, Fla., Jan. 12-14.

Assembled at the Galt Ocean Mile Hotel, about 150 professional arborists are expected to join in discussions of insect and disease pests of trees and ornamentals during the annual affair.

An informal mixer is set for Sunday, Jan. 12, and official registration opens the following morning.

Each year the group also holds a summer meeting which includes a trade show, but no formal exhibits are planned for the January affair.

More details of the program will be available shortly, and will be reported here next month.

More information is available from Dr. Paul E. Tilford, NAA Executive Secretary, Box 426, Wooster, Ohio.

**Trimmings**

*Barging on the shoals.* We just had a note from E. Victor Scholl, who runs Modern Weed Control Service in Grand Rapids, Mich., about the series of articles on aquatic weed control which terminates in this issue. Vic is a well-known applicator in aquatic work, and has designed a really first-rate barge for use in such jobs. We've commented before about the ingenuity of spraymen who've had to construct their own specialized equipment for this field, and Vic's barge is a sight to behold. Later next year we'll have more details about this Michigander's efforts to defeat waterweeds in his "water wonderland" state.

\* \* \* \*

*Ivy-less League.* Did you know that aquatic plants can "ac-crew" so much that they wreak havoc with the rowing teams of some ivy league schools? We just learned that Lake Carnegie, the Princeton, N.J., lake where the Tiger Crew holds its sailing and boating competition, was getting so overrun with plants that the collegiates were really getting bogged down. Then to the rescue came Consulting Biologists, Inc., of Springhouse, Pa., which used a helicopter and an aquatic herbicide to give the ivy leaguers a better place to paddle. Pilot was Charles P. Logg, and last reports have it that there's smooth sailing in Princeton today!

\* \* \* \*

*Of mice and fen.* Out in Washington, we hear, the fens and bogs (and tree-covered hills) are being plagued with mice and rabbit population explosions after each timber harvest. When smaller plants, their bigger competition removed, begin to flourish, so does the fauna. This is a problem because the husky predators soon begin to feed on freshly planted seeds. This vicious circle is presently "bugging" our Washington friends more than over-zealous conservationists!

\* \* \* \*

*Two-way street.* While we are feeling confident about the efficacy and usefulness of our chemical herbicides, it's a sobering fact to realize these materials (or similar ones, at least) are being used on the "other side." We recently saw a photograph of an East German workman sprinkling weedkillers along the barbed-wire fence which abuts the Berlin wall. Getting rid of the weeds, it seems, helps give the Communist guards a better view of disgruntled countrymen who have their minds on escape

\* \* \* \*

*Lady sprayman.* We'll wager that one of the best looking applicators in the whole state of Florida is one Patricia A. M. Bay, who runs Pat's Spray Service in Winter Haven. Pat is a winsome gal who was on hand for the Horticultural Spraymen's Association of Florida Convention last month in Orlando. This busy lass didn't miss a session during the three-day conclave, busily note-taking all the while!

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- DAL-E-RAD 30 (Liquid) DSMA

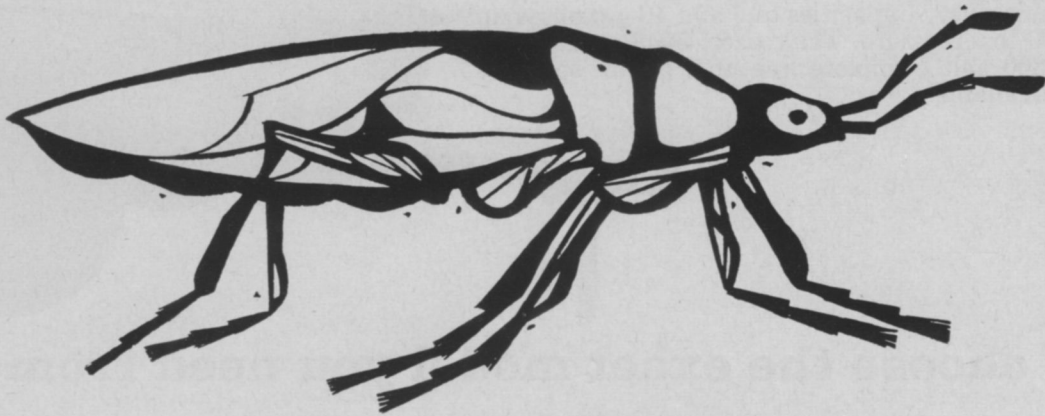
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