

# ditional

®





Weed treatment at bridge over irrigation canal is checked six months after treatment by Supervisor Davenport of Nampa district. He handles road maintenance programs in one of Canyon county's four road districts.

## BUDGETS UP WEEDS OUT (from page 22)

Krovar I, the compound that has been yielding new economic performance in the control of troublesome weeds.

Canyon county, located in the rich agricultural belt of southwestern Idaho, produces about 10 per cent of the state's crops. Annual value of

these crops is close to \$100 million. The county rates first in the nation in the production of alfalfa seed, sweet corn seed, and red clover seed. It also has large acreage in sugar beets, potatoes, vegetable seeds, and wheat.

Surface irrigation is essential to these crops and depends on a system of canals and ditches that interlace the county roads and could provide

an all-too-easy route for weed seed to reach the fields, unless continuing efforts are made to keep roadside vegetation down.

"The roadside weed program is of great interest to our county weed committee," reports weed supervisor Pettis. "The committee exercises its influence in all four of our highway districts. Members keep after their neighbors to control the weeds. They are impressed with the improvements we have been able to achieve in our roadside program—especially in the Canyon county district and the Nampa district."

Weed challenges in this Idaho county are numerous and involve annual newspaper ads to alert residents in cities and towns to their weed responsibilities. As far as species are concerned, Pettis rates Canadian thistle, morningglory and white top as the toughest. But he notes that puncturevine — new in the last 10 years — and Kochia weed, salt grass and sandbur also have been an increasing problem. Gordon Pettis views these weed problems, not only from the roadside point of view but also from the perspective of the farmer and the new resident of a suburban development.

"Our most enthusiastic support for roadside weed control obviously comes from the large farmer who can measure the impact of a good program on his yields," says Pettis. "One of our big needs is to generate understanding about weeds among those who build or occupy new homes in the developments. Roadside control is important to everyone."

Back in 1969 a trial program was initiated in Canyon county to determine when and how to treat roadside areas most effectively to get maximum weed control on an economic basis. The first year a series of plots were put down, involving atrazine, Hyvar X, simazine, Tordon, and dinitro — with rates ranging from two to 10 pounds per acre and applications being made in eight-foot bands along roadside areas of a half-mile to six or eight miles. At the time, Hyvar X was being used as the standard treatment for the bulk of the roadside weed program. Treatments were made in the fall of 1969 and in the spring of 1970.

A second year of trials was initiated in the fall of 1970 with treatments that involved Hyvar X, simazine, Karmex, and Tandex. By this time, Pettis had determined that fall treatments looked best, because they had received moisture needed to activate the chemicals. Spring and

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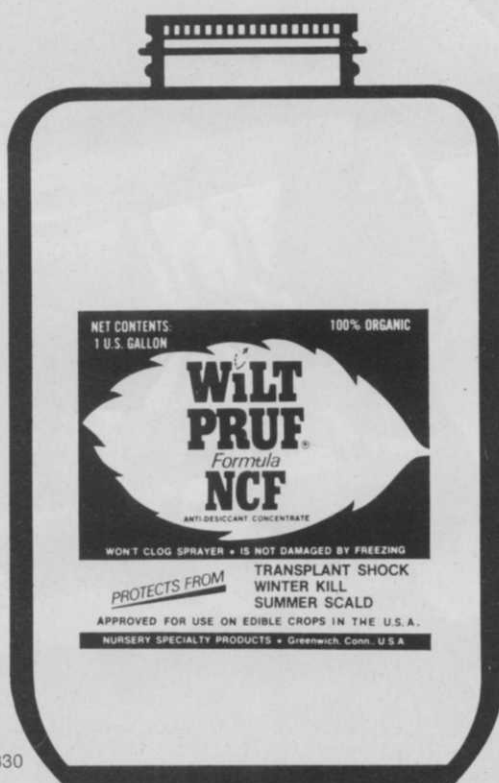
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summer rains in the area are variable.

These 1970 trials were again made at various rates. And while a treatment of Hyvar X at four pounds and simazine at two pounds went down on more than 100 miles of roadside, another tank mix of Hyvar X bromacil and Karmex diuron (four pounds each) showed the ability to provide lasting control of the broadest spectrum of weeds.

In 1971 supervisor Pettis settled on the newly available compound, Krovar I, which included both bromacil and diuron. The treatments were made at a seven-pound-per-acre rate to clean up and control a variety of weed problems on more than 180 miles of Canyon county highway district roads. All treatments were made in October and November and showed the ability to control weed growth for months following application.

In 1972, Krovar I was used at two rates — seven-pounds-per-acre and four-pound-per-acre. The heavier rate went on areas receiving an initial treatment of a residual compound; the lighter rate was used for retreatment areas.

The Canyon county trials have es-



The planning team for weed control in Canyon county includes Merle Sampson, (l) county agricultural agent; Gordon Pettis, (middle) county weed supervisor; and J. E. Howsmom, road maintenance supervisor.

established some interesting comparisons in roadside weed costs which apply at least for this intermountain area. In 1970, the combination of four pounds of Hyvar X and two pounds of simazine represented about \$59 per mile including application; this was the most widely used treatment. But in 1972 the cost of the initial seven-pound rate of

Krovar I was about \$46 per mile and the four-pound retreatment rate was down to about \$29 per mile, both including application.

"We have boosted the number of miles covered under our roadside program," says Pettis. "And we have done it for less cost. In 1970, for example, we spent more than \$13,000

(continued on page 35)



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# —insect report—

## TURF INSECTS

### BLUEGRASS BILLBUG

(*Sphenophorus Parvulus*)

NEBRASKA: Damaged lawns in Douglas and Lancaster Counties. One Douglas County area averaged 30 larvae, one adult, and 5 eggs per square foot of sod. IDAHO: Heavy in many lawns in Canyon and Payette Counties.

### BANKS GRASS MITE

(*Sphenophorus parvulus*)

OKLAHOMA: Heavy in Custer County Bermudagrass lawns.

## INSECTS OF ORNAMENTALS

### DOUGLAS FIR TUSSOCK MOTH

(*Hemerocampa pseudotsugata*)

NEW MEXICO: Light to heavy populations damaged ornamental plantings of Douglas fir, white fir, and blue and Engelmann spruces in 4-square mile area at Los Alamos, Los Alamos County. Defoliation evident, treatment required.

### ARMORED SCALE

(*Fiorinia externa*)

PENNSYLVANIA: Crawlers taken on Canadian hemlock at Wharton Township, Fayette County. Heavy, caused yellowing of foliage on six to 8-inch diameter trees in an ornamental planting. This is a new county record.

## TREE INSECTS

### NANTUCKET PINE TIP MOTH

(*Rhyacionia frustrana*)

ARKANSAS: Second-generation infestations heavier than normal; damaged pines, especially in Camden area of Ouachita County.

### LARGE ASPEN TORTRIX

(*Choristoneura conflictana*)

MICHIGAN: Heavy over most of Upper Peninsula. Damage ranged moderate to severe. Heaviest populations occurred in southwest Marquette, Dickinson, and eastern Iron Counties. Development complete, egg stage present. NEW HAMPSHIRE: Defoliated roadside aspen trees in Coos County.

### ASPEN BLOTCHMINER

(*Lithocolletis tremuloidiella*)

MICHIGAN: Larvae about half grown; blotched mines still small. Populations seem heavy again this year.

### ASIATIC OAK WEEVIL

(*Cyrtopistomus castaneus*)

KENTUCKY: Collected in Washington County. This is a new county record.

### COOLEY SPRUCE GALL APHID

(*Adelges cooleyi*)

IDAHO: Alates emerged from this seasons galls on spruce trees in Bannock and Bonneville Counties.

### PERIODICAL CICADA

(*Magicicada septendecim*)

WISCONSIN: Adults reported to have died out. Flagging of oak twigs noted in most areas where heavy adult populations occurred. Heavy flagging noted on both sides of Wisconsin River in Grant and Crawford Counties. Adults very numerous and damaging in Richland County apple orchard. Controls attempted at this site.

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### BUDGETS UP WEEDS OUT (from page 33)

to treat 225 miles of roadside. In 1972 we spent less than \$8,000 and treated 255 miles. Yet we got control that was better. We're getting a lot of good reaction to the program from the farmers."

This Idaho weed program on paved roads really starts when new roads are planned. In recent years about 15 to 20 miles of roads per year have been built in the Canyon county highway district and almost as many in the adjacent Nampa district. Shoulders and pits are built to provide good drainage, but they are also planned so a single chemical treatment can provide long-lasting weed control without erosion — thus minimizing the need for costly roadside mowing. As a result, mowing has been all but eliminated in county roadside maintenance. Last year, for example, it involved just one man in Pettis' nine-man crew for the equivalent of a few weeks.

"Our objective in our program for unpaved roads has been a clean borrow pit," says Pettis. "One problem on paved roads, of course, is salt grass and other weeds that germinate right at the edge of the paving or oil. And we all know that some weeds come right through asphalt. That's why we have worked so hard to build understanding with our maintenance supervisors. A good weed program does rest on well-planned roads and on teamwork between those who build and maintain the roads and those who control weeds.

Three-hundred gallon spray rigs mounted on a pick-up truck with an eight-foot boom and an auxiliary hose are standard equipment in both the Canyon county district and Nampa district. Two trucks are used for roadside spraying in the fall in both these districts. In the summer they switch to control programs on noxious weeds. But economies have been established. Puncture vine formerly involved four or five treatments with 2, 4-D. Now a single annual treatment with Krovar I will control it. As a consequence of this and other improvements, the county weed department operates only five spray rigs instead of nine. Yet it still handles a wide range of weed programs — roads, (in the Canyon county district) and railroads, shopping centers, vacant lots, etc. (throughout the county).

The weed department spray rigs can apply either an eight-foot or a twelve-foot wide pattern. They are handled by skilled operators who have other jobs in seasons when spraying is not scheduled. Pettis, a former farmer himself, knows the importance of weed know-how and care in herbicide application and he has a crew of experienced men working with him in the country weed program.

"Weed control is a job for specialists," agrees road maintenance supervisor Floyd Davenport of the Nampa district. "We have lots of people in the county who welcome our spray program because it helps keep weeds out of fence lines and out of ditches bordering the fields. They know that our spray crews do

a real job; that's one reason we find some of the farmers moving their crop lines right out to the edge of the road."

Impact of the area's weed control can be judged best by the men who have been using the new compound. Spray operator Tommy Didge in the Nampa district says he's been looking for sandbur — one of the district's tough weeds — but hadn't seen any on roadsides by early June, following last fall's treatment. Maintenance supervisor Davenport looks for added reductions in mowing this season.

Road maintenance budgets are up in Canyon County, but weed control costs are being kept down. "It's a matter of better planning, better training of our spray operators, and better weed compounds," sums up Floyd Davenport. "We've got better control of the weed problem than we have ever had." □

### Ackley Distributor To Cover Rhode Island And Mass.

Goodall and Sons Tractor Company has been named distributor for Ackley hydraulic tools for Rhode Island and Massachusetts. The announcement was made by Harry Goodall of Goodall and Sons Tractor Company and Harold DePue, Ackley's vice-president of marketing. The Ackley line includes hydraulic hand tools for utility, construction, marine, agriculture, governmental and industrial use.



This grass was inoculated in late June. Six weeks later it is almost entirely broken down into compost. More than 80 people attended a conference in Cleveland to find out added information about leaf composting.

## GOLD MINE (from page 24)

work best. That means leaf collection crews must be on the scene to pick up leaves and drop them off at the deposition site in minimum time. The reason is that the bacteria need the energy stored in the leaf to efficiently do their work. There's nothing worse than a pile of leaves that is many weeks old, says Lovness. You can't use them, and nobody wants them.

He recommends that front-end loaders be specially equipped with many tines to aid in leaf collection. Leaves swept into streets by homeowners can be pushed to a collection area by leaf catcher blades mounted on trucks or by loaders.

Once at the deposition site leaves are dumped in long windrows. Each row is then inoculated with enzymes. One-half pound of inoculate at \$1.25 per pound is needed per ton of leaves. (A ton of leaves is about four yards in size.) Uniform inoculation is stressed. A water truck, preferably one with a centrifugal pump, then waters the leaves down. The leaves are allowed to stand for

about 10 days, after which they are turned once.

During this time, temperatures in the pile will climb to 150-160 degrees F. Bacterial action is working and much of the oxygen is being used in breaking down leaf structure into organic matter or humus. Turning the pile after 10 days puts more oxygen into the system and permits the hard working bacteria to complete their job. Within a week, the height of the pile can be reduced by a third, notes Lovness.

Site preparation is important, too. Lovness says that too much water or air are toxins to the organisms which break down the material. The site at the center in Cleveland has been considered a highly suitable location.

Doesn't decomposing vegetative matter cause objectionable odor? Judd Ringer Corporation says, "Smells from compost are the result of faulty construction." A carefully constructed compost pile will fall well within the health and sanitation code of major cities.

There is little threat of spontaneous combustion with this system of composting. First, internal tempera-

tures never reach the point where fire would result. And, Lovness says that spontaneous combustion is a reaction of volatility of various organic oils, not necessarily considered in the decomposition process.

Inside the pile, it is quite moist. The nature of leaf cells is to collect water. Newly fallen leaves are relatively high in water content. The action of the enzymes on the bacteria causes the cells to break down and release water.

When all decomposition is stopped, the black gold is ready for use. Lovness advises that best results are obtained when the compost is shredded. A shredder such as that manufactured by Lindig Mfg. Corp., Royer Foundry & Machine, Ford, Deere, W-W Grinder, Red Cross Company and others will pulverize the humus and make it workable. Combined with soil, the mixture becomes a valuable asset.

Where can you buy the enzymes? Besides the Judd Ringer Corporation of Eden Prairie, Minn., distribution includes: The Cumming Co., Inc. 531 South Avenue, Garwood, N.J.; Trius, Inc. 369 Duffy Avenue, Hicksville, N.Y.; Lakeshore Equipment and Supply Co., 10237 Berea Road, Cleveland, Ohio; The Clapper Co., 1121 Washington Street, West Newton, Mass.; and Niagara Chemicals, 1274 Plains Road E., Burlington, Ontario, Canada.

The Cleveland Public Schools system is looking forward to leaf drop this fall. Their plans are to start a massive composting "factory" as soon as the first truckload of leaves arrives. Other communities around the country may well consider this method a positive step forward to solve the problem of leaf deposition once and forever. Leaves can be a virtual gold mine in disguise. □



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## EDITORIAL (from page 6)

ioned by other employees. Neither should they be given more job responsibility just because management feels the crunch on employee hiring. Likewise, keeping the man glued to his present job without legitimate room for development and expansion will quickly cause creative death.

The talented employee needs encouragement from management in the way of company security, benefits, salary increases, bonuses, job evaluation and recognized responsibilities. Like the child who grows into a man, this individual must be nurtured by management and given opportunities commensurate with exhibited abilities.

## industry people on the move



**JON TREIBLY, JACK McCLENAHAN and STAN HILDRETH** have been appointed ProTurf technical representatives for O. M. Scott & Sons. They will be located in Mississippi-Alabama, Virginia and Florida's gulf coast, respectively.

\* \* \*

**WILLIAM B. GRAHAM III** becomes sales planning manager, consumer goods, for Massey-Ferguson. He formerly was with Bombardier.

\* \* \*

**JEFFREY L. LEFTON**, a Purdue University graduate, has joined the faculty of the Agricultural Technical Institute, a part of Ohio State University's college of agriculture.

\* \* \*

**ROBERT E. LANDESMAN**, appointed director of marketing for the irrigation division of the Toro Company. He replaces **DAVID W. GOOD** who resigned to become a Toro distributor in the southwest.

\* \* \*

**H. J. BOATWRIGHT, JR.**, becomes marketing manager, industrial chemicals & plant foods for U.S. Borax. He was formerly product manager. In other company moves, **DR. JOSEPH G. BOWER** was appointed product manager, industrial chemicals and **DR. TERENCE G. ALSTON** moves to assistant marketing manager.

\* \* \*

**JOHN R. MITCHELL** to assistant product manager of agricultural chemicals for the agricultural and sanitary chemicals department of Rohm and Haas Company. He will be responsible for developing sales programs around the company's agrichemical line of products.

\* \* \*

**RICHARD J. VENN, SR.** named manager of distributor sales for the outdoor power equipment division of FMC Corporation. He will supervise the distributor area sales force, develop merchandising programs and establish policies and procedures to distributors of Bolens equipment.

\* \* \*

**HUGH STEAVENSON**, elected to serve on the board of directors of the American Association of Nurserymen. He is currently president and owner of Forrest Keeling Nursery, Elsberry, Mo.

\* \* \*

**ED LARGE**, named manager, marketing communications of OMC-Lincoln, a division of Outboard Marine Corporation. He succeeds **JAMES L. LEVENTHAL** who will become product manager of golf and turf vehicles.

\* \* \*

**HOWARD L. McPHERSON**, appointed director of operations for two additional FMC plants, one in Canada and the other in Holland. He is currently vice president of manufacturing for the municipal & industrial service equipment division of FMC Corporation.

\* \* \*

**ROBERT A. HUIZINGA and HARMON R. LAVIGNE** have joined Thompson Hayward Chemical Company as agricultural sales representatives. Huizinga will be working out of the Yakima distribution center and Lavigne will be located in Baton Rouge. **RALPH D. RIPLEY**, also T-H, has been promoted to regional manager of the north central region. He was previously branch manager in Minneapolis.



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Even though it is somewhat marshy, the same area takes on a different view after treatment. Estimated benefits are on increase of \$100 per acre after spraying

## WE COULD HAVE LOOKED

(from page 16)

\$100 per acre. On the assumption of 160 acres of shoreline, to the lake-side or shoreline miles, this would have a total benefit of \$3,200,000 for a one year period. The land values have now appreciated at a higher rate. Lakeside owners no longer have to clean their water front lots, they can now utilize their boat docks, move about freely all over

the lake without fear of not being able to return back home at the end of a day's fishing. The above figure is on the conservative side as many lakeside homes and property lots have increased in value two to three times their original cost.

The conservation of water is rarely considered as a monetary asset. One acre of water hyacinth plants removed in this watershed saves 11.5 acre-feet of water every year. Strong is the ability of the plant's root sys-

tem to pick up water and carry it to the leaves for evaporation by the warmth and light of the sun. The removal of 8000 acres of water hyacinths have preserved for human useage 92,000 acre-feet of water. The water saved from trans-evaporation is enough to furnish 20,000 gallons of water per month to 108,900 homes for one year. On a monetary basis this would be saving \$5,445,000 per year. Assuming water transportation, treatment and purification to



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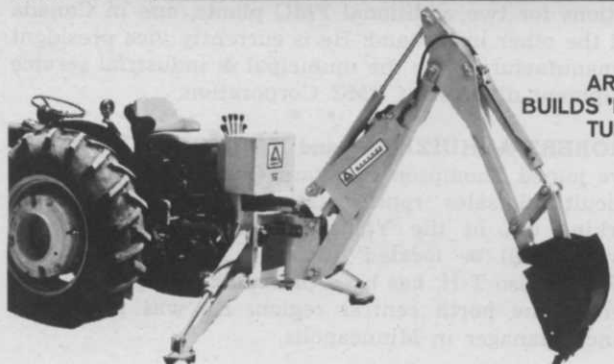
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be 75% of cost this would still be a savings of \$1,361,125 per year.

The benefits accrued to just these 8000 acres when summarized amount to a total of \$5,817,375 per year for the work that has already been done. Reduced to a per acre basis, the unsuitable water that has been recovered from our last aquatic environment and made available to our fishing and recreational public has a benefit of approximately \$727.17 per acre. It must be remembered that benefits usually last several years.

Our efforts must continue to destroy the new plants that come up from seeds and stolons. The plants are very prolific. One plant can recontaminate and occupy 12000 acres of water in a couple of years.

Professional people in weed control work are by necessity very cautious. Application methods are strict-



Jones camp below the horseshoe at Lake Corpus Christi takes on a forbidding look prior to treatment.

ly controlled, and are never used during high winds that could cause "drift" problems to adjoining land. The chemical selected is of the highest quality and purity. The chemical used is one that emulsifies easily, covers and adheres the plant leaves very well, and best of all is rapidly biologically degradable.

Our work has earned many compliments and letters of commendation. There have been a few complaints from uninformed people, who complain of our work, our methods, our chemicals, yet they offer no recommendations or constructive suggestions.

While it is easy to look the other way and not see this green menace taking over our aquatic environment, our efforts must continue to keep an unwanted and ever present plant from depriving us of our ever decreasing waterways. We could have looked the other way. □

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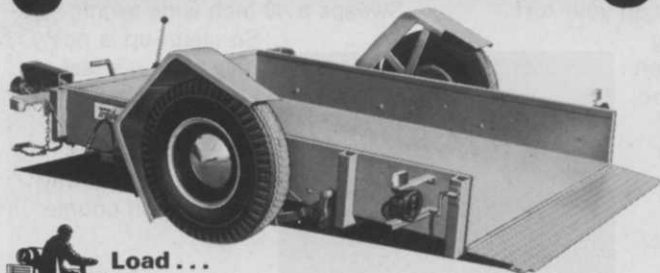


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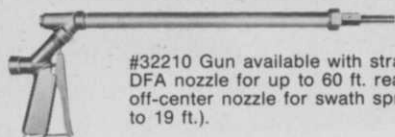
\*Other Models to 5,000 lbs.

## TRAILEVATOR

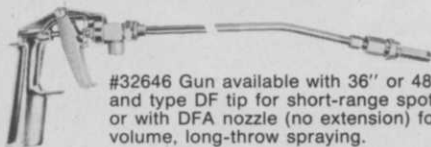
The Hydraulic Elevating Trailer

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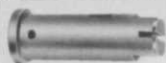
## Delavan foam spray equipment reduces drift up to 60%



#32210 Gun available with straight stream DFA nozzle for up to 60 ft. reach, or with off-center nozzle for swath spraying (up to 19 ft.).



#32646 Gun available with 36" or 48" extensions and type DF tip for short-range spot spraying, or with DFA nozzle (no extension) for low volume, long-throw spraying.



Type DF nozzle tip for spray rigs or #32646 gun (above).



Type DFA nozzle for either of the above guns.



Type DFOC off-center nozzle for #32210 gun.

Now, with low-drift Dela-Foam spray products, you can spray with safety on those days of low to moderate winds. Foam spraying also has other advantages to offer. Send for free catalog and price list.

FREE CATALOG

### DELAVAN MANUFACTURING CO.

WEST DES MOINES, IOWA, 50265 • PHONE (515) 274-1561

## — meeting dates —

**Professional Grounds Management Society**, annual meeting, Oglebay Park, Wheeling, West Virginia, Sept. 23-26.

**Course for Licensing of Tree Pruners**, Agricultural Extension Centre, Brandon, Manitoba, Canada, Oct. 1-5.

**American Horticultural Congress**, meeting of the American Horticultural Society, New Orleans, Oct. 1-7.

**Turfgrass Supplies and Equipment Field Day**, New Jersey Golf Course Superintendents Assoc., Montclair Golf Club, West Orange, N.J., Oct. 2.

**Society of Municipal Arborists**, 9th annual meeting, Sheraton Inn, Flint, Mich., Oct. 3-5.

**Tropical Plant Industries Trade Show**, sponsored by the Florida Nurserymen and Growers Association, Diplomat Hotel, Hallandale Beach, Fla., Oct. 5-7.

**Southwest Turfgrass Conference**, Albuquerque, N.M., Oct. 11-12.

**Industrial Weed Control Conference**, 8th annual, Rudder Convention Center Texas A&M University, College Station, Tex., Oct. 15-17.

**Central Plains Turfgrass Conference**, Manhattan, Kans., Oct. 17-19.

**Turfgrass Equipment & Materials Educational Exposition**, 13th annual, sponsored by Southern California Turfgrass Council, Orange County Fairgrounds, Costa Mesa, Calif., Oct. 17-18.

**Wisconsin Golf Turf Symposium**, eighth annual, Pfister Hotel, Milwaukee, Oct. 24-25.

**Southeastern Agricultural Chemicals Association**, 19th annual meeting, Callaway Gardens, Pine Mountain, Ga., Oct. 28-30.

**Turf and Landscape Irrigation Conference**, Northern California Turfgrass Council, Asilomar Conference Center, Pacific Grove, Oct. 28-30.

**Michigan Pesticide Association**, fall conference, The Olds Plaza, Lansing, Mich., Nov. 7-8.

**Washington State Weed Conference**, Cosmopolitan Chinook Motel and Tower, Yakima, Wash., Nov. 7-9.

**Penn-Del Chapter, International Shade Tree Conference**, general meeting, Marriott Motor Hotel, Philadelphia, Pa. Nov. 8.

**University of Georgia Turfgrass Short Course**, 4th annual GGCSA, Center for Continuing Education, Univ. of Ga., Nov. 12-13.

**New Jersey Federation of Shade Tree Commissions**, annual meeting, Haddon Hall Hotel, Atlantic City, N.J., Nov. 17-19.

**North Central Weed Control Conference**, annual meeting, Sheraton-Jefferson Hotel, St. Louis, Mo., Dec. 4-6.

**National Agricultural Aviation Association**, 7th annual conference, Diplomat Hotel, Hollywood, Fla., Dec. 5-8.

**Tennessee Turfgrass Association**, annual conference, Roger Millers King of the Road Motor Inn, Nashville, Tenn., Jan. 7-8.