

# Some Chinch Bugs Aren't

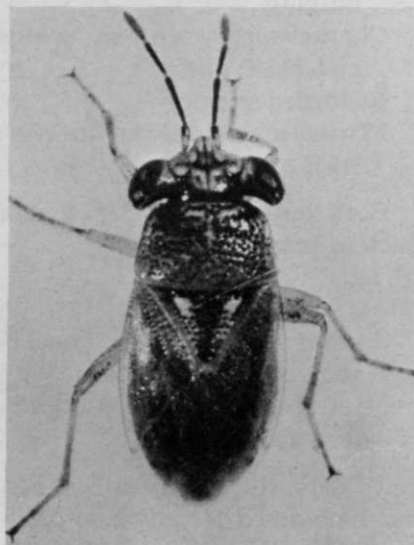
By Ira Caplan

New York State Agricultural Extension Service

In May of 1963 the proprietor of a golf course in Rockland County called us in to check on the identity of an insect infestation. He had been told that the abundant insects were chinch bugs and that an expensive spray program would be required to prevent wide-spread damage to his turf. The greens and fairways most certainly had a heavy infestation of insects, but close examination disclosed that the insects were not chinch bugs. At the time we could only tell the proprietor what the insects were not, and it was some time later that we were able to obtain an authoritative identification by entomologists in Washington. The report was that the invaders were indeed true bugs, as is the chinch bug, but with the rather descriptive common name of "Big-eyed Bug" (*Geocoris bullatus*). It was also reported that this insect was not parasitic upon grass and thus that no expensive insecticide application was necessary.

## History and Distribution

The "Big-eyed Bug" (*Geocoris*) was first described in the 1800's and first found in New York State in the mid 1920's. The recorded distribution in New York State is rather wide. *Geocoris* has been found in numerous areas of Long Island, frequenting the hot, sandy banks of both shores. It is found all along the Hudson Valley, north to the Adirondacks and across the state to the Buffalo area. During 1963, as a result of our publicity throughout the Extension Ser-



Big-eyed Bug

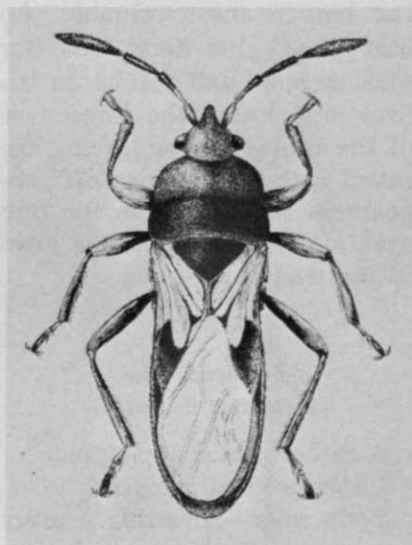
vice, the Big-eyed Bugs have been reported in the Syracuse area, the Schenectady-Albany area, and the New York Metropolitan area.

Reference manuals record that in the United States the insect has been commonly found throughout Florida and ranges north to New Jersey, west to southern Indiana, Oklahoma, and Colorado and south and southwest to Texas, Arizona, California, and Mexico.

## Habits of *Geocoris*

The Big-eyed Bug (*Geocoris*), like the chinch bug, is a true bug and both belong to the insect family *Lygaeidae*. The two insects frequent the same type of sunny, hot dry conditions, and we have often found all stages of both insects running together in turf areas.

Little is known about the biology and feeding habits of *Geocoris*. We do know that these



Chinch Bug

bugs are predaceous in habit, that is, they feed upon other insects in contrast to the chinch bug which sucks the sap from various grass plants. There is a report from Virginia that *Geocoris* feeds on insect eggs, plant bugs, and leafhoppers. In California, some members of the genus are reported to feed on mites.

## Identify and Save

It is important that any turf manager be able to distinguish between the dangerous hairy chinch bug and the apparently harmless Big-eyed Bug. In general, damaging chinch bug infestations are very rare in New York State except in the southeastern area and on Long Island, whereas the Big-eyed Bug apparently is quite frequent throughout most of the state. Damaging infestations of the true chinch bug in up-state areas are usually traced to the importation of the insects in plant ma-

terial, and apparently there is no survival through the following winter.

Contrasts between the adult Big-eyed Bug and the chinch bug are clearly evident in the accompanying illustration. Since these insects are about the same size, and both very small (to 1/5 inch long), a hand magnifying lens is most valuable. An inexpensive 10x hand lens (for \$1.50 or less) will suffice. In the illustration note the huge eyes of the Big-eyed Bug, giving the insect body a "chopped off" appearance in contrast to the tiny eyes and small triangular head of the true chinch bug.

#### Adults

#### Big-eyed Bug (*Geocoris bullatus*)

A rather robust appearance  
Large protruding eyes  
Body color—generally a pithy

black, a reddish yellow tinge on the under or vertical surface

Blackish leg color  
A rather rapid mover

#### Chinch Bug (*Blissus hirtus*)

A more slender body shape  
Eyes smaller, not nearly so bulging  
Characteristic whitish wings and black body  
Reddish leg color  
Moves much slower in contrast to *Geocoris*.

Both insects about 1/6 to 1/5 inch in length.

#### Nymphs

Similar to adults in appearance but not winged.  
First two instars have characteristic banding.

To date, the Big-eyed Bug can not be blamed for any turf dam-

age. Thus it will behoove anyone who is to embark on an expensive spray program to learn what these insects look like. It may save some time and, to be sure, some money. But don't jump to conclusions! Some chinch bugs aren't but there are a lot of chinch bugs that are!

### Spell It Out in Grass Via Warren's Monogram

Now you can spell out whatever message you desire in living grass, according to Warren's Nurseries, Palos Park, Ill.

Warren's Monogram Bluegrass, soon to be available to the public, can be used to spell out the name and address of home owner or business corporation. Lighter in color than Merion, for example, it stands out from the other grass in which it is planted.

## BIG BRUTE TURF CUTTER

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color movie film of the  
cutter at work,

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The **BIG BRUTE** is for the professional who demands maximum efficiency for greater production. It is the latest advance in turf cutter engineering for high production performance in any soil conditions. Proven in the fields since 1963 by professionals. The **BIG-BRUTE** is the fastest turf cutter machine in production. The cutter is driven by a three point hitch tractor and its P.T.O., at speeds of low, second, and third, depending on soil conditions. This cutter has yield 33¼ sq. yards a minute in second gear, and 3 to 4 acres in a 8 hour day. The average blade life will give you from 6 to 15 acres, and the side coulters will yeild 25 to 35 acres, all blades and side cutting coulters are guaranteed never to break under any turf cutting conditions.

CIRCLE No. 14 READER CARD



Locke's heavy-duty, "safety-conscious" mower is easy to handle, according to its developers. Designed for work on sloped grounds, it cuts at the easy rate of three acres an hour and handles jobs too big for smaller units.

## Hillside No Problem With Locke's New Mower

The Devere-Locke division of Locke Manufacturing Companies, Inc. has made available its heavy-duty, 700-lb. "Expressway Patrol" mower, designed especially for highway grass maintenance and hillside mowing.

Developed over a three-year period with the co-operation of experienced highway maintenance engineers, the mower is geared to cut grass as tall as a man while moving across a steep slope; then, on the second pass, it completely cleans the hillside, says Locke. Its 60-inch blades manicure grass on slopes up to 40 degrees.

Providing safety for the operator, the mower is designed to stop dead after seven feet of travel, even when headed down a 36° slope after being turned loose by the operator, according to Locke.

Devere put the engine only five inches off the ground to provide for lots of hill-hugging ability. Its dual wheels make the mower "untippable," says the company.

For more information, write the company, 1085 Connecticut Ave., Bridgeport, Conn.



The Ohio Turfgrass Foundation has awarded a grant of \$10,000 to The Ohio State University for study of turfgrass management. According to Robert W. Miller, left, associate professor of agronomy at The Ohio State University, and who will be conducting the research, the grant makes possible additional research in the fields of better turfgrass on golf courses, industrial grounds, cemeteries, parks, and home lawns. Shown with Miller are Novice G. Fawcett, center, president of The Ohio State University, and Charles H. Tadge, president of the Ohio Turfgrass Foundation and Mayfield Country Club Golf Course Superintendent, South Euclid, O., who is presenting the check.

Lynn Kellogg, right, golf course superintendent of Oak Hill CC, Rochester, New York, receives from Charles DeMartin, center, Oak Hill's grounds committee chairman, a plaque from the Golf Course Superintendents Association. Kellogg was honored for his outstanding contributions in preparing the Oak Hill Country Club for the 1968 U.S.G.A. Open Championship. Kellogg was named Oak Hill's golf course superintendent in January, 1966. Two weeks after his appointment he was informed that the course would hold the 1968 U.S.G.A. Open Championship. He had been grooming the course for this event ever since. DeMartin, after making the presentation, made these points about the U.S. Open at Oak Hill: more than 30,000 man-hours of volunteer work went into it by Oak Hill members; provisions were made to handle between 80,000 and 100,000 people, at the rate of 20,000 to 25,000 a day, and to handle 8,000 cars a day; and Oak Hill also fenced the perimeter, plus adding 25,000 stakes and miles of telephone wires.

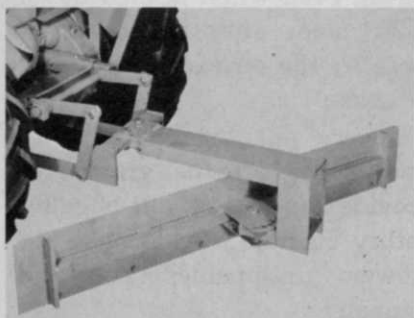


# New Products . . .

## Designed for the Vegetation Care Industry

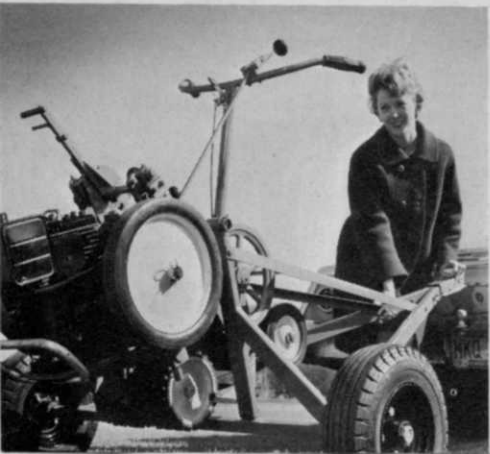


Vermeer Manufacturing Company, offers the new Model TS-30 Tree Spade. Designed to dig a maximum tree ball 30' in diameter, 36" deep, the Tree Spade is ideal in moving trees and shrubs, and for root pruning. Its telescoping spades completely encircle the tree and then inch carefully into the ground. Tree and ball are hydraulically lifted into transport position. The TS-30 operates in approximately 6 to 7 foot rows with 5 to 6 foot spacings. Information: Vermeer Mfg. Co., Pella, Ia. 50219. (Circle No. 17 on Reader Card).



New attachment by Economy Tractor is rear-mounted grader blade. As an aid to fine grading, landscaping, and other assignments, the blade can be angled in any of 5 positions. Write Engineering Products Co., 1005-HF Anoka Ave., Waukesha, Wis. 53186. (Circle No. 18 on Reader Card).

Even a small woman can easily attach, raise and move a 265-pound sod cutter with a new Tote Trailer manufactured by the Ryan Equipment Company, 2055 White Bear Ave., St. Paul, Minn. 55109. Trailer attaches to any ball hitch. (Circle No. 19 on Reader Card).



The Hypo-Hatchet Injector-Silvisar system injects a metered amount of tree-killing chemical into a tree in one operation. The hatchet weighs less than three pounds and is used as an ordinary hatchet. The simplicity of operation requires little training of personnel. Write The Ansul Company, Marinette, Wisconsin 54143. (Circle No. 20 on Reader Card).



# Stamp out SUMMER drought

WILT PRUF Anti-Transpirant *adjusts* plant transpiration, the natural process of water-loss, to the season's needs. During a hot, dry spell, WILT PRUF conserves precious moisture to combat summer scald. You can transplant safely through the summer months by spraying with WILT PRUF before you dig. Summer, winter, spring and fall, WILT PRUF saves plant lives. *Write on your letterhead for 50-page technical manual of applications.*

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# Insect Report

WTT's compilation of insect problems occurring in turfgrasses, trees, and ornamentals throughout the country.

## TURF INSECTS

### GREAT BASIN TENT CATERPILLAR (*Malacosoma fragile*)

**Oregon:** Very heavy on bitterbrush again in 1968 in Klamath County; numerous brush patches completely defoliated along 30 miles between Sun Pass and Chemult. Mostly penultimate instar and few beginning to migrate. Little evidence of virus killing June 6.

### FALSE CHINCH BUG (*Nysius ericae*)

**Missouri:** Heavy in nurseries in southwest area where pepper grass common.

### A MEALYBUG (*Heterococcus* sp.)

**Arizona:** Treatments ineffective on seed Bermuda grass on Arizona Island, Yuma County.

### A SOFT SCALE (*Pulvinaria iceryi*)

**Florida:** Taken on Pensacola Bahia grass on experiment station at Ona, Hardee County. This is first Florida Division of Plant Industry record for pasture grass in State.

### THRIPS (*Chirothrips* spp.)

**Arizona:** Heavy enough in Bermuda-grass seed fields to require treatments from Yuma Valley to Roll Valley in Yuma County.

## INSECTS OF ORNAMENTALS

### A COCKROACH (*Neoblattella detersa*)

**Florida:** Collected on begonia plants at Miami, Dade County, December 3, 1965. This is a new United States record. This species is also known from Jamaica.

### AN YPONOMEUTID MOTH (*Argyresthia cupressella*)

**Oregon:** Adults began emerging from arborvitae week of May 24 at Salem, Marion County.

### FLETCHER SCALE (*Lecanium fletcheri*)

**Wisconsin:** Laying eggs on yew, arborvitae, and juniper in Jefferson County. Egg laying about 5-90 percent complete.

### A PIT SCALE (*Asterolecanium bambusicola*)

**Florida:** Adults collected from bamboo at nursery in Daytona Beach, Volusia County.

### JUNIPER WEBWORM (*Dichomeris marginella*)

**Michigan:** Full-grown larvae in webs; pupation expected soon.

### A WEEVIL (*Ochyromera ligustri*)

**Virginia:** Adults collected on lilac at Smithfield, Isle of Wight County, July 13, 1967. This is a new State record.

## TREE INSECTS

### ADELGIDS (*Adelges* spp.)

**Maine:** *A. abietis* caused concern; incidence apparently above 1967.

**Virginia:** Some motile first instars of *A. tsugae* still active; most on hemlock twigs; infestations extensive and widespread at Richmond. Winged females observed for first time in State.

**Wisconsin:** *A. strobilobius* egg laying underway on Grant County European larch.

### APHIDS

**Vermont:** *Mindarus abietinus* very numerous; severe curl and wilting of new growth on balsam fir.

**Maine:** *Cinara strobis* abundant on ornamental white pine in southern area in late May.

### NATIVE ELM BARK BEETLE (*Hylurgopinus rufipes*)

**Wisconsin:** Adults flying, eggs laid and hatching June 5 in Menominee County.

### ELM LEAF BEETLE (*Pyrrhalta luteola*)

**Nevada:** Heavy adult feeding at Winnemucca, Humboldt County.  
**Utah:** Active at Cottonwood and Highland Drive.

### ENGRAVER BEETLES (*Ips* spp.)

**Wisconsin:** Females oviposited June 3 on jack pine pulpwood piles in Jackson County. Active May 31 in spring burn area of Vilas County where egg galleries in Scotch and jack pines.

### AN YPONOMEUTID MOTH (*Argyresthia cupressella*)

**Oregon:** Adults emerged from various cypresses week of May 31 at Portland; bad infestation this year.

### MIMOSA WEBWORM (*Homadaula anisocentra*)

**Alabama:** First larval generation light; feeding on Lee County mimosa.

**Ohio:** First instars feeding on Tuscarawas County honeylocust.

### PALES WEEVIL (*Hylobius pales*)

**Ohio:** Adults feeding on seedling Scotch pine in Scioto County planting. Killed approximately 10 percent of trees planted in 1968 and damaged many more, such as to make survival doubtful.

### WHITE-PINE WEEVIL (*Pissodes strobi*)

**Maine:** Egg laying underway May 13 at Alfred and Sanford.

Compiled from information furnished by the U. S. Department of Agriculture, university staffs, and WTT readers. Turf and tree specialists are urged to send reports of insect problems noted in their areas to: Insect Reports, WEEDS TREES AND TURF, 9800 Detroit Ave., Cleveland, Ohio 44102.

## Landscape Horticulture Program Offered by UM

The University of Minnesota has announced it will offer a new two-year program in landscape horticulture geared to prepare students for supervisory positions in that field.

The program will combine classroom instruction with practical work experience at the University Arboretum and commercial companies. As students will receive pay for their work experience, they will have the opportunity to help finance their education.

Those completing the program may find openings in nurseries or in maintenance of commercial or highway landscape, parks or golf courses. Students interested in sales can find opportunities with corporations marketing agri-chemical products; those interested in business may become proprietors of their own nurseries or landscape service companies.

For additional information, write to Harold Pellett, Horticulture Dept., University of Minnesota, St. Paul, Minn. 55101.

## Classifieds

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

Rates: "Position Wanted" 10c per word, minimum \$3.00. All other classifications 20c per word, minimum \$4.00. All classified ads must be received by Publisher the 10th of the month preceding publication date and be accompanied by cash or money order covering full payment. Bold-face rule box: \$25.00 per column inch, two inch minimum.

### HELP WANTED

**MANAGEMENT and Construction Superintendent Wanted**—Aggressive man with experience and knowledge of all phases of turfgrass construction and management. Be able to handle men and equipment. Good salary, many benefits, 5 day work week with regular hours. Send resume. Reply to: Turfco Lawns, Inc., 1140 Bethlehem Pike, Flourtown, Pa. 19031.

**MANAGER WANTED for one of Michigan's largest sod farms** growing on peat, located near Lansing, Michigan. Profit sharing, hospitalization and living quarters. This is a \$10,000 a year position. Reply to: Huron Sod Farms, Inc., 30877 Pennsylvania, Romulus, Michigan 48174. Phone 313 941-2730.

**FIELD SUPERVISOR Industrial Weed Control firm in eastern Pennsylvania** is looking for a field supervisor. Degree in one of the agricultural sciences is desirable but not necessary. Write Box 30, Weeds, Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

### FOR SALE

**ESTABLISHED Tree Service.** 31 years in Chicago and suburbs. Business in operation and ready to take over. Retiring. Brown Tree Service. 739 Belmont Ave., Chicago, Illinois 60657. Phone 312 472-3997.

**80 ACRE sod farm on peat. 70 acres of Merion ready to cut.** Metal barn, deep well for irrigating. Near Lansing, Michigan. Phone Ann Arbor 313 662-9398.

### Aquatic Weed Control

(from page 23)

program which would utilize both federal and state facilities and financing, state supervision of control on a statewide basis, and the authority to perform field operations in any area not covered by a specific local program and where control is necessary to safeguard the state as a whole.

Frank Wilson, director of the Polk County Mosquito Control District, Bartow, Fla., was elected as new president. Blackburn, the retiring president was

named vice-president, and Paul R. Cohee, Hercules, Inc., Orlando, Fla., continued as secretary-treasurer. New directors elected for the Society were: Stan Abramson, Southern Mill Creek, Tampa, Fla., John W. Woods, Florida Fish and Game Commission, Tallahassee, Fla.; and R. P. Blakeley, director of Old Plantation Farms, Plantation, Fla. James D. Gorman, Tampa, Fla., is the retiring vice-president, and retiring directors are Fred W. John, Belle Glade, Fla., and Dr. Fred W. Zurburg, Lafayette, La. Dr. Lyle Weldon, ARS, USDA, Fort Lauderdale, Fla., continues as editor and will publish proceedings of the entire annual meeting. These are automatically mailed to Society members and are available on a purchase basis for non-members.

Members voted to stage their 1969 annual meeting during June at the Holiday Inn, Palm Beach, Fla.

### Dutch Elm Disease

(from page 26)

trouble, it is not for failure or proven control methods, but instead of failure to apply all measures needed as prescribed. Failure to do so seems to result from a combination of factors involving both human and physical relationships. I believe that current effort, time and money now diffused over the community with but limited success, can best be used on limited numbers of highly valued trees. Many trees now pruned and sprayed are not worthy of this attention, because they are not only potentially hazardous for disease spread, but are also without aesthetic attraction. Such trees should be destroyed rather than protected. A reassessment of priorities is clearly necessary for control programs to be more successful. Priorities should be shifted from selectivity of control methods, to value and location of selected, desirable elms

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to be protected. All control measures should be used only on *limited* numbers of elms, and current selectivity of only one or two control measures for all elms should be abandoned as undesirable and hopeless. Ultimately, the disease can be expected to reduce all urban elm populations to fewer numbers of elms that may be protected with complete care, but if current practice continues some of the most beautiful and desirable trees will have gone and many grotesque ones may live on. The message here is to insure complete protection to those trees for which shade tree care has a purpose, anything less will ultimately jeopardize the integrity of arboriculture.

### New Jersey Now Growing 3000 Acres of Sod Yearly

The New Jersey Department of Agriculture reports that its state sod growers now have more than 3000 acres of "instant lawn" under production.

Of the Garden State's 31 sod farms, 15 are located in central counties, 9 in northern, and 7 in southern.

Sod production got underway in the state about 30 years ago; since that time, local and out-of-state markets have expanded to include industry, businesses, athletic fields, golf courses, landscapers, garden centers and, of course, private homeowners.



George Mock, pesticide problems author-lecturer, was recently honored with an award for his contribution to safety in the pesticide field by the Women's Division of the Seattle-King County Safety Council.

Mrs. Warren Magnuson, wife of the state of Washington's senior senator, presented the award at the Council's annual award luncheon, at which time Mock was cited as being the "most knowledgeable individual in his field in the Northwest."

Former chairman of the Governor's Pesticide Advisory Board and a Western Washington Horticulture Board member, Mock was instrumental in forming the Washington Ground Sprayers Association and served as its president for five years.



Bell Helicopter, Fort Worth, Tex., has announced that the Greek government purchased 16 of its Model 47 copters to be used primarily for spraying olive groves.

The Bells, assigned the task of spraying 600,000 acres of olive trees, were delivered to Greece in time for spraying in early June, a critical period in insecticide operations to protect the country's "No. 1" export from the Dacus Fly (*Dacus Oleae*).

All 16 helicopters are equipped with Bell's AgMASTER spray gear, which offers a choice of boom widths, uniform spray pattern, and snap-on installation and removal, according to the company.

Bell Agricultural specialist John Neace is in Greece to assist in formulating the proper rates of spray applications.

**Avoid Summer Elm Pruning.** Elm bark beetles are more readily attracted to elm trees pruned during the summer growing season. This attraction shows up the season after such pruning. Michigan pathologists have found elms pruned between July and mid-September especially susceptible.

\* \* \*

**New Bulletin.** Just thumbed through an informative bulletin from Cornell. It's Miscellaneous Bulletin #74 and gives a good rundown on pest control around homes. Includes recommendations for multipurpose spray mixtures and for control of turf, ornamental, and tree pests. Write the Cornell College of Agriculture at Ithaca, N. Y.

\* \* \*

**Congratulations to Mrs. LaFetra.** Named California "Woman of the Year" by the state Museum of Science and Industry is Mrs. Mary Elizabeth LaFetra. She is president and co-founder of Rain Bird, big maker of sprinkler irrigation equipment. Mrs. LaFetra and her late husband, Clem, turned a single invention, the impact sprinkler, into a giant manufacturing and marketing operation. It is now distributed worldwide. Among her accomplishments in the company is development of a unique accounting system exclusively used by the corporation.

\* \* \*

**ALCA directory.** Off the press is the new '68 directory of Associated Landscape Contractors of America, Inc. Executive Director Harry Lambeth says he will send one to industry members on request. Write him at 632 Shoreham Bldg., Washington, D. C. 20005.

\* \* \*

**Aquatic Weed Control Costly.** Aquatic weeds have only in recent years become a noticeable problem in the northern areas of the country. Tropical areas such as Florida have suffered for years. Today, the Central and Southern Florida Flood Control District has almost \$400 million invested in canals, pumping stations, water reservoirs, dams and spillways. Benefits of this expensive system would shortly be negated if aquatic weeds were left uncontrolled for even a short period. Costs of weed control by all agencies in this single 18-county district ranges near \$2 million every year. Thomas Huser, director of this particular FCD, says new controls are needed and the search for them continues.



## Meeting Dates



**Midwestern Nurserymen's Summer Meeting**, Zelenka Evergreen Nursery, Grand Haven, Mich., August 13-14.

**Third International Peat Congress**, Laval University, Quebec City, Canada. Aug. 19-23.

**Golf Course Superintendents Field Day**, Turfgrass Field House, University of Rhode Island, Kingston, R. I., Aug. 21.

**1968 Turfgrass Field Day**, Pennsylvania State University, Joseph Valentine Turfgrass Research Center, Campus, noon August 21-noon August 22.

**Hawaii 4th Annual Turfgrass Management Conference**, Punahou School Campus, Honolulu, Hawaii, August 21-24.

**Lawn and Utility Turf Field Day**, Turfgrass Field House, University of Rhode Island, Kingston, R. I., Aug. 22.

**Turfgrass Field Days**, Virginia Polytechnic Institute, V.P.I. Turf Plots, Blacksburg, Va., noon Sept. 4-noon Sept. 5.

**Turfgrass Field Day**, Michigan State University, Traverse City Country Club, Traverse City, Mich., Sept. 4.

**Maryland Lawn and Turf Show**, University of Maryland Campus, College Park, Md., Sept. 7.

**Western Street Tree Symposium, 11th Annual**, University of California, Santa Cruz, Calif., Sept. 11.

**Turfgrass Management Conference**, Florida Turfgrass Association, Ramada Inn, Gainesville, Fla., Oct. 8-10.

**Southern California Equipment and Materials Educational Exposition**, City Park, Lynwood, Calif., Oct. 16-17.

**Industrial Weed Control Conference, 3rd Annual**, Texas A&M University, Memorial Student Center, College Station, Tex., Oct. 20-22.

**American Society of Agronomy, 1968 Annual National Meeting**, Jung and Roosevelt Hotels, New Orleans, La., Nov. 10-15.

**National Aerial Applicators Association, Annual Meeting**, Dunes Hotel, Las Vegas, Nev., Dec. 1-4.

**Illinois Turfgrass Conference, Illinois Turfgrass Foundation, Inc.**, Building Auditorium, University of Illinois, Urbana, Ill., Dec. 5-6.

## UCR Project Aids Farmers and Herbicide Industry

Results of a University of California Riverside project—to hasten development and use of safer and more effective weed-killing compounds for a broad range of Southern California crops—indicate forthcoming benefits to California farmers and to the herbicide industry.

Conducted by scientists from three agricultural departments and the Agricultural Extension Service at UCR, the program is supported by the chemical industry. In recent years, they point out, new herbicides have been released for commercial use before being adequately tested and screened.

The UCR program intends to better evaluate new herbicides and to get them ready sooner for use by farmers, to help avoid losses caused by herbicide damage and to coordinate herbicide research on all major crops. In turn, the chemical industry will receive early notice as to which of its new compounds show the best potential for development as herbicides for S. California crops.

Sixty-two herbicides from 18 chemical companies were applied last fall to plots of various types of vegetables. Weeds were sown into each crop plot to ensure that the weed-killing capacity of the applied herbicide would actually be tested.

After test results are evaluated, a special committee decides what further research should be conducted on the best-performing herbicides.

The project has already produced impressive results, according to its participants. For example, performance of one developmental-stage compound has surpassed that of herbicides currently regarded as best for weed control in S. California lettuce fields. Other new compounds being tested are showing unusual selectivity in plots of vegetable and field crops.

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