Aquatic Weed Control

a major segment
of the industry

Aquatic weed control promises to become more complex. Problem areas increase as greater segments of the nation’s population seek out and use inland water, whether lakes, canals or regular streams. Homebuilding and commercial use of inland water causes a buildup of pollution which in effect fertilizes bodies of water to the extent that they become natural incubators for weed growth. The usual result is that aquatic weeds limit recreational, commercial, and public use of both natural and artificial water areas.

A good example of how quick noxious aquatic weeds can become a problem is found in the Panama Canal. Problems there began only about 10 years ago at a time when only hyacinths and some aquatic grasses were evident. These did not become alarming until about 5 years ago when many areas suddenly became choked with Elodea and...
other varieties of submersed weeds. Mechanical methods of clearing choked areas worked for a time but, according to Julian S. Hearne, chief of the Dredging Division of the Panama Canal Co., who reported at the recent annual meeting of the Hyacinth Control Society at Ft. Myers, Fla., the need to rely on chemicals was soon apparent. Copper sulfate experiments were started in 1964 and produced good results. It was used in crystal form so that it would settle to the bottom and attack the root system of the plants. Later, in May 1966, Elodea was almost completely cleared by use of copper sulfate. However, because of the expense involved on the massive expanse of the Canal, Hearne said that experiments were started with other chemicals to seek methods of reducing costs. Most of the areas tested were plagued with about 90% Elodea, 8% coontail, and 2% water hyacinth and marginal grasses.

Results varied with concentrations of chemicals used, Hearne reported, but were generally good. For example, Hydrothol 191 used in liquid form at concentrations of 1.5 to 3 ppmw showed a remarkable disintegration of vegetation, and within 3 weeks plots were virtually free of all vegetation. No fish kill was evident. By contrast, a similar concentration of Hydrothol 191 in granular form produced a very slow effect with areas adjacent to spots where the granules fell having a very healthy effect.

Copper sulfate plus Diquat at concentrations of 1 to 2 ppmw of each gave kills ranging from 80% to 100%. Diquat alone at 1 to 2 ppmw concentrations gave 80% to 85% kills after 3 weeks. Copper sulfate crystals at 5 to 20 ppmw concentrations produced 90% to 100% breakup and decomposition of Elodea with no new growth showing after 3 weeks. Karmek at a concentra-
Robert D. Blackburn, foreground, research botanist, Agricultural Research Service, USDA, Ft. Lauderdale, Fla., demonstrates new development in pump equipment for air boat use, during Ft. Myers annual meeting. Blackburn was elected Society president for the coming year.

Problems in aquatic control were reviewed for the record 150 registrants at an annual Society meeting by President James D. Gorman, director of the Hillsborough County, Fla., mosquito control unit. Among the most far reaching, he said, was a ruling by the Florida State Board of Health that no pesticide formulations containing 2,4-D, dalapon or Diquat had been registered for use in sources of potable water supply. This problem is being studied by a number of federal, state, and private agencies to determine the information required for registration of 2,4-D formulations. A report is expected shortly. Gorman also said that a bill had been introduced into the US Senate to prohibit importation into the US of exotic aquatic plant species. The Society is on record, Gorman stated, in support of the bill. Gorman called on Society members to stimulate interest in aquatic weed control by commercial applicators. Government agencies cannot treat aquatic weed problems on private property and to date, too few commercial applicators are qualified to handle the specific problems. He complimented the work of researchers on present aquatic problems within the scope of current financing, but called for more research on control programs by university staffs, in Florida and throughout the Southeastern US area. At the annual Society banquet, Gorman was presented a plaque for his service to the organization.

Also receiving an award was William E. Wunderlich, chief of the US Army Corps of Engineers aquatic growth control section at New Orleans, La. He received a lifetime membership to coincide with his retirement. On the formal program, Wunderlich discussed mechanical harvesters which have been used for a number of years to clear hyacinths from navigable channels. These harvesters, he said, are limited to waters deep enough to float them. Chemicals, he said, have ruled out all but about 3% of such work in his area. Attempts (Continued on page 38)

American Society for Horticultural Science, Annual Meeting, Texas A. & M. University, College Station, Aug. 27-Sept. 1.

Annual Turfgrass Field Days, Virginia Polytechnic Institute, Blacksburg, Va. Noon Sept. 6-Noon Sept. 7.

Annual Turfgrass Short Course, Ala.-Northwest Florida Turfgrass Association, Auburn University, Sept. 19-21.

Lawn and Ornamental Days, Ohio Agricultural Research and Development Center, Wooster, O., Sept. 12-13.


American Society of Agronomy, Annual Meeting, Sheraton-Park and Shoreham Hotels, Washington, D. C., Nov. 5-10.

Texas Fertilizer Association's 1967 Agricultural Exposition, KoKo Inn, Lubbock, Nov. 9-10.


National Fertilizer Solutions Association, Annual Convention, Denver Hilton Hotel, Denver, Colo., Nov. 28-30.

National Aerial Applicators Association, Annual Conference, Marriott Hotel, Dallas, Tex., Dec. 3-5.


Ohio Turfgrass Foundation Turfgrass Short Annual Convention, Sheraton-Cleveland Hotel, Cleveland, O., Dec. 11-13.

**Aquatic Vegetation Control**

(from page 18)

at commercial use of water hyacinths have had little success to date, he reported.

Officers elected for the new year by the Society which met June 18-21 are: Robert D. Blackburn, research botanist for the Crops Research Division, USDA, Fort Lauderdale, Fla., president; James Gorman, who served this past year as president, vice-president; Paul R. Cohee, research agronomist, Crops Research Division, USDA, Fort Lauderdale, Fla., reelected as editor. Directors for the coming year are: Frank Wilson, Polk County Mosquito Control Unit, Eaton Park, Fla.; Dr. F. W. Zur Burg, University of Southwestern Louisiana, Lafayette, La.; and Fred W. John, Southern Florida Conservancy District, Belle Glade, Fla.

**Evergreen Diseases**

(from page 35)

should be removed and the wounds treated with wound dressing.

Ice storms which cause thick deposits of ice to form on branches occur occasionally in the Midwest. The ice itself does not usually cause damage, but the extra weight can result in twig or branch breakage. Fortunately, ice damage is rare for little can be done to prevent it. Ice injury should be treated like any mechanical injury on evergreens. Injured plants should be pruned, watered, and fertilized; and wounds should be painted with wound dressing.

In addition to the diseases and other types of damage already mentioned, there are many troubles of evergreens for which the causes are unknown; and other problems are continually arising. Evergreen diseases have not received the attention that diseases of other plants have had; and much research is needed to solve not only the new problems which arise, but also some of the problems which have been with us for many years.

**Aquatic Vegetation Control**

(from page 18)

at commercial use of water hyacinths have had little success to date, he reported.

Officers elected for the new year by the Society which met June 18-21 are: Robert D. Blackburn, research botanist for the Crops Research Division, USDA, Fort Lauderdale, Fla., president; James Gorman, who served this past year as president, vice-president; Paul R. Cohee, research agronomist, Crops Research Division, USDA, Fort Lauderdale, Fla., reelected as editor. Directors for the coming year are: Frank Wilson, Polk County Mosquito Control Unit, Eaton Park, Fla.; Dr. F. W. Zur Burg, University of Southwestern Louisiana, Lafayette, La.; and Fred W. John, Southern Florida Conservancy District, Belle Glade, Fla.

**Evergreen Diseases**

(from page 35)

should be removed and the wounds treated with wound dressing.

Ice storms which cause thick deposits of ice to form on branches occur occasionally in the Midwest. The ice itself does not usually cause damage, but the extra weight can result in twig or branch breakage. Fortunately, ice damage is rare for little can be done to prevent it. Ice injury should be treated like any mechanical injury on evergreens. Injured plants should be pruned, watered, and fertilized; and wounds should be painted with wound dressing.

In addition to the diseases and other types of damage already mentioned, there are many troubles of evergreens for which the causes are unknown; and other problems are continually arising. Evergreen diseases have not received the attention that diseases of other plants have had; and much research is needed to solve not only the new problems which arise, but also some of the problems which have been with us for many years.

**Aquatic Vegetation Control**

(from page 18)

at commercial use of water hyacinths have had little success to date, he reported.

Officers elected for the new year by the Society which met June 18-21 are: Robert D. Blackburn, research botanist for the Crops Research Division, USDA, Fort Lauderdale, Fla., president; James Gorman, who served this past year as president, vice-president; Paul R. Cohee, research agronomist, Crops Research Division, USDA, Fort Lauderdale, Fla., reelected as editor. Directors for the coming year are: Frank Wilson, Polk County Mosquito Control Unit, Eaton Park, Fla.; Dr. F. W. Zur Burg, University of Southwestern Louisiana, Lafayette, La.; and Fred W. John, Southern Florida Conservancy District, Belle Glade, Fla.

**Evergreen Diseases**

(from page 35)

should be removed and the wounds treated with wound dressing.

Ice storms which cause thick deposits of ice to form on branches occur occasionally in the Midwest. The ice itself does not usually cause damage, but the extra weight can result in twig or branch breakage. Fortunately, ice damage is rare for little can be done to prevent it. Ice injury should be treated like any mechanical injury on evergreens. Injured plants should be pruned, watered, and fertilized; and wounds should be painted with wound dressing.

In addition to the diseases and other types of damage already mentioned, there are many troubles of evergreens for which the causes are unknown; and other problems are continually arising. Evergreen diseases have not received the attention that diseases of other plants have had; and much research is needed to solve not only the new problems which arise, but also some of the problems which have been with us for many years.

**Aquatic Vegetation Control**

(from page 18)

at commercial use of water hyacinths have had little success to date, he reported.

Officers elected for the new year by the Society which met June 18-21 are: Robert D. Blackburn, research botanist for the Crops Research Division, USDA, Fort Lauderdale, Fla., president; James Gorman, who served this past year as president, vice-president; Paul R. Cohee, research agronomist, Crops Research Division, USDA, Fort Lauderdale, Fla., reelected as editor. Directors for the coming year are: Frank Wilson, Polk County Mosquito Control Unit, Eaton Park, Fla.; Dr. F. W. Zur Burg, University of Southwestern Louisiana, Lafayette, La.; and Fred W. John, Southern Florida Conservancy District, Belle Glade, Fla.

**Evergreen Diseases**

(from page 35)

should be removed and the wounds treated with wound dressing.

Ice storms which cause thick deposits of ice to form on branches occur occasionally in the Midwest. The ice itself does not usually cause damage, but the extra weight can result in twig or branch breakage. Fortunately, ice damage is rare for little can be done to prevent it. Ice injury should be treated like any mechanical injury on evergreens. Injured plants should be pruned, watered, and fertilized; and wounds should be painted with wound dressing.

In addition to the diseases and other types of damage already mentioned, there are many troubles of evergreens for which the causes are unknown; and other problems are continually arising. Evergreen diseases have not received the attention that diseases of other plants have had; and much research is needed to solve not only the new problems which arise, but also some of the problems which have been with us for many years.