



Microfoil boom developed by Amchem Products, Inc., was demonstrated to Hyacinth Control Society following presentation by John H. Kirch of Amchem.

Inland Water Use Demands

Aquatic Weed Control

The Hyacinth Control Society, dedicated to control of noxious aquatic weeds, has become a leader in information on control and management in this relatively new but increasingly important phase of vegetation control. WTT reports on the 8th annual meeting of the Society, held last month at Winter Park, Fla.

NOXIOUS aquatic weeds must be controlled if inland waters are to be used. Such waters are a valuable resource nationwide, too important economically to permit takeover by aquatic weeds.

For example, take the case of Citrus County, Fla. A special campaign advertises this area as

Florida's outdoor wonderland. Yet, noxious weed problems in the Crystal-Homosassa river areas has reduced beauty and robbed the famed waterways of this area of much of their value for recreational purposes. While water hyacinth problems have been controlled, 2 foreign weeds introduced only 7 years ago have



Robert D. Blackburn and Dr. Lyle Weldon of the Agricultural Research Service, USDA, at Fort Lauderdale, discuss results of research herbicidal plots on Lake Virginia at Winter Park, Fla. Strip method of treating has been used to successfully avoid fish kill.

about 200 commercial operators, municipal, county, state, and federal officials, company personnel and others charged with solving aquatic weed problems, gather for a 4-day session. They present papers on subjects which include practical control, new methods, chemicals, and basic research. This latest meeting attracted visitors from northern, midwestern, and even far west states. Interest in the session which goes far beyond the southeastern US where aquatics are more rampant than in other areas at the present time indicates that the aquatic problem has become a national menace.

Society President Reports

Society president Robert D. Blackburn, biologist for the Agricultural Research Service,

blocked navigation and recreational use on more than 12,000 acres of these waterways. One business development, valued in the hundreds of millions of dollars, has been declared bankrupt primarily because of aquatic weed problems in this Citrus county area alone. Several groups of citizens are now requesting that their waterfront property be devalued for tax purposes because of the aquatic problem. Should this precedent be set by court action, it could lead to property devaluations throughout the state of Florida, costing millions of dollars in taxes needed to fight the aquatic problem. The problem of Citrus County, Fla., regarding aquatic weed infestation is not an isolated case. It is but one such instance related by E. R. Hafner, executive secretary of the county commissioners of the state at the 8th annual meeting of the Hyacinth Control Society, recently at Winter Park, Fla.

The Society annual sessions have become the foremost forum for aquatic weed control information in existence. Each year,



Members attending annual meeting view plots from barge, above, and by boat, right. Lake is largely infested with hydrilla.





Many methods of handling residue of harvested aquatic weeds have been tried. Among new innovations under trial is this new piece of equipment, designed for pelletizing to be used as cattle feed.



Robert E. Eron, St. Petersburg, Fla., demonstrates his newly developed foam generator for pesticide applications.

USDA, at Fort Lauderdale, in the annual presidential report discussed Society efforts to aid those charged with aquatic weed control.

He reviewed the purpose for which the Society was founded—that of providing practical information for those who need such whether they be drainage district supervisors, mosquito control district directors, custom applicators, or crew chiefs of spray boats.

Removing aquatics has in the past been attempted by mechanical methods such as chains, drags, disks, and more sophisticated equipment. But today, the only practical approach is use of chemicals. Safe herbicides,

Mechanical harvester at right is owned by city of Winter Park, Fla., and is used to harvest aquatics as a means of keeping lake open for recreational purposes.



Blackburn said, are available for use in areas where drift might affect surrounding vegetation. Studies, he stated, show that mechanical removal costs 5 to 10 times as much as chemical means.

Public apathy for large scale spraying programs probably results from the fact that aquatic weeds are never totally eradicated. Blackburn implied that aquatic weed control groups have failed in efforts to explain modern aquatic weed control to the public. The fine control job done to date is unsung largely because of the impossibility of completely eradicating the undesirable plants.



Helicopter pilot and veteran sprayman William J. Perdue, left, Lake Wales, Fla., and W. T. DeBusk, Pennsalt Chemicals Corporation, Montgomery, Ala., discuss aquatic control.

Concern and efforts to control noxious aquatics will continue, Blackburn said, because such weeds have become more than a nuisance. Today, he said they are a national problem and rapidly growing more serious. The nation's 170,000 miles of irrigation canals and 190,000 miles of drainage canals and ditches are becoming less and less effective because of aquatic weed growth. Further, there are similar problems nationally with the nation's 2 million farm ponds and small reservoirs, streams and waterways which are 10 feet or less in depth. All waters, regardless of depth, he said, are subject to floating aquatics. In fact, he went on, *Hydrilla verticillata* has been found growing in water which was 30 feet in depth.

Main reason for the speed up of aquatic growth is the input of nutrients from sewage effluent, fertilizer run-off from farm lands, and the urban residential movement to water areas. Today, he said, the homeowner, sportsman, civic club member, and many in the population at large are familiar with names like water hyacinth, elodea, sea lettuce, alligatorweed, and eurasian milfoil. In Florida, he stated, various civic and conservation clubs have taken the problem of aquatic weeds as conservation projects.

The problem of aquatic weeds



Among leaders of aquatic weed control for the Hyacinth Control Society are the following, left to right: Fred John, Belle Glade Drainage District, retiring director; Dr. Lyle Weldon, ARS, USDA, Society editor; James D. Gorman, Hillsborough County Mosquito Control Unit, retiring vice-president; Frank Wilson, Polk County Mosquito Control Unit, president; Robert D. Blackburn, ARS, USDA, vice-president and retiring president; Paul R. Cohee, Hercules, Inc., secretary-treasurer; Stan Abramson, Southern Mill Creek, director; R. P. Blakeley, Old Plantation Flood District, director; and John W. Woods, Florida Game and Fish Commission, director.

in many lakes and streams has progressed to the point that according to Blackburn we can no longer discuss control, but must discuss aquatic vegetation management. Control of all weeds, he said, would not be desirable, or economically feasible. A further concern must be the tremendous amount of nutrients released should all such plants be decomposed in water. To remove them mechanically would be even more expensive. Thus, the choice is to manage them.

Nonchemical methods of control have received broad publicity, Blackburn said, and need to be thoroughly investigated.

He mentioned such methods as use of insects, snails, fish, manatees (sea cows), and other bio-control agents. Possible use of aquatic plants for human or animal food supplements, mulch, fertilizers, and other economical uses also need further study, he stated. Blackburn called for continuing research and study of the physiology, life cycle, anatomy, and morphology of aquatic weeds in relation to their control.

State Control Sought

In a resolution aimed at the Florida legislature, the Society asked for an adequate research
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Equipment demonstrated by Aqua Weed Control Corp., Orlando, Fla., included swamp vehicle, below. Left to right are: Jim Jones, Tim Blair, Art Barrett, and Mike Abraham.



L. E. Bitting, Sr., left, Old Plantation Water Control District, Broward County, Fla., and Paul W. Kolm, Stull Chemical, San Antonio, Tex., talk shop.



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Aquatic Weed Control

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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

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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.

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