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# THE HYACINTH CONTROL SOCIETY, Incorporated

Dedicated to the Control of Noxious Aquatic Weeds

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NEWSLETTER No. 17  
December 23, 1971

1972 ANNUAL MEETING: The 1972 annual meeting of the Hyacinth Control Society will be held July 9 through 13, 1972 at the Miami Springs Villas and Hotel in Miami, Florida. This meeting site is just north of the Miami International Airport. Room rates, all double rooms (no singles), will be \$14.50 per day. Mr. Ray Spirnock will be in charge of local arrangements. A tour of the Aquatic Weed Research Lab at the Agricultural Research Center in Fort Lauderdale is included in the program. Make plans NOW to attend the 1972 meeting. Plan to participate by attending the meeting and presenting a paper.

## NOTES FROM THE DESK OF THE PRESIDENT

THEME OF THE 1972 MEETING: The society that we all live and work in today is subject to change - with the "Environmental Management for Mankind". This basic theme was so successful at our 1971 meeting that we will use it again this year. The progress and development of "environmental management" will touch each one of us in the 1970's. Much attention is being given to the science of ecology. This examines the precarious relationships between all living things and their surroundings.

The work of you people - the "membership" of the Hyacinth Control Society, will convey an important part in developments toward controlling noxious aquatic weeds. Their encroachment into our waterways and the effect of their existence on other natural resources has been caused by improper decision making in the past.

NAME CHANGE VOTE RESULTS: Enclosed is a report of the recent balloting on a change in the name of the Society as submitted by our Secretary-Treasurer Brandt G. Watson. I feel, as does the Board of Directors and Officers of the Society, that those of you who voted on the name change should be informed of the results. Seventy-nine percent of the eligible voters returned their ballots, voting 5 to 1 for the name change to "Aquatic Weed Science Society". This change of name would seem timely, to concur with the 1970's. It will help to transmit a new image of management and control on any level - field applicator, industry, commercial, governmental agency, or scientific research on any "aquatic weed".

FIRST CALL FOR PAPERS: Also enclosed is a "First Call for Papers" to be presented at the 1972 annual meeting. PLEASE, just because this is a first call, DO NOT DELAY in preparing papers that you would like to share with others. Help make 1972 another banner year for the Society.

WISHING YOU AND YOUR FAMILIES A HAPPY, HEALTHY, HOLIDAY SEASON

*Robert J. Gates*  
JW

AMITROLE REGISTRATION CHANGED: The registration of amitrole for CROPLAND has been cancelled by the Environmental Protection Agency (EPA). However, registration for using this herbicide on INDUSTRIAL and other NON-CROPLAND will remain in effect.

RECENT PUBLICATIONS:

1. Walsh, G.E. and T.E. Grow. 1971. Depression of carbohydrate in marine algae by urea herbicides. Weed Sci. 19:568-570.
2. McCombie, A.M. and I. Wile. 1971. Ecology of aquatic vascular plants in Southern Ontario impoundments. Weed Sci. 19:225-228.
3. St. John, J.B. 1971. Comparative effects of diuron and chlorpropham on ATP levels in Chlorella. Weed Sci. 19:274-276.
4. Sutton, D.L. and R.D. Blackburn. 1971. Uptake of copper by parrotfeather. Weed Sci. 19:282-285.
5. Adams, F.S., D.R. MacKenzie, H. Cole Jr., and M.W. Price. 1971. The influence of nutrient pollution levels upon element constitution and morphology of Elodea canadensis Rich. in Michx. Environ. Pollut. 1:285-298.
6. Reid, G.K. and S.D. Squibb. 1971. Limnological cycles in a phosphatic limestone mine lake. J. Fla. Academy Sci. 34(1):17-47.
7. Blackburn, R.D. and D. L. Sutton. 1971. The use of herbicides in ponds, lakes, and streams. FAO International Conf. on Weed Control, Davis, California, pp 374-386.
8. Timmons, F. L. 1971. Control of aquatic weeds. FAO International Conf. on Weed Control. Davis, California. pp 357-373.
9. Yeo, R.R. and T.W. Fisher. 1971. Progress and potential for biological weed control with fish, pathogens, competitive plants, and snails. FAO International Conf. on Weed Control. Davis, California, pp 450-463.

FEATURE ARTICLE: Attached is a special article written by Mr. W. L. McClintock, Superintendent, Environmental Division, City of Winter Park, Florida. Bill has been experimenting with a new application technique which appears to have some promise in reducing the amount of herbicide needed to control hydrilla.

COMMITTEE APPOINTMENTS FOR 1971-1972: PROGRAM Board of Directors

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MERRY CHRISTMAS AND A HAPPY NEW YEAR !!

*David L. Sutton*  
David L. Sutton, Editor

S P E C I A L   F E A T U R E

Report on the use of herbicides for aquatic weed control in Winter Park lakes.  
W. L. McClintock

The last 5 years have brought changes in the method of control of noxious aquatic weeds in the Winter Park chain of lakes. Early attempts to harvest hydrilla (Hydrilla verticillata Casp.) did not produce the desired results from either a control standpoint or from one of economics. Previous cost estimates for the use of herbicides ranged into astronomical figures when based on application being made per acre-foot. Winter Park lakes show depths to 35 ft and a surface area better than 1,000 acres.

By January 1970, it was determined to drydock the harvesters in favor of chemical treatment. It was also easily reasoned that no budget could meet estimates of hundreds of thousands of dollars making it mandatory to develop some other means within budgetary limits. Speculation on the possibility of translocation of herbicides from the leaf structure to the roots produced a decision to try the effect of herbicides at the bottom of the lakes near the roots. Thus, all the water above the bottom foot would be disregarded in the calculation, basing all on 1.0 acre feet. Since no herbicide had been selected as best suited to this plan, experimental areas of the lake were marked off in acre plots for this determination. Water drift and diffusion had been proven negligible.

One barge, 8 ft by 20 ft, was fitted with a 2-inch PVC manifold 15 ft in length mounted across the front of the barge. Eight hoses 25 ft long were attached across its length. Each hose terminated with a weighted brass nipple capped with a hole 3/32 inch in diameter. The barge was propeller driven from the rear at a speed of about 5 mph.

A 150 gal fiberglass tank contained the herbicides. A Myer pump at 68 lb pressure was used to pump the herbicides to the manifold and out through the hoses to the bottom of the lake. This system was first tested using a fluorescein dye to determine possible spread and drift of the herbicides. Herbicides were then applied in accordance with manufacturer's recommendations, then at double and quadruple amounts for comparison. Consultations with the USDA Aquatic Weed Group in Fort Lauderdale proved most helpful in these decisions.

As a result of the plot testing a combination of 2 gal diquat plus 20 lb copper sulfate per acre proved most effective and economical.

To determine the extent and location of the hydrilla infestations in the lakes, color aerial photographs were taken. Infestations were marked on large scale maps and plotted out in acres. To control application, the lakes were marked off with floats to correspond with the areas on the maps. As each acre was marked by an outboard, the barge would proceed to make one run laying a 15-ft path on the bottom of the lake. The outboard would then move a float marker to the new position for the barge's next run. This method was repeated until the acre had been completely treated. The method was repeated acre by acre according to the map survey.

Homeowners were notified with printed warnings against using the lake water for a period of 2 weeks. No lawns have been lost or damaged, no shrubs defoliated, and no fish kills were noted using this method of application with adherence to the precautions.

By applying herbicides in early Spring, weed-free water resulted throughout the summer months, permitting normal boating and swimming. Regrowth was observed in late October. It had been anticipated that during the Winter colder water would retard further growth until the Spring of 1971; however, Indian Summer permitted growth instead. Plant growth did not reach the proportions found in 1970.

New treatment in the Spring of 1971 was enhanced by the addition of two airboats. This permitted two lakes to be worked simultaneously with one airboat equipped with a manifold to apply the herbicides in the shallow shoreline areas while the barge was used to apply the herbicides in the deeper water. In 1971 the weed problem was under control. In order to forestall the usual Spring infestation of hydrilla, it was planned to reapply herbicides in the Fall of 1971.

Certain sections of the lakes had been allocated for special testing of different herbicides to study their effects for comparison. A cove in Lake Virginia is under test with Hydout. Another cove in Lake Osceola is being treated with the 3-M System E for hydrilla and System M for its algaecidal control. The east side of Lake Virginia is being tested by the Bivert System with the able advice of Bob Gates and Stan Abramson. The main body of Lake Osceola is under treatment using diquat and cutrine in the proportions recommended by Bob Blackburn, whose experiments with this combination show much promise. The balance of the lakes will be treated with diquat and copper sulfate.

Each winter new experiments are conducted on lakes throughout the State in cooperation with actively interested manufacturers, municipalities, State agencies, and the USDA. Programs are coordinated with the Department of Natural Resources. It would now appear that chemical control can be achieved for aquatic weeds, but more effort is now being directed to water quality measurement and to try to maintain the ecological balance in the aquatic environment.

Until the better mousetrap is built, Winter Park will continue weed control by the judicious use of accepted herbicides. In the meantime it is our hope, and surely the hope of many, that while some environmental laws must be passed, no laws will be enacted which cannot be implemented or which have not been based on facts.