

THE HYACINTH CONTROL SOCIETY, Incorporated

Dedicated to the Control of Noxious Aquatic Weeds

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1972 MEETING: We are rapidly approaching the date of the 1972 meeting. The program is completed and a copy is enclosed. The Program Chairman tells me it is an excellent one. Sure hope all of you got the titles of your papers in before the deadline.

RESERVATIONS: I hope you have made your reservations for the 1972 meeting at the Miami Springs Villas & Kings Inn. We will be meeting in Miami during the Democratic National Convention. Because of this, reservations will be difficult to obtain should we not have enough rooms at the Villas. **IMPORTANT: MAKE YOUR RESERVATIONS BEFORE JUNE 10.** Ladies, in the last NEWSLETTER I asked you to make sure that Big Daddy made reservations for both of you. The room costs the same with or without you, so make sure he understands that you will be traveling with him to the Hyacinth Control Society Meeting this year.

FIELD TOUR: Everyone here at the Aquatic Research Lab in Fort Lauderdale extends to you our cordial invitation to attend the Field Tour and Catfish Fry on Monday, July 10. We hope to make the field tour one of the highlights of the meeting.

SPECIAL MENTION: The Local Arrangements Committee is being directed by Mr. Ray Spirnock. I firmly believe that you all will be impressed with the way he has taken care of local arrangements. If this meeting is not a success, it will not be Ray's fault. Ray, I would like to commend you on the fine job you are doing as Chairman. I hope all of our membership will make a point of thanking Ray during the meeting.

DUES NOTICE: Please mail in your 1972 dues if you have not already done so. Avoid the confusion of paying dues at the meeting. If all the unpaid members are planning to pay up at the meeting, there are going to be some long lines. Your cooperation will be appreciated.

INTERESTED IN PURCHASING PREVIOUS VOLUMES? Volumes 1 through 9 are still available at a cost of \$5 per volume. If you would like to purchase any of them just contact your Secretary-Treasurer. Supplies of the early journals are getting low.

FROM THE SECRETARY-TREASURER'S DESK: Under separate cover a letter outlining proposals to amend the Certificate of Incorporation and By-Laws has been sent to each member. This is information to guide you in your vote at the Annual Meeting next month. All the more reason to be present and paid up at this year's meeting. It will take a vote by 3/4 of the paid-up Active and Sustaining Members present at the meeting to pass these proposals. **PLAN TO PARTICIPATE.**

REMINDER FROM ONE OF OUR HONORARY MEMBERS: The first Honorary Member of our Society sent me a very interesting letter the other day. I would like to share part of it with the Membership:

"I noted that you were quoting the Gospel and can almost see the stained glass windows and hear the soft organ music in the background. Bob, I have noticed over the last few years that our Society (HCS) is drifting away from the applicator's area and is getting more of a pure science image. While I am sure that such a thing is needed, I also feel that we should at least have one section at each future meeting at which the man who holds the spray gun can talk over his problems with others in the same field.

These are the fellows who really made the Society in the past, and I hope that we would not sidetrack them too far off to the side in years to come."

William Wunderlich, I thank you for reminding us of the basic objective of the HCS. The Society was founded for this purpose. I remember many years ago that Bill told me that it was fellows like him that made the researcher look great or poor. Bill, you were right. The success of the aquatic operation is determined by the man holding the spray gun. I hope to emphasize this in a paper that I will present at the 1972 meeting. Bill further states that he and Estelle will be in Miami.

NEW SCIENTIST: The University of Florida has appointed Dr. George Allen as Professor of Entomology to work on a grant from the Florida Department of Natural Resources on the Biological Control of aquatic weeds. The ultimate objective of his project is finding natural enemies of hydrilla. Dr. Allen is spending most of his time in international travel throughout the world where the aquatic weed hydrilla is known to be prevalent.

NEW EQUIPMENT: A new technique for reducing spray drift has been developed by Amchem Products, Inc. The Directa-Spra unit has been evaluated for spraying waterhyacinth from an airboat. We hope this unit will be demonstrated at the 1972 meeting.

2,4-D TOLERANCE: The Department of Health, Education and Welfare has evaluated the data in petitions and other relevant material and concluded that the proposed tolerance be established for the residues which occur in potable water as a result of application of 2,4-D dimethylamine salt to irrigation ditchbanks. Tolerances are established for 0.1 ppm (Negligible residues) in potable water (Federal Register, Vol. 37, No. 82, pg. 8160-8161). We are pleased with the progress being made in establishing tolerances for herbicides.

NOTIFICATION: In Florida, when application of a herbicide is made to public waters or waters that flow into public waters, the Regional Botanist should be notified. This should be done regardless of which herbicide is used. This includes any experimental plots or trial demonstrations.

AQUATIC PLANTS TO REDUCE MERCURY LEVELS IN WATER: Aquatic plants may hold the answer to reducing mercury levels in contaminated lake sediments. Organic mercury is readily available for plant uptake. The aquatic plants can be harvested, thus reducing mercury contamination. (WEEDS, TREES & TURF, Vol. 11, No. 4, 1972, pg. 10)

INFORMATION SOURCE: INFOLETTER is issued periodically by the International Plant Protection Center, Oregon State University, Corvallis, Oregon 97331. The Hyacinth Control Society has received several brief write-ups in INFOLETTER. This publication covers all phases of international weed control.

IN MEMORIAM: Dr. Arnold Steinhardt, aquatic research scientist for the Upjohn Company, passed away several months ago. Dr. Steinhardt had a keen interest in aquatic weed control. He had been a member of our Society since 1967.

CHECK YOUR ADDRESS: Please check your name and address as it appears in Volume 10. If there is any correction, please be sure to notify the Secretary so the records can be corrected.

FEATURE ARTICLE: In the last NEWSLETTER I promised a feature article by Dr. Alva Burkhalter, Department of Natural Resources. Al has written up an excellent article explaining the aquatic weed control program of the Department of Natural Resources.

FROM THE EDITOR'S DESK: The publication of Volume 10 of the HYACINTH CONTROL JOURNAL has been completed and you should have received your copy by now. I want to thank all of those who submitted a manuscript and followed through after the review. Also, I would like to thank the reviewers of this issue of the Journal. Our intent this year was not to reject any manuscripts, but to make them easier to read and also to have them written in a manner similar to previous manuscripts. I hope that some of you will have time to rework your manuscripts and send them back for consideration for publication in Volume 11.

Mr. Johnston of Painter Printing Co. has done an excellent job in printing our Journal, and has been most helpful in getting the Journal published before our July meeting. I hope that many of you have already written manuscripts to be included in Volume 11 of the Journal, and will be glad to help anyone prepare their manuscript for publication. See you in Miami.

Bob Blackman

F E A T U R E A R T I C L E

THE FLORIDA DEPARTMENT OF NATURAL RESOURCES
AND ITS ROLE IN AQUATIC PLANT RESEARCH AND CONTROL

Dr. A. P. Burkhalter

The Florida Department of Natural Resources, Bureau of Aquatic Plant Research and Control, like many other agencies and individuals, is dedicated to the control of noxious aquatic weeds in Florida waters. Conservatively, 200,000 to 300,000 acres are infested, thus rendering many of our water bodies useless. Recreational activities, such as boating and fishing, are hampered. Efficiency of potable water reservoirs is declining. Water qualities, resulting from natural death and decay of the aquatics, are threatened, and clogged drainage ditches pose potential flooding problems

The program of the Bureau of Aquatic Plant Research and Control is threefold: research, matching funds, and control. Research in aquatic plant control has drastically lagged in the past; therefore, a large portion of the budget is allocated to research needs. At present our control efforts entail biological, mechanical and chemical systems. The following is a brief outline of current research projects which are sponsored or co-sponsored by the Department of Natural Resources.

Utilization of the white amur (a herbivorous fish) as a potential tool is presently underway. Determination of the effectiveness of the amur as a biological control agent at various stocking rates, observation of the aquatic plant preference of the amur, influence of the amur on water quality, and influence of the amur on other fish and invertebrate organisms are some of the areas under investigation.

Presently our most effective biological tool has been insect attack. Release sizes for insects and mites host specific on water hyacinth have been established in order to study subcolonization and establishment of these biological agents. Then the effectiveness, and factors which might enhance or reduce their effectiveness will be evaluated.

The submersed aquatics, particularly hydrilla, are fast becoming perhaps our worst problem. Studies are underway to establish the native home of hydrilla, its worldwide distribution, and pathogens, insects and other arthropods which might show potential as a biological control agent. Travels to the native home of hydrilla hopefully, will reveal naturally occurring insect or pathogenic enemies. In addition, surveys are being conducted for naturally occurring enemies of hydrilla and Myriophyllum in Florida.

The biology and ecology of our most noxious species are to be evaluated. Attack on noxious aquatics by microbiological organisms poses another potential tool. Such possible attack is under investigation. Also, a survey for compounds which occur naturally in plants and may retard susceptibility to attack is underway. By reducing these natural compounds, the plants would thus be more susceptible to attack.

The Department of Natural Resources is designing and building a high capacity mechanical harvester for water hyacinth to be stationed on the St. Johns River. A crimper-type hyacinth harvester is also under investigation. Other research efforts entail the possible utilization of these aquatics once removed from the waterways.

Is the future printing of the Hyacinth NEWSLETTER on paper made from water hyacinth beyond the realm of possibility? Can hyacinths be used as a soil amendment and source of plant nutrients? Water hyacinth remove nutrients from the water. Are these nutrients retained during the processing of the plants, and if so, are the plants acceptable in the diets of meat-producing animals? We hope to answer these and other questions through research efforts.

The chemical control efforts have been primarily in the area of techniques of application, particularly treatment of submersed aquatics (especially hydrilla). Evaluation of the physiological aspects of herbicides applied through the biver is underway. In addition, we see possibilities of using growth retardants or perhaps altering the ecological factors to limit the growth of hydrilla. The use of growth retardants, their desired concentration and the effect of these regulators on water quality and other desirable organisms is under study.

In addition, some "novel" chemical techniques are being evaluated. These techniques include the possible use of ion exchange agents to deprive hydrilla of certain elements needed for growth. Can we alter basic soil or water factors needed for the growth of hydrilla? Again, these are questions we hope to answer through our research efforts. Those agencies and/or institutions presently conducting research include the U. S. Department of Agriculture, University of Florida, University of South Florida, and Florida Technological University.

Secondly, funds are allocated to aid local aquatic plant control programs. Any public, city, county or district agency which has an approved aquatic plant control program and meets criteria established by the Department of Natural Resources is subject to participation in matching funds. These criteria are outlined in the "Guidelines for Aquatic Weed Control" available through the Bureau.

Thirdly, the Bureau serves an informational function in control programs. Personnel work with the above local agencies in establishing new control programs and educating personnel in new products and techniques of applications. The number of state control crews working in the Florida Game and Fresh Water Fish Comm. has doubled. In addition, four Regional Botanists have been employed to work specifically in aquatic plant control. Their names and addresses are as follows:

Charles Williams
P.O. Box 128, DeFuniak Springs, Florida 32433

Don Widman
P.O. Box 1903, Eustis, Florida, 32726

Tom Drda
2202 Lakeland Hills Blvd., Lakeland, Florida 33801

Lowell Trent
3994 SW 12 Terrace, Fort Lauderdale, Florida 33315

Hopefully, the position in the Lake City Regional Office will be filled in the immediate future. These botanists are to assist you in your aquatic plant control efforts. In the future, permit requests should be mailed directly to the botanist in your region. The aquatic plant control program of the Florida Game and Fresh Water Fish Commission is supported by the Department of Natural Resources.

Personnel of the Bureau of Aquatic Plant Research and Control include:

Dr. A. P. Burkhalter, Coordinator

Larry Curtis, Engineer: involved with mechanical control efforts,
particularly the high-capacity water hyacinth harvester

R. L. (Bob) Lazor, Plant Taxonomist: currently involved in establishing
criteria for the introduction of aquatics into the State of
Florida so as to prevent the possible establishment of yet
another exotic noxious aquatic

Clarke Hudson, Botanist: responsible for chemical control efforts,
particularly new application techniques

Mondell Beach, Ichthyologist: works with biological control systems,
especially the white amur project

Any questions and/or comments should be addressed to Dr. A. P. Burkhalter,
Bureau of Aquatic Plant Research and Control, 595 Larson Building, Tallahassee,
Florida 32304.

Noxious aquatic weeds of Florida can only be controlled through the concerted,
coordinated efforts of all interested persons. The Department of Natural
Resources appreciates your cooperation in these efforts.