Pre-emergence Herbicides for Treatment of Ditches in Residential Areas

by

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In most mosquito control districts there are a few ditches that have to be maintained with hand labor. These ditches are usually small laterals that run through residential areas and are inaccessible to draglines. Frequently they are dry except after rains. In the past herbicides have not been widely used in these locations due to the close proximity of ornamental plants. In recent years advances that have been made in the herbicide field have produced some herbicides that exhibit a greater degree of selectivity between ornamentals and weeds.

During the spring of 1963 a screening test was conducted in the Daytona Beach area to determine the feasibility of using some of these newer herbicides for weed control in hand-cleaned ditches. The test was conducted in cooperation with the East Volusia Mosquito Control District. Three herbicides, Casaron, Fenac, and Simazine, were chosen for the test. Casaron and Simazine had been proven moderately safe to most ornamentals in tests conducted at the University of Florida. The third herbicide, Fenac, is not as safe to ornamentals but has the unique characteristic of attaching to the soil particles, thus reducing leaching and extending the control period.

These materials are pre-emergence herbicides. Their primary mode of action is to control germinating seed. Therefore, they must be applied to the soil after existing vegetation has been removed. They will not provide control of perennial plants, such as Para and torpedo grass.

Table 1.

Herbicides Used	Formulation and Rates of Application
Casaron (Thompson Haywood Chemical Co.)	4% granules 4 & 8 lbs./acre
Simazine (Geigy Chemical Co.)	4% granules 4 & 8 lbs./acre
Fenac (Amchem Products, Inc.)	liquid 1½ lbs./gal. 5 & 10 lbs./acre

Granular materials were applied with a cyclone seeder. The distribution pattern of this machine is approximately 8 feet wide, so that at least 3 feet of bank was treated on each side of the ditch bottom. Spray materials were applied so as to cover the same 8-foot wide swath. Liquid materials were applied with a compressed air sprayer. In order to treat plots more rapidly, the standard wand was replaced with a Veejet 4010 nozzle (Spraying Systems).

Two months after application the plots were examined, and data were taken. All weeds in a one-foot square were counted at four random locations within each plot. Weeds were divided into two classifications—broad-leaved (BL) and grasses (G).

Table 2. Number of Weeds Present in Ditch Plots after 2 Months

Material	BL	G	BL	G	BL	G	BL	G	Averages BL	Averages G
Check	23	19	16	27	34	26	27	21	25.00	23.00
Fenac 10 lbs.	0	0	0	1	0	0	0	0	0.00	0.25
Fenac 5 lbs.	0	0	0	1	1	0	0	0	0.25	0.25
Simazine 8 lbs.	1	3	0	2	0	3	0	0	0.25	2.00
Simazine 4 lbs.	0	0	1	4	0	0	0	1	0.25	1.75
Casaron 8 lbs.	3	0	7	2	10	4	3	5	5.80	2.80
Casaron 4 lbs.	7	9	8	13	10	17	8	23	8.25	15.50

This test has not been concluded. We hope that at least one of these chemicals will give four to six months weed control. For the first two months both Fenac and Simazine have given excellent control at the lower rates of application.

COST

Cost figures indicate that either material can be applied at the lower rates (8 ft. band) for a cost of ½ cent per lineal foot (or about $30.00 per acre). In contrast to this, the cost of hand cleaning these ditches has averaged slightly more than 9 cents per lineal foot.

July 5, 1963

Paper presented at the Hyacinth Control Society in Tampa in 1963.

"A System For Injecting 2,4-D Into An Airboat Spray System"

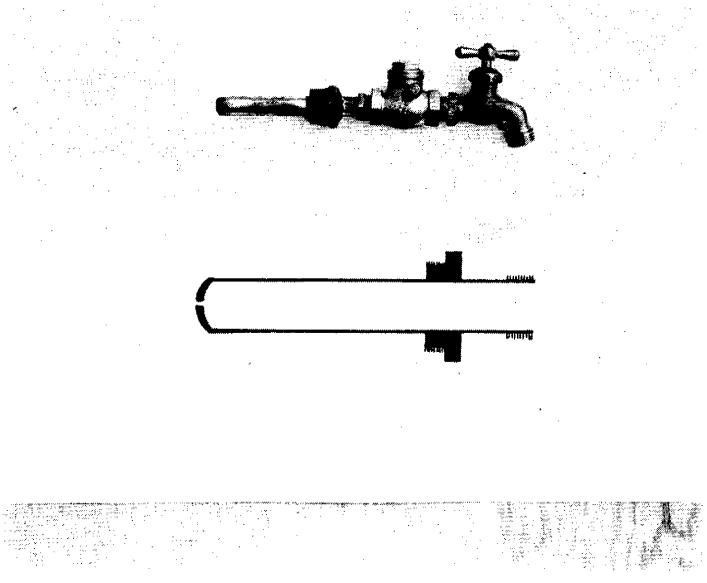
By

V. W. MYERS

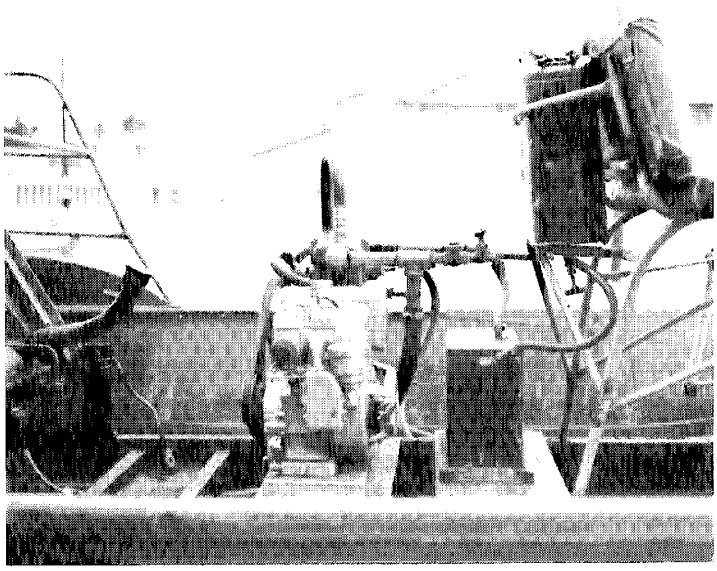
One of our greatest problems in spraying has been the weight of our airboats when fully loaded. Also, in Florida, we have had excessively low water for the last three years, making it next to impossible to get heavily loaded boats back into the shallow areas.

With this problem confronting us, we went to work looking for ways to lighten the loads of our present airboats. After about one year of work on our equipment, we worked out a system of self-bailing our water and injecting the 2,4-D and letting the pressure pump mix it.

The system works as follows: Water is taken into a live well which is mounted in the stern of the airboat. Water enters this live well through the side of the boat. The water inlet hole is covered with a self-cleaning screen. The forward movement of the boat makes it self-cleaning by keeping all trash washed from the screen. The water is then picked up by the spray pump and pulled through the injector, mixing chemical and water together before it enters the spray pump.



Photograph #1 — Shows the chemical injector and cross section of same.



Photograph #2 — Shows the entire system in working order.

The spray pump mixes it thoroughly and delivers it out as a well concentrated pressure spray.

The chemical system works as follows: The chemical is supplied by a five gallon GI can, mounted above the spray pump. It is gravity fed into a constant level tank which is mounted on the boat floor. The constant level tank has a common float valve that keeps the chemical at a constant level. The chemical is then pulled from the constant level tank up through the injector into the water intake line to the pressure pump, mixing the correct amount of chemical and water together.

The injector consists of a common water faucet, a check valve, and a chemical jet made from a piece of 3/8" brass pipe 6" long, inserted into the main water intake line.

Drawings of this system may be seen at the Hyacinth Control Division office in Lakeland or the writer will be happy to demonstrate upon request.

A Method of Preserving Aquatic Vegetation

By

C. L. PHILLIPPY

While working as a research biologist for the Hyacinth Control Division of the Florida Game and Fresh Water Fish Commission the writer came across a simple method of preserving aquatic plants and their flowers.

Equipment required consists of either a pint or quart mason jar, one pint bottle of 40% formaldehyde and water.

The specimen of aquatic vegetation that is to be preserved and identified at a later date is placed in a jar of suitable size, one inch of formaldehyde is added and enough water to fill jar to top.

Aquatic plants such as water lettuce, duckweed, alligatorweed, maidencane, naiad, and elodea have been preserved four years in the Lakeland office of the Florida Game and Fresh Water Fish Commission.

Suggested Control Measures For Common Aquatic Weeds Of Florida

by

R. D. BLACKBURN and L. W. WELDON [1/], [2/], [3/]

The importance of aquatic weed control was brought to the attention of the Hyacinth Control Society at its second annual meeting in July 1962 at Fort Lauderdale, Florida. The information contained in this report is a brief summary of the suggested control measures for common aquatic weeds of Florida.

Recommended (status "R") and suggested (status "S") control measures are based mainly on aquatic weed control investigations in Florida. Only commercially available herbicides are recommended or suggested for use.

This information is provided for the benefit of those informed about the general nature and use of herbicides and familiar with the equipment and techniques employed in the application of such herbicides. Time does not permit a full discussion of the properties of the herbicides mentioned in this report; *so users are advised to read package labels carefully and to heed all directions and precautions printed there. Persons not familiar with herbicides and their use should seek competent advice before proceeding with any of the control measures suggested. Herbicides should not be applied to water that is used for domestic purposes.*

[1/] Research Agronomists, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture, Fort Lauderdale, Florida.

[2/] Cooperative investigations of the Crops Research Disision, Agricultural Research Service, U.S. Department of Agriculture, the Central and Southern Florida Flood Control District, the Corps of Engineers, Department of the Army, and the Florida Agricultural Experiment Station.

[3/] For additional information on general spray procedures see: Aquatic Weed Control. Cir. 219. Univ. of Fla. Agric. Expt. Sta., Gainesville, Fla. 16 pp 1962. D. S. Harrison, R. D. Blackburn, D. W. Kretchmar, J. A. Orsenigo, D. E. Seaman, and L. W. Weldon.

EDITOR'S NOTE:

The Editor regrets to announce that due to our inability to obtain the material contained in the paper entitled "Dacamine Granules for Hyacinth Control", which was presented at the third annual meeting of the Hyacinth Control Society at Tampa, July 9th, 1963, by Elmer Osborne, Agricultural Chemical Technical Service Representative, for Diamond Alkali Company, .Memphis, Tennessee, this article will not appear in this issue of the Hyacinth Control Journal.