

Aquatic Weed Controllers Review Herbicides, Examine Nonchemical Methods at Fifth Annual Affair in Chicago

"People are gradually realizing that water is our most important resource," Dr. Duncan McLarty, first vice president of the Aquatic Weed Control Society, told the fifth gathering of that group in Chicago's LaSalle Hotel February 9-10.

Dr. McLarty, a professor in the Department of Botany at the University of Western Ontario, London, Ontario, Canada, took over the gavel at the business meeting in the unpreventable absence of the newly installed president, E. Victor Scholl, Modern Weed Control Service, Grand Rapids, Mich.

In addition to presentations of new chemicals and ways to use older ones, the Society devoted part of its program to results of work with nonchemical controls.

Use of a mechanical weed cutter to harvest aquatic plants was examined by Harold Elser, fishery biologist with the Department of Chesapeake Affairs, Annapolis, Md.

"Maryland restricts the use of herbicides such as 2,4-D within a mile of oyster and clam beds in the Bay area because of the possibility of contamination of these aquatic organisms," Elser began. Also, use of broad-spectrum herbicides is frowned upon because certain susceptible plants are considered desirable as food for waterfowl which use the Bay, it was pointed out.

Since Maryland has a serious watermilfoil problem and ways are needed to keep lakes and bays open, the Department of Chesapeake Affairs purchased a weed cutter and harvester, Elser revealed.

Elser showed a film produced by his department which illustrated the cutter-harvester in action. The machine is produced by Aquatic Controls Corporation, Hartland, Wis.

Cutter Harvests Weeds

Elser's film showed the large amphibious barge equipped with sideboard paddle wheels moving through infested areas to remove 4-5 tons of vegetation per hour from the water. Close-up shots showed how the continuous saw cutter severed plants from their roots and directed them onto a

chain link conveyor, then to a hopper on the rear of the harvesting machine. The model which Elser's department purchased also came with a tender barge which removes cut material from the harvesting barge and transfers it to shore.

Diquat Is Control Tool

"Diquat is an aquatic herbicide which most operators have been aware of as a tool since it was first registered in 1962," according to John Mackenzie, aquatic herbicide technical specialist, California Chemical Co., Ortho Div., Richmond, Calif.

"What advantages does Diquat offer?" Mackenzie asked in his address. "It is versatile; it can be used in a high-capacity spray gun for coverage of floating weeds or can be poured or injected directly into water in concentrated form.

"Secondly, it is effective on a

wide variety of weed species and has shown adaptability to various water types all over the country," he added.

Mackenzie related that the accepted dosage is usually between 1 to 2 gallons per surface acre

Applicators congratulated new secretary, Gene Bass (center), Indiana Conservation Biologist. Left is Bernard Koll, applicator from Wayzata, Minn. Right is Dave Sheridan, Dover, New Jersey.



Safety to aquatic life and local restrictions show need for increased discussion of nonchemical methods. Harold Elser (right), who talked about mechanical aquatic weed cutting shows Carl Schenk a photo of the rig he uses. Schenk talked on black plastic sheets to control weeds. (A special feature on Schenk's work will appear later in the year in *Weeds Trees and Turf*.)



"Troika" representation of members in the Society is a strong point. Three groups included are applicators, research and regulatory, and manufacturers. Seen here are leaders (l to r) James Flanagan, Geigy; Director Roy Younger, Pennsalt Applying Service; and Dr. Duncan McLarty, Univ. of Western Ontario, an active researcher.

or 1 to 2 ppm if the dosage is figured on a volume basis.

The Ortho specialist further disclosed that tests in the Midwest have shown Diquat is effective as a shoreline spot treatment when applied as a concentrate to small areas at a calculated rate of 1 gallon per surface acre.

Following Mackenzie on the short but varied formal program was Dr. Robert C. Hiltibran, biochemist with the Illinois Natural History Survey, Urbana, Ill.

He added his own remarks to Mackenzie's on the use of Diquat, then discussed some of the newer compounds he is testing. For the sake of brevity, we will interject those comments of interest to WTT readers which were presented by suppliers in a "new products from industry" program the previous day, when these comments can expand Dr. Hiltibran's remarks.

"We've also found spot treatments along pond banks with Diquat to be effective," the active Midwest researcher began. "We've had success in small 20-foot plots with a 1-ppm concentration, but we find we can distribute material better if we make a 2:1 dilution."

Fenac Registered For Soil

Amchem's Fenac, designed to be applied to bottom soil, is registered for use on exposed soil during a drawdown; it is not labelled for application to water yet.

"We tested Fenac applied to water in a 2½-acre lake at 20 lbs. per acre; we estimate this application gave a concentration of Fenac of 1½ ppm," Dr. Hiltibran said of his tests with this material. "This treatment removed both small and leafy pondweeds (*Potamogeton* spp.)."

For registered treatments of soil bottoms, according to the manufacturer, the effect of treatment is not seen immediately because Fenac is not a contact herbicide; instead, it acts through the soil and roots of aquatic plants.

Most terrestrial herbicides, if applied to an exposed pond bottom, would be washed away when water is reintroduced.

The manufacturer also reveals that the effect of Fenac is not seen until the next season, but then control is claimed for 2

complete seasons or roughly 22 months thereafter.

"We tested Casoron (dichlobenil) in 20' x 20' plots of pond soil bottom," Dr. Hiltibran continued. "Casoron is a root-absorbed material. We've seen effects at 10 lbs. per acre and we're going to try to go to lower rates."

During the previous day's program, Dr. C. Allan Shadbolt, Field Research Director for Thompson-Hayward Chemical Co., Kansas City, Mo., informed delegates, "Casoron is designed to be applied before germination of submersed weeds. It will not work if applied after weed growth."

Dr. Shadbolt said recommended rates for Casoron, when it is registered, will be 5-15 lbs. per acre. Rates will vary with conditions, according to the research director.

"Most effective test results have come from a 5-lbs.-per-acre application to exposed soil during a lake drawdown," Dr. Shadbolt revealed. "Higher dosages of 10-15 lbs. per acre have been applied in tests with granules dispersed onto water. These sink to the bottom and act through the soil.

"We've achieved good control of chara with a 4-lbs.-per-acre experimental rate on exposed bottom soil," Dr. Shadbolt concluded.

Dr. Hiltibran said tests with Simazine for algae show that operators can achieve good control by applying a total amount of only 0.6 ppm spread over 4 applications in a 2-month period.

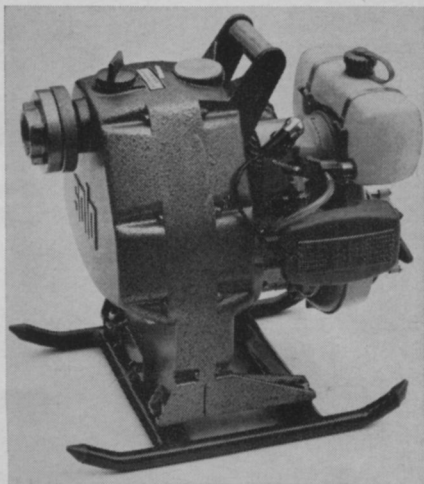
This information corroborated what James Flanagan, researcher for Geigy Agricultural Chemicals, Ardsley, N. Y., related in the "new products" session. He described Simazine as "the most promising of the triazine compounds we have screened for aquatic weed control."

"Simazine is classed as not toxic since its LD₅₀ to rats is 5000 mg. per kg.," Flanagan explained. "It is not like any other herbicide, since it is used as a preemergence material which is absorbed into plants and blocks photosynthesis.

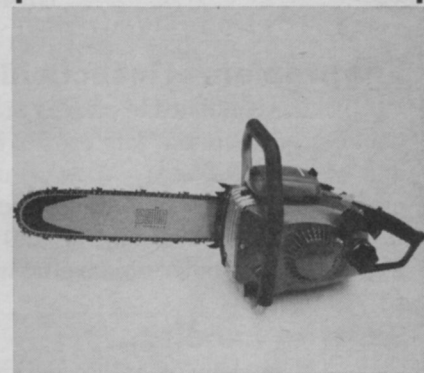
"Simazine's use in water will depend on its rate of solution," the Geigy researcher continued. He showed how Simazine will dissolve in water only up to 5

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Aquatic Weedmen Review

Nonchemical Controls

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ppm. After reaching that point, no more chemical will go into solution.

"To be effective, Simazine will have to be applied as an overall treatment; this is partly why our first experimental registration will be for farm ponds and hatcheries only," Flanagan disclosed.

"A hatchery has two possible treatment times," Flanagan pointed out. "Simazine can be applied to the exposed bottom at 10 lbs. per acre to control submersed weeds. Or one can apply the material directly to water, just before algal "blooms" occur, at the rate of 2 ppm per 3 acre feet (20 lbs. per acre) and achieve algae and submersed weed control."

At its annual business meeting the Society elected E. Victor Scholl, Modern Weed Control Service, Grand Rapids, Mich., as president for the coming year. Dr. Duncan McLarty, Department of Botany, University of Western Ontario, London, On-



Over the 1,000 mark! Entomologist H. B. Petty (left) and agronomist Ellery Knake (right) discussed the program for the 17th annual Custom Spray Operators Training School which this year drew over 1,000 delegates to the University of Illinois Urbana campus, Jan. 20-21. Applicator Harold Allen of Findlay, Ill., (center) offered his advice on the program.

tario, Canada, is the first vice-president representing the research phase of aquatic weed control. James Flanagan is the second vice-president who represents the suppliers and manufacturers. Secretary-Treasurer for the coming year is R. Eugene Bass, District Biologist, Avoca, Ind.

It was voted that the Aquatic

Weed Society should cooperate with the Weed Society of America Aquatic Section to produce a joint program in 1966 in St. Louis, Mo. This meeting is scheduled to be held in the Sheraton Jefferson Hotel, Feb. 6-11, 1966.

Northern California Plans First Turfgrass Exposition

An exposition which will include a symposium on methods, materials, and equipment for professional and amateur turf and garden enthusiasts, is planned for April 1-3 at the Santa Clara County Fairgrounds, San Jose, Cal.

Sponsored by the Northern California Turfgrass Council, the exposition will be held annually. This show is expected to offer something for everyone, ranging from the backyard gardener to the golf course superintendent, nurseryman, contract applicator, and the landscape architect. The latest equipment, plant materials, and chemicals will be on display.

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