

North Central Weed Control Conference Report

PESTICIDES & WILDLIFE

ALGAE & WATER

CHEMICAL PESTICIDES are very necessary tools man needs to manage the environment, and wildlife is not vanishing because of their use, an ecologist told scientists attending the North Central Weed Control Conference in December.

Dr. Donald A. Spencer of the National Agricultural Chemicals Association and conference keynoter said the U.S. is producing more game animals on fewer acres than at any time in the past.

While a few species have disappeared in the past 50 years, he said that disappearance of endangered species, threatened by civilization and habitat changes, has been slowed.

According to Spencer, wise use of herbicides to change plant cover can benefit both man and game animals. Herbicides can be used, for example, to create wildlife habitat by opening up intensive plant growth on rangeland and arresting the closing in of natural forest regeneration in game management areas.

"Despite the mishaps and the adjustments in dosages and methods of application that have become necessary as unwanted side effects became apparent, the overall effect of their use has been one of benefit," said Spencer. "Wildlife in general and game in particular have maintained, and in many cases increased, their populations where pesticides are one of the land management tools."

Operation of fish hatcheries and fish and shellfish culture, he continued, would be difficult, if not impossible, without herbicides and algicides, which serve as the "plow" in water resources.

Water Quality Standards by '73

Another general session speaker said water quality criteria would be developed within two years to comply with the Federal Water Pollution Control Act of 1970.

Quentin H. Pickering of the Federal Water Quality Environmental Protection Agency said the criteria would indicate the effects on health and welfare that could be expected from the presence of pollutants.

"Water quality criteria for aquatic life can best be determined on the

basis of continuous-flow, chronic toxicity studies," he said. "Exposure should be for at least one generation and mortality, growth and reproduction parameters should be studied."

Knake Elected President

Some 400 persons attended this 25th weed control conference, Dec. 8-10 at Lexington, Ky. Dr. Ellery Knake, agronomy department, University of Illinois, was elected president. Second vice-president is Dr. Jim Williams Extension agronomist at Purdue University. William Meggitt, professor of soil and crop science, Michigan State University, was named second vice-president. The new editor of NCWC is Larry Mitich, Extension agronomist at North Dakota State University. M. K. McCarty, agronomist from the University of Nebraska, remains secretary-treasurer.

Next year's conference will be Dec. 7-9 in Hotel Muehlebach Kansas City, Mo.

Algae Control Results

Three speakers discussed results of recent tests on algae control methods.

Copper sulfate is an effective control material, said Robert G. Hiltibran of the Illinois Natural History Survey, but two safer forms of copper are Cutrine, a liquid formulation, and Algaacidex, a powder. Both are less toxic to fish than copper sulfate, he said. In his research report, Hiltibran cited these results:

- A mixture of equal volumes of diquat and a liquid copper sulfate solution containing 8.5% of copper as copper triethanolamine complex eliminated curlyleaf pondweed in a 5,000 sq. ft. test area. The rate of diquat cation was 0.25 ppmw, half the usual suggested rate for diquat for curlyleaf pondweed.

- Di (N, N dimethylalkylamine) salt of endothall and Mono (N, N dimethylalkylamine) salt of endothall at a rate of 0.5 ppmw (endothall content) eliminated curlyleaf pondweed.

- Two pounds of 80% WP, diuron were applied to 2.6-acre body of water containing 9 acre feet of water for the control of filamentous algae. The algae were completely

eliminated and the leafy pondweed was reduced to an extent that further weed control was not necessary in 1970.

- One-half pound of 80% WP diuron, applied in July to a 0.7-acre pond with about 4.3 acre feet of water eliminated duckweed.

Walter Weber of the Indiana Farm Bureau Cooperative Association, Inc., gave a preliminary report on a 10-county algae control test in his state.

Hydrothol-47, a granular formulation, was selected because it would contact the filamentous algae during application and then the herbicide would be released as the granules settled on the bottom. The biodegradable material is relatively safe to fish and is registered with USDA for algae control, he said.

The treatment was 17.5 pounds of Di (N, N dimethylalkylamine) salt of endothall (100 pounds Hydrothol-47) per surface acre.

Except for a few fingerlings in one pond, no largemouth bass, bluegills or yellow bullhead catfish were killed, he reported.

Dennis L. Vedder of Marine Biochemists, Inc., Waukesha, Wis., using a striking example, spoke of the advantages of using Cutrine over copper sulfate for the control of planktonic algae.

Between 1958 and 1968, 254-acre Lake Delton in Wisconsin was treated with a yearly average of 1,115 lbs. of copper sulfate pentahydrate, including 284 lbs. of metallic copper, and applied at an average spraying time of 5.7 hours. For the years 1969 and 1970, Vedder said, the average treatment with Cutrine was 82 pounds, including 62.7 lbs. of metallic copper, in 2.5 hours of spraying time.

Similar results were obtained, he said, on 2,072-acre Lake Delavan.

Hyvar XL for Brush Control

Hyvar XL at the ratio of 2 gals. per 100 gals. of water is an effective basal stem application to control a broad range of tree species, reported C. B. Harris, Jr. of DuPont Company.

Applications up 16 inches on saplings from two to four inches in diameter were successful on species such as wild cherry, red maple, elm, sassafras, walnut, redbud, ash, mulberry, dogwood, willow, cottonwood, poison ivy, hickory, among others, he said.

Soil type and season did not alter effectiveness, he continued. For spraying at temperatures below 32 degrees, Harris said 6 gals. of methanol were added to the solution.