

To Pacify 'Naturalists,' WSSA President Says

# Weed Science Needs More Researchers, Better Data Evaluation

**C**URRENT ATTACKS on chemicals are just another outburst in the long and unending war that "naturalists" have waged against technology, believes Glenn G. Klingman, director of plant science, Eli Lilly and Company.

Klingman, outgoing president of the Weed Science Society of America, said in his presidential address that "many of these same people were opposed to fluoridation of public water and to vaccinations."

But do not take their attack lightly, he cautioned, for they are being heard via newspaper, radio, television, and "uncertain government edicts."

The danger that has developed, he said, is that constant reports of this nature are no longer taken seriously.

"Wolf has been cried so often that if a real wolf were to appear, we might pay no attention until it was too late.

"In some manner, we must learn to separate the important problems from those of little or no consequence."

It is good that we have all sorts of scientists and research centers, he continued, "however, the real problem exists in properly interpreting their results, as they relate to the prediction of hazard to humans and to their environment.

There are no real naturalists, contends Klingman. Some claim to want "natural foods" produced by "nature's wisdom" in a "balanced

G. C. Klingman of Eli Lilly & Company, Greenfield, Ind., addresses the 10th annual meeting of the Weed Science Society of America. Klingman has been president the past year. Nearly 600 persons journeyed to blustery and frigid Montreal, Feb. 2-5. Next year's meeting will be Feb. 9-11 in Dallas.



nature" and an environment "free of technology," he said.

Yet they do "unnatural things" such as getting up at seven in the morning, driving a car to work, earning and saving money to buy food that is preserved by cooking or refrigeration.

"They have no interest," charged Klingman, "in returning to a nature balanced by hunger, malnutrition, diseases, insects, vermin and a forbidding and often hostile environment.

"When the naturalist goes to the doctor, he hopes the doctor's technology can shift the balance of nature in his favor."

Klingman admitted there were problems of pollution and scars of technology. But the answer isn't to diminish technology; rather, it is through further application of technology.

#### Better Training and Evaluation

"My plea is for greater training of scientists, who are capable of undertaking the needed research and of making appropriate interpretations and judgments of relevance to man."

The world-wide detrimental effects of weeds of all kinds are well-documented and recognized, he said. But apparently the need for in-depth and well-rounded weed control education and research is not recognized by our educational system.

"For years, I have not understood, nor do I now understand the lack of enthusiasm for weed science on the part of College of Agriculture administrators," he stated. "There is not a single Weed Science Department at a Land Grant College."

Klingman issued the challenge to his listeners to read the Biblical parable of the talents, Matthew 25:15-30. "Professional talent in weed science has been 'hid in the earth' about long enough," he asserted.

"There is nothing to indicate that the public needs protection from herbicides as they are labeled and used. There is evidence of a positive and unmistakable interest in the proper development and proper use of herbicides as a part of a total weed control program."

#### Nature's Herbicide

But the naturalists could claim a moral victory as the nearly 600 weed scientists gathered in Montreal, Feb. 2-5. As they discussed weed control problems and achievements from every aspect in the

warmth of the Hotel Queen Elizabeth, undoubtedly the most effective herbicide raged outside—the work of Nature—a blinding blizzard and frigid 15-degree-below-zero temperature.

Nevertheless, WSSA members asked, through resolutions, that scientific data rather than whims of nature or politicians be the basis for making decisions regarding pesticides and herbicides.

Members asked that all levels of government first collect data from government, industry and educational institutions and evaluate it thoroughly before publicly announcing restrictions.

The Secretary of Agriculture was asked to add a weed specialist to his staff for advice on policy-making.

The legislative committee recommended that WSSA establish active liaison with the legislatures of each state.

#### Officers and Awards

L. L. Danielson, Weed Investigations, Horticultural Crops, Agricultural Research Service, USDA, was elected WSSA president for 1970.

Other officers are: President-elect—D. L. Klingman, Plant Industry Station, Beltsville, Md.; Vice-president—R. P. Upchurch, Monsanto Company, St. Louis; Secretary—Arnold P. Appleby, Department of Farm Crops, Oregon State University; treasurer and business manager—F. W. Slife, Department of Agronomy, University of Illinois; Editor of Weed Science—E. G. Rogers, Department of Agronomy, University of Florida.

Honorary Fellows, a new award this year to recognize outstanding contributions to weed science, were presented to Dr. Warren C. Shaw and Dr. Fred W. Slife. The award for the outstanding paper went to Dr. J. D. Weber of North Carolina State, for his paper, "Adsorption of Triazine Components on Organic soils."

Papers and addresses at this 10th WSSA meeting approached the 200-mark. Most were related to the agricultural crop field, but a significant portion dealt with non-crop vegetation, principally rights-of-way maintenance and aquatic weed control. Sketches of some papers follow, while others will be presented in greater detail in later issues.

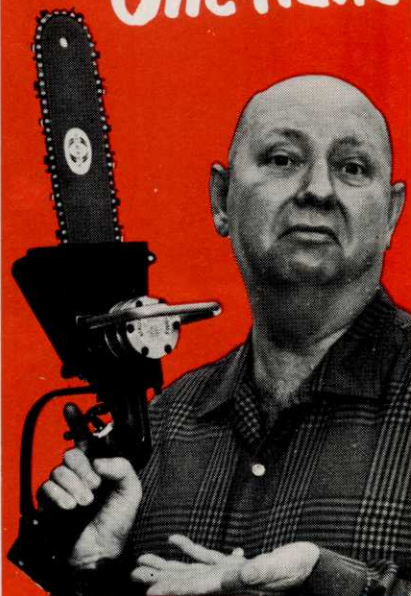
#### Aquatic Herbicide Data Lags

Industry is running the risk of losing these herbicides for aquatic use, warned Charles R. Walker of the Interior Department's fisheries



Close to 200 papers and addresses were delivered, with news releases available on many of them. F. A. Holmes, right, chairman of the public relations committee, and Leavitt S. White, both of the Du Pont Company, mark a program to indicate which sessions are covered by advance releases. Several presentations were reproduced by a duplicating machine in the press room.

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He named these compounds because no requests had been received from manufacturers asking for an extension of use until research data are complete enough to serve as a basis for establishing new tolerances.

"Industry has had fair warning that these registrations would expire," said Walker. Yearly extensions have been required since 1967. In the absence of extension requests for the current year, a notice of cancellation "could come at any time." Automatic cancellation will come effective Dec. 31, 1970.

It is imperative that industry get its data filed with the appropriate federal agencies, stressed Walker.

"The privilege of using a chemical is going to become indeed a privilege. These materials are going to be scrutinized much more closely."

While proponents of the major approaches to aquatic weed control—mechanical, chemical, biological, physiological and combinations, thereof—stated their case, the consensus seemed to develop that the total water management concept shows most promise. These thoughts developed as to what needs to be learned or tried:

—The target problem must be pinpointed then dealt with. One plant might retard the growth of another. Eliminate it and a worse problem could develop. Or an acceptable plant might be encouraged to compete with an undesirable species.

—Generally, more needs to be known about the genetics of aquatic plants.

—Better materials are needed, ones developed specifically for aquatic weed control, to replace the "dressed over" agricultural crop chemicals.

—Research is needed to discover how to control nutrient intake. Or perhaps techniques can be employed to tie up basic nutrients, such as phosphorus. Because the absence of trace elements can drastically affect plant growth, this avenue should be explored.

—Harvested aquatic plants perhaps could be utilized as feed, or in some manner to offset the cost of this weed control method.

### Pellets, Beetles and Beans

Imagination already has worked overtime in searching for new directions in aquatic weed control. Reports covered efforts with herba-



Mrs. Ivy Wile would be delighted to chat with you—about the "Ecology of Vascular Aquatic Plants in Small Lakes and Ponds in Southern Ontario." That's the name of the paper she presented at the WSSA aquatics division. She works for Ontario's Water Resources Commission and Department of Lands and Forests.

ceous fish and insects, herbicide-impregnated plastic pellets and laser beams. Here are some findings:

—2,4-D impregnated polyvinyl chloride pellets (2,4-D n-butyl ester) was tried as a control of Eurasian Watermilfoil. Laboratory tests indicate that the controlled-release method of dispersing herbicides was effective at low dose rates. Dosages as low as 3 ppm, based on 100% immediate release, produced toxic effects in 48 hours. All test plants were dead within two weeks. M. A. Lawson, U. S. Army, Edgewood Arsenal, Md.

—Helicopter applications of granular 2,4-D at 20 lbs./acre were effective in killing milfoil in Currituck Sound. W. E. Chappell, Aerial Enterprises, Inc., Roanoke, Va.

—Larvae of the moth *Parapoynx stratiotata* (L) feeds on the submerged foliage of milfoil while the curculionid beetle *L. todactylus leucogaster* attacks the emergence stems and flower buds. In an aquarium situation, larvae of the moth were able to destroy all exposed plants. R. I. Sailer, ARS, USDA, Beltsville, Maryland.

—Use of the laser beam has produced "delayed kill" in laboratory tests. The beam sears the leaf tissue, apparently disrupting photosynthesis. Plant growth stops, and in about five to six weeks exposed plants die.

### "Natural Look" Right-of-Way

Public pressure has brought on the "natural look" trend in right-of-way maintenance. The clearing practice is changing from the straight swath to that of removing only vegetation which could interfere with lines, reported Hyland



WSSA officers for 1970 are, right to left: President—L. L. Danielson, Weed Investigations, Horticultural Crops, USDA's Agricultural Research Service, Beltsville, Md.; president-elect—D. L. Klingman, Plant Industry Station, Beltsville; vice-president—R. P. Upchurch, Monsanto Company, St. Louis; secretary—Arnold P. Appleby, Department of Farm Crops, Oregon State University, Corvallis; treasurer and business manager—F. W. Slife, Department of Agronomy, University of Illinois, Urbana; editor of Weed Science—E. G. Rogers, Department of Agronomy, University of Florida, Gainesville; and past president—G. C. Klingman, Eli Lilly & Company, Greenfield, Ind.

Johns, Asplundh Tree Expert Company. Trees are left in low areas where enough clearance exists. Access roads are being built diagonal to highways.

In some instances, as many as 30 to 50 trees have been planted to screen the right-of-way from the highway, said J. B. Middleton of

Pennsylvania Electric Company.

#### To Please the Public

Anything—within reason—to please the public is the goal. And W. D. Dittman of Appalachian Power Company, Roanoke, Va., had some prescriptions for dealing with people.

Obviously, people are becoming collectively concerned, judging from the number of bills at all levels of government, he said.

Tell people what materials you are using and what effect they will have on the environment, he advised.

"We put a lawyer on our staff, then sent him to Amchem to become familiar with the legal aspects of herbicides.

"We have a veterinarian on a retainer basis. We sent him to Dow Chemical. When a complaint comes in, he can tell the farmer what's really wrong, rather than 'We didn't do it.' On occasion, the farmer gets his livestock examined at our expense.

"We support research with money, not lip service."

Dittman added that it was highly important to react to every complaint. "Big problems often come from minor accidents."

He hopes the next step will be to get a doctor specially trained to answer people's concern about herbicidal effect on human health.

Just finding a way to neutralize herbicide odors would be a big help, said Dittman.

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