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Herbicides Pose a Bitter Mystery In U.S. Decades After Discovery

By RICHARD SEVERO

Forty years after the concept of "plant growth regulators" began to appear in scientific journals, herbicide use remains the subject of bitter debate and of lawsuits involving potentially hundreds of millions of dollars, and the center of a great mystery.

It is a mystery in which both the accusers and the accused say they have answered the question of what herbicides do to and for people — but they do not agree on what those answers are.

For the chemical industry, it is a controversy that challenges the traditional manner of testing chemical compounds before they are marketed, and thus the very profit structure of the industry.

For scientists striving to retain their objectivity, the question of herbicides easily rivals nuclear energy as an issue that threatens to divide and polarize them.

For the veterans of the Vietnam War and the civilians who suspect they have been made sick by herbicides, it is pain and suffering gone unacknowledged, unexplained, uncompensated, unalleviated.

And for the Federal Government, it is a source of public embarrassment, with various public agencies arriving at different conclusions or none at all.

Now, the Government is trying again to pin down answers. Max Cleland, head of the Veterans Administration, said yesterday that the Air Force, the Department of Health, Education and Welfare and the V.A. itself would be carrying out separate studies on the possible effects of herbicides. [Page A18.]

At what point, scientists have asked, can questions be raised about the safety of chemicals and what should the rules be about how much evidence is required be-

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Agent Orange

A Legacy of Suspicion

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fore a chemical is declared hazardous?

"The nice democratic idea is that one is innocent until proven guilty," said Dr. Charles F. Wurster, visiting scientist at the National Cancer Institute in Washington, D.C.

"The fallacy in the argument is that these are chemicals, not humans," he said. "Chemicals are not innocent until proven guilty, because if you consider the chemical innocent until proven guilty, then the people are going to have to get tumors to prove it guilty — and they, thereby, lose their rights. In other words, if you confer human rights on chemicals, you can only do so by taking them away from humans."

At the heart of the dispute are the phenoxy herbicides, most specifically a substance called 2,4,5-T. For more than 30 years, it has had a wide variety of uses because when applied, it will kill certain plants and allow others to live. Its natural victims are broad-leafed plants.

But critics insist that it has caused stillbirths, birth deformities, cancer and a host of other maladies in humans and animals. It was a major component of Agent Orange, a herbicide widely used by the United States during the Vietnam War, but withdrawn when South Vietnamese newspapers began to report medical problems attributed to the herbicides. Currently there is a partial ban on the use of 2,4,5-T in the United States.

Dr. Paul A.L. Haber, the assistant chief medical director for the Veterans Administration.

The Dow Chemical Company, the largest single maker, said that thousands of scientific studies of 2,4,5-T so far had not produced a single documented case of human injury. Dow spokesmen said they were unaware of even a complaint about the phenoxy herbicides prior to the Vietnam War and regard the current controversy as fueled "largely by Vietnamese propagandists."

Some officials of the Veterans Administration agree at least in part with Dow. Dr. Paul A.L. Haber, assistant chief medical director for professional services at the V.A., said that "there is no clearly defined body of symptoms that anybody can ascribe to Agent Orange" and added that he wanted to establish whether there is or is not a causal relationship between Agent Orange and the complaints of veterans.

At present, the only illness that both sides agree may be attributed to herbicide exposure is chloracne, a temporary skin condition that closely resembles ordinary acne. Chloracne can be caused by other industrial chemicals, too.

Until the partial ban announced last Feb. 28 by the Environmental Protection Agency, the United States was using about seven million pounds of 2,4,5-T each year, of which Dow made between 50 and 60 percent. Dow estimated that sales of 2,4,5-T had yielded $12 million, only two-tenths of 1 percent of the company's annual gross sales of $6 billion.

A Dow spokesman said that the money was not important to the company, but rather that environmentalists, veterans and public health advocates were attempting to restrict a product on the basis of scientific assertions that were either untrue or imprudent. But Dow's critics countered by saying that the company's own science was faulty.

Points at Issue

Among the points in conflict are the following:

¶At the Veterans Administration, Dr. Haber said he discounted charges from veterans that they had suffered damage through their reproductive systems from Agent Orange and that, as a result, they were having deformed children. Dr. Haber said there was no evidence that males could actually suffer such damage through the productive systems and thus produce deformed children.

Dr. Jeanne M. Stellman, a physical chemist on the medical faculty at the University of Pennsylvania and chief of the division of toxicology at the American Health Foundation, disagreed with Dr. Haber. She said there was good evidence that males and females alike could be so damaged. Males, she said, can transmit this damage when they father children. She cited the work of Dr. Cecilia Lutwak-Mann of Cambridge University in England, who reported in the British Medical Journal that harmful effects of Thalidomide were transmitted through the semen of male rabbits so that the offspring suffered skeletal malformations.

¶John Davidson, technical adviser with Dow Chemical since 1936, said that although the type of dioxin found in 2,4,5-T "has been demonstrated to be quite a toxic chemical . . . there are safe levels" that present no hazard to people.

But Dr. James Allen, professor of pathology at the University of Wisconsin Medical School who has spent 20 years researching dioxins, said he had been unable to determine what a "safe level" might be in his experiments with monkeys and rats.

¶Patricia Bragg, special assistant for information at the United States Air Force Surgeon General's Office, said that of the 1,000 men who originally served in Operation Ranchhand, the group that sprayed Agent Orange, more than 100 remain on active duty. She added that of the original group, only one person made a claim asserting damage from Agent Orange — a claim that was declared invalid. As far as she knew, Mrs. Bragg said, everybody else who served in Operation Ranchhand is in good health.

But spokesmen for Agent Orange Victims International and Citizen Soldier in New York, and the National Veterans Law Center in Washington, D.C., said that between them, they know of two to three dozen men who served in Operation Ranchhand who now say they are sick.

¶Dr. Haber of the Veterans Administration said he could not yet accept the idea that dioxin, which was a contaminant in Agent Orange and is a contaminant in current batches of 2,4,5-T, has been harmful to humans because the research has thus far been done only on laboratory animals. "All the studies you can read concern rats, mice, baboons, but nothing about men," Dr. Haber said.

Dr. Wurster of the National Cancer Institute said: "Unless we can establish in law and in practice that the capacity of a chemical to cause cancer in animals is presumptive evidence of the human situation, we can never win. We can only prevent human exposure to chemicals that cause cancer in laboratory animals. If we do it, we can protect ourselves to some significant degree. If we don't do it, the incidence of cancer will go up and we won't be able to pin down where it comes from."

¶Dr. Haber also said there was no proof, as yet, that people exposed to dioxin in herbicides could manifest symptoms five years later, thereby suggesting that dioxin might be stored in body tissue and released at some subsequent time.

Harvard's Dr. Matthew Meselson agreed that data were lacking to make a definitive statement but added that there was evidence "that makes us think very seriously about delayed and cumulative action as a possibility." He said that monkeys given tiny doses of dioxin in their food — doses measured in parts per trillion — begin to develop tumors and show other symptoms after long periods of time.

Dr. Meselson emphasized that he was not a partisan in the debate but he was upset that "the extremists have taken over and have interfered with finding out if there is a hazard. It should have been done years ago."

But at the Dow Chemical Company, there is doubt that more scientific research will accomplish anything.

"How much proof do you think it's going to take to take the heat off 2,4,5-T?" asked Gary G. Jones, public affairs manager for Dow at Midland, Mich. "There are 40,000 technical reports. We know more about 2,4,5-T than we know about aspirin. How long do you want the chemical industry to continue to prove that nothing has happened?"