



# PESTICIDES

## The Killing Fields

After DDT was banned, we all breathed easier, thinking that whatever products followed would be safe for us and our children.

BY OSHA GRAY DAVIDSON

Lately, we've been bombarded with news reports and exposés warning that many of the chemicals we're routinely exposed to—when we spray shrubs and trees, treat our lawns, exterminate house pests, even eat fresh fruits and vegetables—are under suspicion of causing serious health problems. From cancer and central-nervous-system damage to lung disease, reproductive dysfunction and possible immune-system impairment, the effects are devastating. Why are we just now waking up to this menace?

Currently, 729 pesticides (compared to 32 in 1939) are used in 22,000 commercial products. As far back as 1972, federal laws were passed that mandated the reevaluation of most of these chemicals. But the laws were never fully implemented and, as a result, two thirds of all pesticides and herbicides on the market today have never been subjected to any health standard. And the bad news keeps coming:

- Traces of the chemicals used in pesticides are found in our food, in the air and rain, in fish and birds, and even in the Arctic ice pack.

- Some pesticides are persistent: The long-banned DDT, for example, routinely shows up in the breast milk of American women, often in higher concentrations than the government

permits in cow's milk.

- By the age of 5, many children have already ingested one third of their acceptable lifetime level of exposure to some pesticides.

- The Department of Agriculture recently tested apples, bananas and other produce and found a total of 49 chemicals in more than 60 percent of them.

### The Enemy Is Us

At least part of the problem, explains Michael Surgan, Ph.D., chief environmental scientist for the New York Attorney General's office and a leader in the fight for responsible pesticide use, is our demand for the good life. As long as we continue to expect lush lawns, thickly carpeted golf courses and easy fixes for garden and household pest problems, our annual use of 1.5 billion pounds of pesticides (more than five pounds for each man, woman and child) will continue to escalate. "We've become a chemically addicted society," Surgan says.

Scientists have known for 50 years that pesticides can cause health problems for farmers and farm workers. Direct exposure to these chemicals while mixing or spraying them causes rashes and burns, even respiratory and nerve damage. But many other problems have begun

showing up, some a lot closer to home. Water supplies contaminated by pesticides may be responsible for cancer clusters in towns near agricultural areas. And pesticides sprayed on fields often drift to nearby towns wherever the wind blows—causing residents there the same types of health problems once thought limited to farmers.

### Grass-Roots Fear

Most of us consider our lawns the perfect playgrounds for our children— islands of beauty and safety. Think again. The typical lawn gets doused with from three to six times as much pesticide per acre as the average farm field. A 1991 study linked the most widely used lawn chemical, 2,4-D (found in more than 1,500 products), with a 100 percent increase in the risk of malignant lymphoma in dogs whose owners used the substance on their lawns four or more times per growing season. Diazinon, currently one of the most popular lawn and garden insecticides, was banned for use on golf courses and sod farms eight years ago by the Environmental Protection Agency (EPA) following reports of large numbers of bird deaths.

Of the 34 pesticides most commonly used on lawns, 33 haven't

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been fully tested for their effects on humans. Indeed, 18 of the most commonly used lawn chemicals, including several whose product labels show an EPA registration, have been slated for EPA reevaluation.

Some states and local communities have mandated that tree-spraying and

### How to Reduce Your Exposure to Pesticides

- Rinse fruits and vegetables thoroughly to remove residues.
- Cook or bake fruits and vegetables to break down other residues.
- Eat food that's grown in season. Food grown in season requires less pesticide use.
- Don't stop eating fresh fruits and vegetables. Doctors and scientists recommend them because they're high in fiber and vitamins, low in fat.
- Shop for organically grown produce in your supermarket or health-food store.
- Trim fat from meat and fish. Some pesticides concentrate in fatty tissues of these foods.

#### CONSIDER GROWING FOOD ORGANICALLY.

- Keep the soil healthy. Add compost or manure to produce healthier plants, which are less vulnerable to pests.
- Plant a variety of crops. A mixture is less vulnerable to pests. Be sure to rotate crops to foil overwintering pests.
- Water deeply and infrequently, and use mulch to help soil retain water. This combination encourages deep-root growth and helps inhibit weeds.

#### HIRE A LAWN-CARE COMPANY THAT DOESN'T USE CHEMICAL PESTICIDES.

- Choose grass for your lawn based on the amount of sun and shade in your yard and on local climate conditions.
- Use proper fertilizers to keep soil healthy. If possible, test soil and use organic matter, such as composted manures, for nourishment.
- Don't grow the grass too long or cut it too short. And keep mower blades sharp. Proper mowing helps retain water and promotes healthy growth.
- Water deeply and infrequently to encourage deep-root growth.

## BREAST CANCER: WHAT'S MAKING US SICK?

One of the most troubling questions raised so far about pesticides is their possible link to breast cancer. The disease strikes 180,000 American women each year, killing nearly 50,000—more than any other type of cancer.

In April 1993, medical researcher Mary Wolff, Ph.D., and her colleagues from Mount Sinai School of Medicine in New York, shook the medical establishment when they published a study showing that women with high levels of a DDT residue in their bodies were four times as likely to develop breast cancer. Based on Wolff's work and others', many scientists now theorize that when taken into the body, certain chemicals, including pesticides, act like the female hormone estrogen—and increased exposure to estrogen is one of the few known risk factors for developing breast cancer.

A subsequent study by Nancy Krieger, Ph.D., of the Kaiser Foundation Research Institute in California, and her colleagues, however, failed to document the DDT-cancer link. And a long-awaited report by the New York State Department of Health about the breast-cancer rate on Long Island (one of the state's highest) pointed not to pesticides but to industrial pollutants from a network of chemical plants stretching across the area. Thomas to Lorraine Pace, a Long Island breast-cancer sur-

vivor, the cancer rate in her community is about to undergo further scrutiny in a multimillion-dollar study sponsored by the National Cancer Institute. It is one of the largest such projects in the institute's history.

Diagnosed with breast cancer in 1992, Pace vowed to find out what caused her disease. Her first step was to conduct a survey to determine the occurrence of breast cancer in her area. A check of 8,750 households uncovered nearly 400 cases of malignant breast cancer. Next, she researched her community's not-so-distant past and uncovered what she and others believe to be the source of Long Island's cancer hot spot. In what may have been the largest program of its kind in the country, some 250 potato fields that once dotted the region were treated with more than one million gallons of pesticides, applied at rates up to 900 times greater than currently recommended. The program was called off in 1984, after pesticides began showing up in local drinking-water supplies.

Clarissa Wittenberg, communications director for the Long Island study, says, "We want to be able to say that environmental factors either are significant or are not." She calls pesticides "one of the top contenders" in the search for environmental factors causing breast cancer.

### The Poison Circle

Consumers face a possibly greater risk from pesticides on imported foods. Take, for example, the chemical chlordane. It was banned for use in food in this country in 1976 as a possible carcinogen, but more than 1.5 million pounds of the substance are produced here annually for export abroad. According to Mark Ritchie of the Institute for Agriculture and Trade Policy, "A significant amount of these chemicals returns to us on imported foods." How much enters America in this "circle of poison"? That's impossible to say, since our government currently inspects only about 2 percent of imported foods for pesticide residues.

Lately, though, America has begun to rethink its postwar chemical binge. Along with the change in thinking has come the realization that current laws governing the use of pesticides are inadequate. Carol

lawn-care companies and homeowners post signs a day or two before and after applying pesticides, but such laws are rare. And where they do exist, they are often unenforceable. "If you buy the notion that we have to accept a certain amount of risk from pesticides to safeguard the food supply, that's one thing," says Surgen. "But with laws, people are applying carcinogens simply for the sake of aesthetics. That's quite wrong."

The price of keeping the golf course weed-free is even greater. Pesticides are applied at rates higher than those used on either farm fields or home lawns. A University of Iowa study of golf-course superintendents found abnormally high rates of death due to cancer of the brain, large intestine and prostate. Other scientists now suspect that golfers and those living near fairways or who drink groundwater contaminated by them may be suffering from similar problems.

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