GREENPEACE ACTION

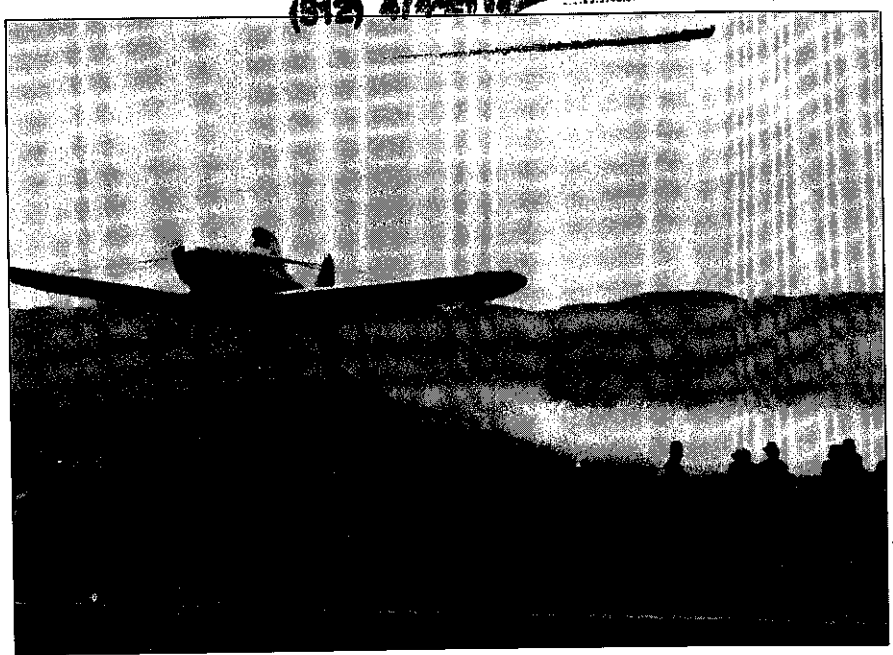
Pesticides

Background: The Promise of Pesticides

The scientific advances that came from chemicals for warfare during World War II had ramifications far beyond the battlefield. The discovery of organic chemicals that effectively destroyed insects and weeds, for example, held out to an over-populated post-war world the possibility of agriculture free from these destructive "pests." Experts set about developing chemicals that were designed to save millions of tons of foodstuffs from destruction every year. Pesticides were touted as a miracle of modern science, destined to improve life everywhere.

Since 1945, 35,000 different pesticide formulations have entered the global market. Pesticide use has skyrocketed to more than 4 billion pounds used worldwide every year. That's almost one pound for every person living today. But the vision of an agriculture free from pests has never materialized. The vision has turned into a nightmare: despite the use of billions of dollars worth of pesticides every year, crop loss due to insect damage has doubled in the last four decades. The legacy of the 40-year-old war on pests is poisoned water, soil and air. The pesticide revolution, rather than improving living conditions in the world, is making them worse.

Greenpeace is working to reverse these trends by stopping the export of dangerous pesticides from industrial to developing countries and by pressuring the World Bank and other international lending institutions to end their support for pesticide use in the Third World, where the most acute effects of this use are felt. Ultimately, Greenpeace is promoting agriculture that is safe for farm workers and consumers, free of destructive and expensive chemicals, and ecologically sustainable over the long run.



Christopher Brady

A crop duster sprays pesticides over the heads of unprotected tomato pickers in San Quintin, in the Baja region of Mexico. This area is a major source of the tomatoes consumed in the U.S.

Environmental and Health Effects

Chemicals potent enough to destroy insects and weeds cannot at the same time remain harmless to people and the environment.

- Long-term health effects of chronic pesticide exposure include cancers, birth defects, genetic damage, respiratory ailments, neurological disorders, liver and kidney damage and reproductive problems.
- The World Health Organization conservatively estimates that 500,000 to 1 million people are injured by pesticides annually; 5,000 to 10,000 die as a result. Oxfam and several other organizations monitoring international health believe these figures are much higher.
- A recent study conducted by the Malaysian Dept. of Agriculture revealed that 54 percent of the 1,214 agricultural workers studied had experienced pesticide poisoning. In Perth, Western Australia, heptachlor levels up to 12 times what the World Health Organization considers "acceptable" were found in the breast milk of women whose homes had been treated with the pesticide for termites.
- Water runoff and leaching from pesticide-treated agricultural lands pollute lakes, rivers and underground aquifers with dangerous concentrations of toxic chemicals.
- Pesticide residues in plants consumed by humans and animals have introduced several toxic chemicals into the food chain. Pesticide compounds accumulate in the tissues of

"Pesticides are an ideal product for big business: like heroin, they promise paradise and deliver addiction."
—Paul Erlich, Stanford University, 1980

humans and animals until they reach dangerous levels. It is estimated that most Americans have approximately six parts per million of pesticide residue stored in fatty tissue.

- Every year countless birds and animals sicken or die from exposure to pesticides applied to crop lands and released into lakes and streams. Normal reproduction can be severely affected. Habitat is often reduced by the elimination of natural food sources.
- Picked up by the wind and carried by the atmosphere, pesticides are distributed throughout the global environment. Antarctic seals and penguins have traces of pesticides such as DDT in their systems even though pesticides are never used in their habitat.

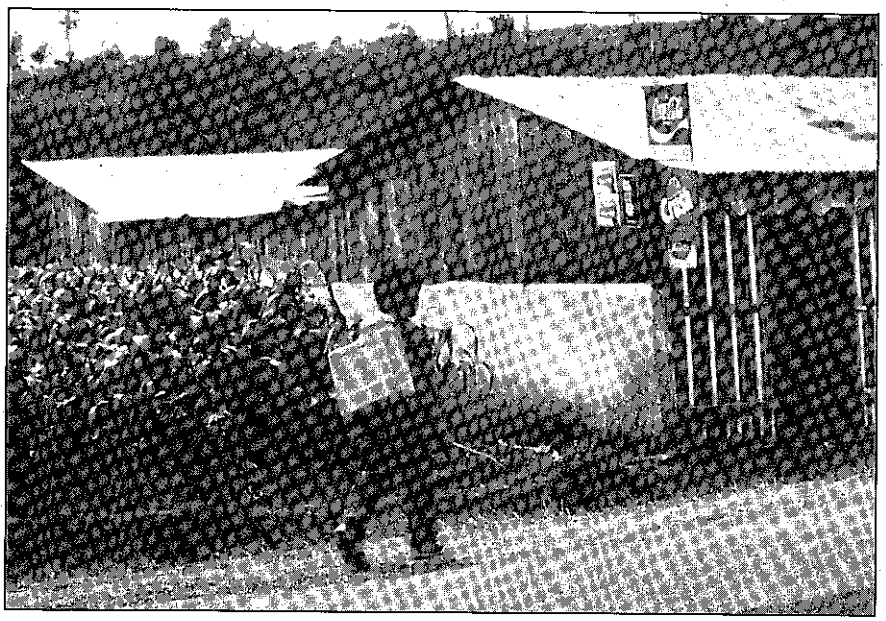
The effects of pesticides do not end when their use is halted. Several remain in the food chain for many years. Pesticides such as DDT, chlordane and heptachlor are among the most persistent of all chemicals; they can be found in soils more than 20 years after their application. A few pesticides naturally decompose to form compounds more toxic than the original chemical.

A Chemical Addiction

The pesticide revolution, while promising cheap plentitude, has delivered instead an expensive chemical addiction. One irony of the steadily increasing worldwide use of pesticides is the concurrent increase in crops lost to insect pests. Since the late 1940s, crop losses due to insect pests have almost doubled—from 7 percent to 13 percent—while pesticide use has increased 11 times.

Almost one-quarter of all pesticides are used to destroy pests that affect only the appearance of agricultural goods. This is done because consumers have demanded cosmetic perfection in their produce. But cosmetic imperfections affect neither the taste nor the nutritional value of most foods.

The use of pesticides in developing countries has expanded greatly with the spread of the Green Revolution. This scientific transformation has altered traditional farming practices throughout the world. Farms producing a variety of crops have been replaced by larger, more mechanized single-crop farms that are more easily overrun by pests. The introduction of new high-yield crop strains has required large amounts of water, fertilizer and pesticides to achieve the greater yields for which they were developed. Some of these hybrid crop species have lost their natural defenses against insects and must be repeatedly doused with pesticides. Traditionally, a variety of insects acting as predator and prey could usually keep one another's populations in a particular area in check. But the indiscriminate destruction of insects with pesticides upsets this balance, destroying beneficial insects along with the target pest. Otherwise harmless insects become serious pests when their natural predators are eliminated.



Kay Treakle © Greenpeace

Children in developing countries are frequently exposed to toxic chemicals. This Indian boy in Guatemala has sprayed his family's fields, will eat pesticide-laden food and drink water contaminated by poisoned runoff.

Kay Treakle © Greenpeace

This unprotected Guatemalan Indian with leaking backpack sprayer is using two pesticides, metasystox and fenvalerate, on his potato crop. Recommended protective clothing for both chemicals is rubber gloves, goggles and face shields. The Farm Chemical Handbook *warns, "Avoid contact with mouth, eyes, and skin."*

Another consequence of pesticide use in developing countries is pest resistance. Insects may hatch several generations in one growing season. Repeated sprayings of insects that have developed resistance to pesticides increases their proportionate numbers in the field. The survivors mate, pass on their resistant gene, and produce progeny even more immune to pesticides. By the end of 1986, close to 500 insect species were reported to be resistant to one or to all five pesticide groups, with 17 species resistant to all insecticides. These "super bugs" have caused unprecedented crop loss and have left global farming ever more dependent on newer, more dangerous chemicals in heavier doses each year.

Exports: Profits from Poisons

Since the 1960s, industrialized countries have banned or strictly regulated more and more of the most dangerous pesticides. At the same time, these countries allow pesticide manufactur-

ers to legally export these same chemicals to developing nations, countries without regulatory structures sufficient to control this trade.

The U.S. Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) allows U.S. manufacturers to export pesticides that are unregistered, banned or severely restricted in the United States. The law requires only that importing countries be notified of a pesticide's regulatory status, a mechanism that has proven grossly inadequate in protecting farmers and consumers. In 1979, the U.S. government reported that one-quarter of the chemicals sent abroad from the United States were banned, restricted or unregistered domestically.

Ironically, the principal use of 70 percent of the pesticides exported to the Third World is for crops grown for export to industrialized countries. This undermines the protection that banning the pesticides was supposed to provide in the first place. The U.S. Food and Drug Administration (FDA) has found that over six percent of the imported produce randomly tested between 1979 and 1985 was contaminated with unacceptable levels of pesticide residues. Despite these high figures and the threat to public health, less than one percent of the 43 billion pounds of food imported into the U.S. each year is inspected.

Beyond the threat to consumers, it is Third World farm workers producing these export crops who are in the greatest danger. They and their families live next to the fields, work beneath the path of aerial spraying planes, drink and bathe in contaminated water, and eat poisoned produce. Due to lax regulations in many developing countries, very little precaution is taken in the sale, handling and disposal of pesticides and their containers.

Widespread illiteracy makes education on proper handling difficult, and cultural and language differences contribute to the danger of contamination. The skull and crossbones, a danger signal in Western countries, is used as the trademark of a popular pesticide in Southeast Asia. In parts of South America, pesticides are given the innocuous name "plant medicine." Many Third World farmers use old pesticide containers to transport water or store foodstuffs.

Pesticides have also proven lethal in the production process. Many international chemical companies have located their factories in developing countries where costs are lower and environmental and safety regulations are fewer. Manufacturing-related accidents have proliferated as a result. The most serious has been the 1984 disaster in Bhopal, India, in which a Union Carbide plant released a poisonous pesticide ingredient that killed 2,500 people and injured thousands more. This is just a small portion of annual pesticide-related casualties as the industrial world continues to foist dangerous products and technologies on a world that is unprepared to accept them.

Douglas Watts, Christopher Brady

With no protection, these Mexican farm workers are fumigating a field before crops are planted. Migrant agricultural workers in Mexico are exposed to massive quantities of pesticides during each growing season.

Financing Environmental and Agricultural Disasters

Much of the expensive, chemically-dependent agriculture in the Third World is made possible by massive loans for agricultural development. Multilateral and bilateral lending institutions are powerful economic forces that loan development capital, provide grants and promote high-technology agricultural research. One aim of multilateral development banks (MDBs) in recent years has been to encourage the expansion of export crop production. This supplies produce for industrial countries while at the same time generating cash to pay the foreign debt of many developing nations.

Providing more development assistance than any other MDB, the World Bank plays a key role in influencing pesticide use in developing countries. The Bank finances hundreds of millions of dollars of pesticide purchases each year. While the Bank's own guidelines specify that alternatives to pesticides should be used whenever possible, their continued financing of primarily pesticides makes the implementation of this policy nearly impossible.

The cotton-growing regions of Sudan provide a perfect case study in irresponsible lending practices. In 1985 and again in 1987, the Bank stepped in to provide almost $50 million for annual pesticide use alone for only one crop, cotton, in this African country. The financing continues despite the fact that pesticide overuse on the cotton crop—a vital export for the country—has resulted in more pests and less cotton. Sudan may have reached a point where cotton production costs, driven up by expensive inputs like pesticides, have exceeded export earnings.

Getting Off the Pesticide Treadmill

There are ecologically sound and effective alternatives to pesticides. Understanding the farm as a cooperative complex of soil, microorganisms, crops, insects, animals and humans, and utilizing this natural ecology to

[redacted] - JAKE Pickle 482-5921

the best advantage rather than attempting to short-circuit it, is the best alternative.

Successful biological pest-control programs have been implemented worldwide by introducing natural insect predators or diseases to control crop pests. In addition, the vulnerability of single-crop farms—vast areas devoted to just one plant species that are easily overrun by pests—can be avoided by alternating different plants or diversifying the species within the same type of crop.

Kay Treakle © Greenpeace

This billboard in Guatemala advertising in a cartoon-like fashion the insecticide Methamidiphos is typical in Third World agricultural areas. The recommended protective clothing for this extremely hazardous chemical is a rubber suit, including gloves and shoes, and a respirator. Such protective clothing is too expensive for most Third World farmers, and inappropriate for the hot tropical climates.

Farmers in every part of the world have shown that it is possible to significantly reduce pesticide use while at the same time maintain or increase crop yields and profits. Introducing and conserving beneficial insects, rotating crops from year to year to prevent the recurrence of the same pests, selecting plants for their resistance to insects, timing the planting of crops to avoid attacks by pests or simply planting certain crops in their appropriate climate are all non-chemical methods that can reduce the loss of food to pests.

These methods, as part of an integrated pest management program, are safer, more effective and less expensive than the annual use of billions of pounds of chemicals. They would save much of the $20 billion a year spent on pesticides, a critical fact for a debt-ridden world that can ill-afford an expensive chemical addiction.

The International Greenpeace Pesticides Campaign

- Greenpeace is calling on the industrialized countries to prohibit the export pesticides that have been banned, cancelled, severely restricted, or never registered.
- Until such a ban is accepted, Greenpeace, along with Third World governments, is calling for the international acceptance of the principle of "prior informed consent." This requires that restricted products not be exported unless the importing country has been informed of the reasons for any regulatory action and has given consent to the shipment of the controlled product.

What You Can Do

1. Write to your senators and congressional members requesting that Section 17 of the Federal Insecticide, Rodenticide and Fungicide Act (FIFRA) be amended to make it illegal to export banned or unregistered pesticides.

2. Let the President of the World Bank know of your opposition to their practices. Ask him to end the Bank's role in financing chemical-dependent agriculture:

   Barber Conable, President
   The World Bank
   1818 H Street, NW
   Washington, DC 20433

3. Change your buying habits. Buy produce grown organically, without the use of pesticides or other chemicals. Not only is it safer to eat, but consumer habits send a message to national and international producers. Ask your store to stock produce or patronize local cooperatives.

4. Contact Greenpeace for more details about the international pesticides campaign.

- Greenpeace is closely monitoring the actions of the World Bank and other MDBs to ensure that environmental concerns expressed by the banks translate into changes in policies and lending priorities. Greenpeace will continue to publicize the banks' dangerous and short-sighted policies until the financing of chemical-dependent agriculture stops.

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