

## Environment

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### PESTICIDES

Pesticides are the only man-made toxic chemicals deliberately spread over large areas. They are poisonous to people because they are designed to kill living things. Pesticides grew out of research into chemical warfare. Organophosphates and carbonate insecticides, large classes within which hundreds of pesticides are registered, were based on Nazi research for nerve gas. Many more pesticides were developed during the post World War II Cold War period.

At a large dose, pesticides will kill people. At a tiny dose, they kill “pests”. Pesticides pose particular problems for human health and the environment.

#### **What is a pesticide?**

A “pesticide” is anything used to kill pests, while a “pest” is anything humans don’t want around.

“Pesticide” is a broad classification which includes insecticides (to kill insects), herbicides (to kill plants), fungicides (to kill moulds and fungi), and rodenticides (to kill rodents).

Chemicals used in pesticides are non-specific, and, depending on the dose and accuracy of delivery, will kill unintended along with targeted species. They can be composed of biological substances or synthetic toxic chemicals. This fact sheet deals with toxic, synthetic pesticides.

Our Unifor Prevent Cancer Campaign began at the December 1997 CAW Council meeting. Many types of pesticides can cause cancer, along with many other toxic effects. Help us prevent needless ill health and death.

#### **Who regulates pesticides?**

Pesticides must receive registration from the federal government, under the Pest Control Products Act, in order to be used in Canada.

The office of the “Pest Management Regulatory Agency”, under the jurisdiction of Health Canada, receives input from Environment Canada, Agriculture Canada, and Fisheries and Oceans Canada.

A province cannot decide to use a chemical if the federal government has not registered it. A province does have its own registration process however, and can effectively ban the use of a pesticide in its own jurisdiction even though it has been approved in Ottawa. This happened in the case of 2,4,5 -T, which had been banned in the U.S., Sweden and many other countries, but was registered for use in Canada by the federal government. In the early 1980s the provinces of Ontario, Saskatchewan and Quebec made independent decisions not to allow its use in those provinces.

The Chapter 11 provisions of NAFTA (the North American Free Trade Agreement) which allow private corporations to sue governments in Canada if a law is alleged to be a restraint of trade or expropriation of profit, make banning substances potentially more difficult. These same powers are held internationally through the World Trade Organization. Our union has been stridently opposed to these infringements on the rights of Canadians to ensure our domestic laws can protect our people and our environment.

#### **Does registration mean the chemical is safe?**

We can answer that question with a categorical No. Over and over, those pushing pesticides (which are mainly, not surprisingly the wealthy pesticide manufacturers) will defend them by claiming the federal registration is a guarantee of safety. That’s nonsense. For one thing, there’s no such thing as absolutely “safe” in dealing with substances that are designed to kill living things. Pesticide regulation is all about balancing the risks of their use with their economic benefit. All too often, chemicals will stay in use because the government, lobbied heavily by the chemical manufacturers, decides the economic benefit outweighs the human health risk.

For example, the federal department of agriculture (now Agriculture Canada) overruled the department of health (now Health Canada) and Captan is still in use. (Wash those strawberries carefully!)

Once a chemical is registered for use in Canada, it is extremely difficult to get it banned. Governments are slow to take action. Among chemicals once approved in Canada, but now banned are DDT, Alachlor, fenitrothion and 2,4,5-T (although the government allowed registration to lapse without actually banning it).

Unfortunately, governments act as though chemicals have constitutional rights and must be presumed innocent until proven guilty. When the environment and human health are at stake, chemicals should be presumed guilty until proven innocent.

### **What are the main concerns about pesticides?**

Each pesticide is different and can provoke very different concerns. For instance, the widely used fumigant methyl bromide, in addition to being extremely poisonous and responsible for many deaths due to occupational exposure, is responsible for between five and ten percent of worldwide ozone depletion.

Banning methyl bromide is essential if we are to protect the ozone layer which protects all living things from the sun's harmful rays. Canada committed to phasing out methyl bromide by 2001.

But mostly, pesticide use is associated with two things: toxicity in the environment and causing human health problems.

### **Environmental Concerns:**

Rachel Carson's book, *Silent Spring*, published in 1962 documented a terrifying record of environmental harm caused by pesticides. This ground breaking work launched the modern environmental movement.

Today, four decades later, pesticides still wreck havoc. In an effort to control the Nile Virus in New York

during the summer of 2000, public health officials collected 80,000 dead birds and took them to state pathology labs. While the West Nile virus did kill a few thousand birds, the pathologists determined that the single leading cause of death among birds in New York State was actually pesticide poisoning. Ironically, pesticides are used by homeowners to keep "perfect" lawns while these same homeowners innocently lure birds into their yards with backyard feeders.

Many pesticides have been shown to cause significant damage to wild species. Carbofuran, for example, was recently banned for most uses, as it was responsible for the near extinction of the burrowing owl.

Similarly, fenitrothion, which was the mainstay of the budworm spray program for decades, was banned in 1998 (although the government decision leaves open the possibility of using fenitrothion against other insects where there is no economic alternative!). Fenitrothion caused huge mortality in the songbird population of New Brunswick. Scientists from the Canadian Wildlife Service identified it as "environmentally unacceptable".

In some areas, pesticide contamination, coupled with other toxic pollution, has created a chemical soup with far-reaching implications. Years ago, gull's eggs in the Great Lakes region were found to contain dioxin, a deadly substance contaminating phenoxy herbicides.

Increased evidence points to widespread and disturbing impacts on Great Lakes wildlife, including enlarged thyroids, cancers, deformed bills, and the feminization of male animals (i.e. the animals are genetically male, with female, or both male and female, reproductive organs). This characteristic of many pesticides is now identified as "endocrine disruption".

Evidence indicates that even the family dog is a victim of pesticides. Dogs from homes with lawns that have been sprayed with pesticides have a higher than average rate of the canine equivalent of lymphoma. Cancer is now the number one cause of death in dogs.

### **Human Health Concerns:**

Pesticides have been linked to many different types of cancer in humans from breast cancer (DDT) to non-Hodgkins lymphomas and soft-tissue sarcomas (phenoxy herbicides). Chronic low-level exposure to pesticides has been linked to low-grade symptoms such as headaches, dizziness, nausea and mental confusion. Linkages have also been identified between home and garden pesticide use and leukemia and brain cancer in children. A National Cancer Institute study in the U.S. indicates that children are as much as six times more likely to get childhood leukemia when pesticides are used in the home and garden.

A study published in the American Journal of Public Health (February, 1995) found elevated levels of cancer in children where pesticides were used in their homes and yards. They found a particularly high correlation in homes where dichlorovos pest strips were used.

Is there anything other than the active ingredients to worry about?

Definitely! Environmental groups are increasingly concerned about the so-called "inert" ingredients. These receive less testing and are often not even listed on the product label. Some have been shown to be more toxic than the active ingredient.

What are the major uses?

Agricultural spraying is the most common use for pesticides in Canada. Agri-business uses herbicides to kill weeds, insecticides to kill bugs, and fungicides to keep crops fungus-free all the way to the supermarket.

Now pesticide companies are developing genetically engineered seeds for crops that will be resistant to the chemical company's product B like canola bred to be resistant to the effects of Monsanto's herbicide glyphosate (known commercially as "Around Up Ready Canola").

Forest companies use herbicides to kill deciduous trees and bushes and to clear an area before planting a commercially desired species. They also spray insecticides against forest insects - often with disastrous results. When the budworm outbreak in New Brunswick in 1952 was sprayed with DDT, the outbreak spread over an area four times the size of the initial spray zone. By keeping foliage alive and killing the budworm's natural predators, the spray program kept the budworm outbreak (normally a cycle of five to seven years) in a state of artificial, permanent epidemic for over forty years.

Tons of pesticides are sprayed on Canada's lawns, playgrounds, parks and golf course for cosmetic reasons. In other words, there is no economic "pest". People have been conditioned to believe a lawn marred by dandelions is unacceptable. Municipalities spend money they can ill afford to waste on herbicides. Insecticides are also sprayed by municipalities in urban areas. Winnipeg is the most heavily sprayed city in Canada, due to the yearly effort to control mosquitoes.

Wood preservatives are also classed as pesticides and can be extremely toxic. They can include arsenic. Women of childbearing age should avoid contact with pentachlorophenol products (the green-coloured wood preservative).

### **What are the alternatives?**

For every "pest" problem, there is a non-chemical alternative.

Sometimes the solution may include some pesticides in a program called "integrated pest management:" where the driving force behind decisions of when, where and what to spray is a thorough knowledge of population dynamics, available predators and other cultural modifications that reduce pesticide use to a minimum.

Many products are now on the market as non-chemical alternatives. For home lawn use, there are many safe alternatives as well as lawn care companies designed to meet the non-chemical market.

### **Useful Resources:**

For an overview of Federal and Provincial Pesticide regulations, see [http://www.ns.ec.gc.ca/epb/factsheets/bkyard\\_bug/regulations.html](http://www.ns.ec.gc.ca/epb/factsheets/bkyard_bug/regulations.html)

**Pesticide Action Network (PAN)** <http://www.pesticideinfo.org> The PAN Pesticide Database is the largest, most comprehensive collection of pesticide data in the world, including information about 5,100 pesticide active ingredients, pesticide breakdown products and related chemicals. The system also provides information on over 100,000 formulated pesticide products.

**Pesticides, Human Health and the Environment** <http://www.pmac.net/pestenv.htm> This includes links to websites, articles, and other documents on the impacts of pesticides on health and the natural environment.

**Pesticide Impacts on Human Health** <http://www.pmac.net/humanimp.htm> Topics on this website include: dietary exposure, pesticides as endocrine disruptors, pesticides as carcinogens, human poisoning exposures, pesticides and disease.

Sierra Club of Canada Pesticide Campaign <http://www.sierraclub.ca/national/pest/index.html> The Sierra Club is dedicated to exploring, enjoying and protecting the wild places of the earth. Its members practice and promote the responsible use of the earth's ecosystems and resources.

Pesticide Education Center <http://www.igc.org/pesticides/> This site promotes a safe environment for workers and consumers.

The Extension Toxicology Network (EXTOXNET) <http://ace.orst.edu/info/extoxnet/> EXTOXNET is a co-operative effort by several American universities. They have a search engine of pesticide information profiles which contains science-based information written for the non-expert.

**Pesticides: What you don't know can hurt you!** <http://www.sdkmedia.com/Purewater/html/pesticides.html> This is a report on the hidden chemicals which may be putting your family's health at risk.

### **The Campaign for Pesticide Reduction (CPR)**

A coalition of over 100 groups across Canada concerned with the environmental and health risks of pesticide use. The Steering Committee includes: Canadian Labour Congress, World Wildlife Fund, Toronto Environmental Alliance, Citizens for Alternatives to Pesticides, and the Sierra Club of Canada. 1 Nicholas Street, Suite 412, Ottawa, Ont. K1N 7B7

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### **What can you do?**

Find out if pesticides are being used in or around your workplace. Are people spraying pesticides in food service areas? Are herbicides used on lawns around your workplace? Are they being used on railway right of ways? Raise this in your environment committee or joint health and safety committee. Develop a plan to find alternatives to pesticide use.

Reduce you and your family's exposure to pesticides. Do not buy them. Choose organically grown food both to protect your own health and to increase the market for non-chemically produced food. (Most pesticides in food are ingested through meat products, so beware of more than the fruits and veggies). Wash and/or peel your fruits and vegetables carefully if they aren't certified as being organically grown.

Boiling water will work to kill weeds growing in spaces in stone, cement or brick walkways. Using no pesticides on your lawn through over seeding, lots of water, cutting you grass high rather than short, and putting up with the odd wee, will completely protect small children, pets and birds.

Organize your neighbours and declare your block a "Pesticide Free Zone".

Put pressure on your municipality to stop using chemical pesticides in municipal open-space, especially near schools.

Write newspapers and politicians to tell them you want tighter controls over pesticides and an overall reduction in pesticide use in Canada.

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