



# DDT no longer used in North America

The production and use of DDT (dichlorodiphenyltrichloroethane) has been eliminated in Canada, Mexico, and the United States under a North American Regional Action Plan (NARAP) negotiated by the three signatory countries to the North American Agreement on Environmental Cooperation (NAAEC).

## What is DDT?

DDT is a potent nerve poison used to kill mosquitoes, black flies and other insects that carry malaria, typhus and yellow fever. First synthesized in 1874, its insecticidal property was discovered in 1939. In the 1950s and '60s, DDT was embraced as a cheap, effective, broad-spectrum chemical pesticide. It was used worldwide and applied generously to protect agricultural crops and to prevent the spread of vector-borne diseases. In 1962, the year that saw publication of Rachel Carson's *Silent Spring*, over half a billion dollars worth of DDT was sold in the United States alone.

DDT use was widely restricted in Canada and the United States in the 1970s, and it was banned altogether by both countries in the 1980s. However its use continued in Mexico to fight malaria, a major Mexican public health problem

## The DDT NARAP

DDT was one of the first targets of the CEC's Sound Management of Chemicals (SMOC) initiative when it was launched. Canada, Mexico, and the United States approved the North American Regional Action Plan (NARAP) on DDT in 1997 with a goal of reducing Mexico's use of DDT by 80 percent by 2002. Efforts focused primarily on employing alternative methods of controlling mosquitoes and were so successful that DDT use was stopped in 2000.

The NARAP adopted a number of strategies to reduce Mexico's use of DDT. These included:

- Testing of alternatives to DDT, including biological controls;
- Strengthening public health measures to ensure early detection and immediate treatment for those exposed to malaria;
- Public education, with an emphasis on the health and environmental effects of DDT, and information on community hygiene practices to reduce habitat and breeding sites of insects that transmit malaria; and
- Integration with international activities.

The results achieved under the DDT NARAP are being shared with the Central American countries. These activities are being funded through a joint project by the CEC, the Pan American Health Organization and the Global Environment Facility (GEF) in order to prevent the reintroduction of DDT in Mexico and throughout the entire region of Central America. This project will also explore environmentally sound methods for disposing of existing DDT stockpiles.

Further information can be found at: [http://www.cec.org/programs\\_projects/pollutants\\_health/smoc/](http://www.cec.org/programs_projects/pollutants_health/smoc/)



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Production of DDT in Mexico ceased in 1997 and the use of DDT was halted in 2000, exceeding the initial target in the DDT NARAP of an 80 percent reduction by 2002

which afflicted millions and claimed thousands of lives as recently as the 1940s and '50s. By using DDT, Mexico was able to reduce the threat of malaria.

In recognition of DDT's environmental and human health effects, Mexico shifted the emphasis of its anti-malarial campaigns away from DDT beginning in the 1980s and 1990s, and the use of the pesticide was gradually reduced.

In 1997, the Intergovernmental Forum on Chemical Safety agreed there was sufficient evidence to take international action to restrict and reduce the use of DDT. The substance was included in both the UN Economic Commission for Europe Convention on Long-range Transboundary Air Pollution (LRTAP POPs Protocol) and the Stockholm Convention, a legally binding international agreement on the "dirty

dozen" persistent organic pollutants (POPs) that was signed by more than 100 countries in May 2001.

The NARAP was developed as a basis for coordinated regional action to eliminate the production and use of DDT in Canada, Mexico, and the United States. Production of DDT in Mexico ceased in 1997 and the use of DDT was halted in 2000, exceeding the initial target in the DDT NARAP of an 80 percent reduction by 2002.



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## Effects of DDT

DDT is a persistent, bioaccumulative toxic substance. It degrades very slowly in the environment, and under certain conditions can remain active for more than 30 years, as small amounts of the chemical remain in the soil and are slowly transferred to crops or washed into watercourses.

DDT is not easily metabolized in the body and tends to build up over time. It accumulates in the fatty tissue of fish, birds and animals and is transferred in increasingly concentrated amounts from prey to predator at each step up the food chain. It delivers the highest doses to those at the top, such as predatory birds, mammals, and humans.

Like other POPs, DDT can be transported over long distances through the atmosphere. It vaporizes and condenses, touching down on oceans and freshwater bodies, where it begins the cycle again. This is known as the "grasshopper effect." POPs tend to accumulate in colder climates such as the Arctic, where they are trapped by low evaporation rates.

DDT is a recognized carcinogen. It is also a developmental and reproductive toxicant, and is suspected of causing neurological, respiratory and cardiovascular ailments and other health effects in humans. It is a suspected endocrine disrupting substance. Indigenous peoples who rely heavily on animal fat and protein in their traditional diets are particularly at risk from the effects of DDT and other POPs. Babies who have been heavily exposed to DDT in the womb or through breast-feeding may have impaired immunity. DDT is ubiquitous in the environment and food supply and we all have at least trace amounts in our bodies.

DDT has also been shown to have adverse effects on wildlife reproduction. It has been linked with thinning eggshells and declining populations of a variety of bird species.



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