



Dichlorodiphenyltrichloroethane (DDT)

Dichlorodiphenyltrichloroethane (DDT) is an insecticide used in agriculture. The United States banned the use of DDT in 1972, but some countries still use the chemical. DDT has also been used in the past for the treatment of lice. It is still in use outside the United States for the control of mosquitoes that spread malaria. DDT and its related chemicals persist for a long time in the environment and in animal tissues.

How People Are Exposed to DDT

People are most likely to be exposed to DDT from foods, including meat, fish, and dairy products. DDT can be absorbed by eating, breathing, or touching products contaminated with DDT. In the body, DDT is converted into several breakdown products called metabolites, including the metabolite dichlorodiphenyldichloroethene (DDE). DDT and DDE are stored in the body's fatty tissues. In pregnant women, DDT and DDE can be passed to the fetus. Both chemicals are found in breast milk, resulting in exposure to nursing infants.

How DDT Affects People's Health

Human health effects from DDT at low environmental doses are unknown. Following exposure to high doses, human symptoms can include vomiting, tremors or shakiness, and seizures. Laboratory animal studies showed effects on the liver and reproduction. DDT is considered a possible human carcinogen.

Levels of DDT and DDE in the U.S. Population

In the *Fourth National Report on Human Exposure to Environmental Chemicals (Fourth Report)*, CDC scientists measured DDT and its metabolite DDE in the serum (a clear part of blood) of at least 1,956 participants aged 12 years and older who took part in CDC's National Health and Nutrition Examination Survey (NHANES) during 2003–2004. Prior survey periods of 1999–2000 and 2001–2002 are also included in the *Fourth Report*. By measuring DDT and DDE in the serum, scientists can estimate the amounts of these chemicals that have entered people's bodies.

- A small portion of the population had measurable DDT. Most of the population had detectable DDE. DDE stays in the body longer than DDT, and DDE is an indicator of past exposure.
- Blood serum levels of DDT and DDE in the U.S. population appear to be five to ten times lower than levels found in smaller studies from the 1970s.

Finding measurable amounts of DDT and DDE in serum does not mean that the levels of these chemicals cause an adverse health effect. Biomonitoring studies of serum DDT and DDE can provide physicians and public health officials with reference values so that they can determine whether people have been exposed to higher levels of DDT and DDE than are found in the general population. Biomonitoring data can also help scientists plan and conduct research on exposure and health effects.

For More Information

- Agency for Toxic Substances and Disease Registry
Public Health Statement for DDE and DDT
<http://www.atsdr.cdc.gov/toxprofiles/phs35.html>
- Environmental Protection Agency
DDT Fact Sheet
<http://www.epa.gov/pbt/pubs/ddt.htm>

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