

PESTICIDES

Pesticides are chemicals used to eliminate or control a variety of agricultural pests that can damage crops and livestock and reduce farm productivity. The most commonly applied pesticides are insecticides (to kill insects), herbicides (to kill weeds), rodenticides (to kill rodents), and fungicides (to control fungus, mold, and mildew). Of these, herbicides are the most widely used. Today, over 1 billion tons of pesticides are used in the United States every year.

A BRIEF HISTORY

Pesticides are not a modern invention. Elemental sulfur was used by ancient Sumerians to protect their crops from insects. Medieval farmers and scientists experimented with chemicals ranging from arsenic to lead on common crops. In 1939, Dichloro-Diphenyl-Trichloroethane, or DDT was discovered to be extremely effective and rapidly became the most widely used insecticide in the world. Twenty years later, serious concerns about the human safety and biological impacts of DDT led 86 countries to ban its use. Today, more than 20,000 pesticides are registered with the U.S. Environmental Protection Agency (EPA), representing a multibillion-dollar industry in the United States alone.

PESTICIDES AND ANIMAL FEED

Approximately 37 percent of the world's grain and 66 percent of U.S. grain is used for livestock feed. This grain is grown using massive quantities of pesticides, creating problems including pesticide resistance in insects and weeds, and pollution of nearby water supplies with toxic chemicals. Many grain crops are genetically modified to contain pesticides within their genetic makeup or to withstand direct application of chemical pesticides or herbicides. Furthermore, when this grain is fed to livestock, pesticide residues accumulate in the animals' fatty tissue. When humans eat the meat and dairy products derived from these animals, we're exposed to the toxic ingredients. It is well established, for example, that DDT stored

in a woman's fatty tissue passes to her developing fetus in utero and to her baby through nursing.

PESTICIDES ON FRUITS AND VEGGIES

The most direct route to pesticide exposure is through ingesting produce with pesticide residues. The FDA has been criticized for inadequate monitoring of pesticide levels on fruits and vegetables. The Environmental Working Group reports that the FDA fails to test the majority of produce consumed

in the United States, and as a result, Americans regularly consume illegal pesticides that are not approved for use in the United States.

PESTICIDES AND PUBLIC HEALTH

Pesticides are a public health concern and have been linked to a range of diseases and disorders. Many chemical pesticides are known to cause poisoning, infertility and birth defects, as well as damage the nervous system. Some are known carcinogens. According to data collected by the U.S. Centers for Disease Control and Prevention, the average American child between the ages of six and eleven carries four times the acceptable level of organophosphates – pesticides known to cause nerve damage. Scientists studying the effects of chemical pesticides have found that exposure to small doses of these toxins during the fetal stage and childhood can cause long-term damage.

REGULATION OF PESTICIDES

Pesticides are tested and approved for use by the U.S. Environmental Protection Agency (EPA). The U.S. Food and Drug Administration (FDA) is then responsible for monitor-

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PESTICIDES (cont'd)

ing pesticide levels on fruits and vegetables, while the U.S. Department of Agriculture (USDA) is charged with surveying pesticide residues in meat, eggs and dairy products. Many believe that the EPA's methods for testing pesticides are insufficient because they only examine the effects of exposure to pesticides at high doses, ignoring the long-term exposure to low doses of pesticides that reflects real-life situations.

Moreover, the tests examine the effects of a single chemical, whereas people are typically contaminated with small amounts of hundreds of pesticides at any one time.

ALTERNATIVES TO PESTICIDES: INTEGRATED PEST MANAGEMENT

Many sustainable farms rely upon Integrated Pest Management (IPM) as an alternative to the heavy use of pesticides. IPM is a growing movement among farms of all sizes that incorporates a variety of techniques to eliminate pests while minimizing damage to the environ-

ment. For instance, an IPM farm will grow pest-resistant crop varieties, use predatory insects to kill plant-eating pests, employ mechanical pest traps, and eliminate nesting areas by plowing under harvested crops. Chemical and natural pesticides are used only as a last resort.

DID YOU KNOW?

- ⦿ A 2004 analysis of U.S. Centers for Disease Control (CDC) data revealed that 100 percent of blood and urine tests from subjects they monitored showed pesticide residues. Two insecticides – chlorpyrifos and methyl parathion – were found at levels of up to 4.6 times greater than what the U.S. government deems acceptable.
- ⦿ In a joint study conducted by scientists from the CDC, the University of Washington and Emory University, researchers found that pesticide levels in test subjects dropped to undetectable levels after switching to an organic diet.

What You Can Do...

When you prepare conventional food, there are some measures you can take to reduce your intake of pesticides. Be sure to wash your fruits and vegetables thoroughly. Peeling your food can help reduce the consumption of pesticides. For meat and dairy products, consume foods that contain less fat, as fatty tissue is where pesticides typically accumulate in animals. To

avoid consuming synthetic pesticides along with your food, look for organic produce, meat, and dairy products. Organic food is grown and processed without being treated or supplemented with synthetic fertilizers or pesticides, although it can be treated with natural pesticides.



To find sustainably raised meat near you visit www.eatwellguide.org.

Find more detailed information about pesticides on our website at www.sustainabletable.org/issues/pesticides.

