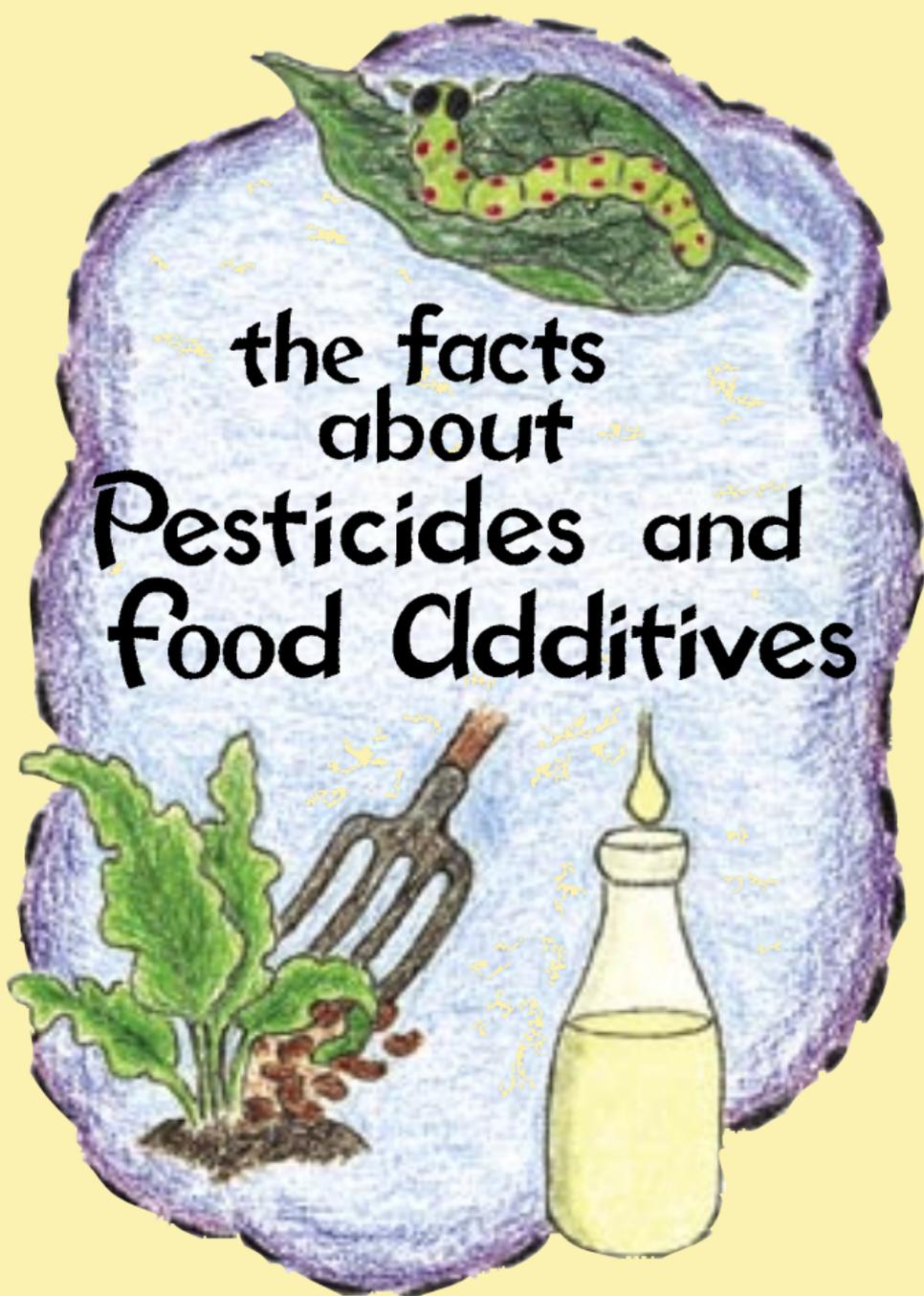


American Institute for Cancer Research



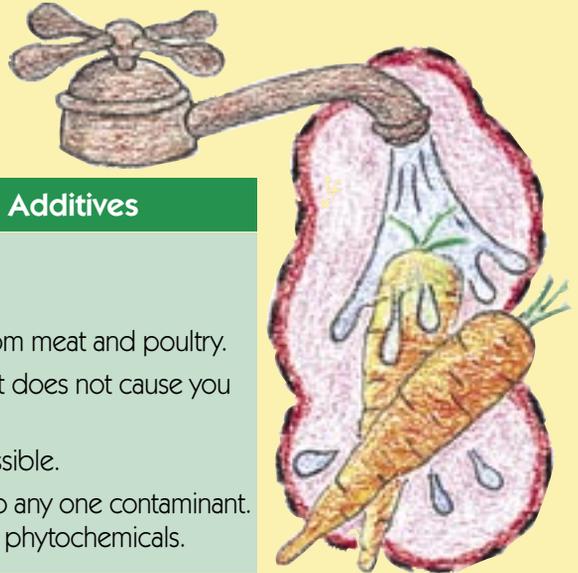
American Institute
for Cancer Research

Facts on Preventing Cancer

Do pesticide residues and food additives affect cancer risk?

There is no convincing evidence that foods with pesticide residues or additives increase cancer risk when pesticides and additives are used as officially regulated. That was the conclusion of the Expert Report, *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*, issued by the American Institute for Cancer Research (AICR) and its affiliate, the World Cancer Research Fund in the U.K. The international panel of scientists who prepared the report reviewed over 7,000 studies on diet and cancer.

Although public concern about the safety of the food supply is widespread, the U.S. government, the United Nations and the World Health Organization regulate the use of food additives and pesticides. Produce grown in the U.S. is among the safest in the world. However, fresh produce that is imported from other countries may be grown with types and quantities of pesticides that do not meet U.S. safety standards.



Tips for Avoiding Pesticide Residues and Food Additives

- Scrub produce under running water.
- Peel off the skin, if desired, or discard outer leaves.
- Trim fat, which can store residues of some pesticides, from meat and poultry.
- Consider buying certified organic foods if the higher cost does not cause you to eat fewer vegetables and fruits.
- Choose unprocessed produce and meats whenever possible.
- Eat a variety of fresh produce to reduce your exposure to any one contaminant. Eating a wide variety also gives you more cancer-fighting phytochemicals.

Should I eat fewer vegetables and fruits to avoid exposure to pesticides?

No. Although vegetables and fruits may have residues, people who eat more of them have a lower risk of cancer than those who eat few vegetables and fruits. AICR's Second Expert Report recommends eating more plant foods to protect against a number of cancers. A variety of vegetables, fruits and other plant foods “probably” protect against cancer of the mouth, pharynx, larynx, esophagus, stomach, colon, lung, pancreas and prostate. In addition, a diet high in vegetables and fruits “probably” protects against weight gain, an important element in reducing cancer risk.

Plant foods help prevent cancer by providing the body with a variety of vitamins, minerals, phytochemicals (plant substances) and dietary fiber. Each plant food possesses a unique profile of these protective compounds, so it's important to eat a wide variety of vegetables, fruits, whole grains and beans to get as many as possible. AICR advises people to fill their plate with two-thirds (or more) plant foods and one-third (or less) poultry, red meat or fish.



How are pesticides regulated?

In the U.S., three federal government agencies regulate pesticides. The Environmental Protection Agency (EPA) approves pesticides for use and sets tolerance levels, while the Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA) inspect domestic and imported foods for illegal amounts of residues.

Before permitting a pesticide's use, EPA gathers animal studies to project the maximum amount of residue that a person could consume daily during a 70-year lifespan without harm. EPA then sets a legal limit at a small fraction of that amount – usually 100 times lower.

The 1996 Food Quality Protection Act mandated tougher standards for pesticides used on foods. By the August 2006 deadline it set, the EPA had revoked or changed thousands of existing tolerance levels, especially aiming for levels that protect infants and children. As added protection, when effects on children are uncertain, only one-tenth of the amount considered safe for adults is permitted.

What are the safety checks for additives?

The FDA regulates the licensing of new food additives and monitors all previously accepted substances for harmful effects. Those who seek to introduce a new additive must show convincing evidence that it will not be harmful. Animal laboratory studies are often conducted to determine any toxicity. On the basis of the best available scientific information, FDA determines if an additive is safe for use.

How can you report a food problem if you become sick?

As another safety check, the FDA collects complaints about all foods through the Adverse Reaction Monitoring System (ARMS). To report an adverse reaction or other problem, contact your local FDA district office. A list of phone numbers is at www.fda.gov/opacom/backgrounders/complain.html.

Organic vs. Conventional

Although organic farming restricts or eliminates chemical pesticides and fertilizers, organic foods can still contain trace amounts. The USDA Pesticide Data Program and other detection programs do suggest that some conventional produce shows more residue than organic produce. However, detection by sensitive analysis does not mean there's enough residue on conventional produce to pose a risk. According to the USDA, less than 1 percent of residues found each year are above the safety tolerances.

Some studies suggest that organic produce may be somewhat higher in beneficial antioxidant phytochemicals or nutrients. Regardless of these potential advantages, if the extra cost of organic produce means that you'd eat less vegetables and fruits, you would *not* benefit. It's important to eat at least five servings of vegetables and fruits a day to help prevent cancer. The health benefits overwhelm any risk pesticide residues might pose.

Remember, even organic produce may be contaminated by dirt and bacteria. Wash all produce well before eating it. And note that "natural" on a food label does not mean organic.

Why are food additives used?

Food additives play a vital role in today's food supply. Without them, the quality and selection of groceries would be greatly restricted. Although most are man-made, like the preservative butylated hydroxytoluene (BHT), found in commercial breads and pastries, many are made from natural sources, like the ice cream ingredient carrageenan from seaweed. Besides serving as taste and color enhancers or preservatives, additives can improve the nutritional value of food, like vitamin D in milk.

Genetically Modified Foods

Because genetically modified foods are a recent development, research is still investigating their potential benefits and any possible adverse effects on human beings and the environment.

Although the verdict is still out on genetically modified foods, scientists have been improving plants by altering their genetic makeup through crossbreeding since the late 19th century. With the tools of biotechnology, it is possible to make fast, precise changes by inserting a gene directly into a plant to give it a new characteristic, such as resistance to a specific pest. Biotechnology has the potential to increase harvests, improve nutritional quality and reduce pesticide use.

Whether a crop is developed through traditional methods or biotechnology, the same safety standards are in effect. The crop must be field tested for several seasons, as well as analyzed in the laboratory. And the resulting food must meet safety requirements established by law. More studies are needed to determine the safety of genetically modified foods.



This pamphlet gives information based on the AICR Recommendations for Cancer Prevention, developed from the Expert Report, *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*.

AICR Guidelines for Cancer Prevention



The choices you make about food, physical activity and weight management can reduce your chances of developing cancer

- Choose mostly plant foods, limit red meat and avoid processed meat.
- Be physically active every day in any way for 30 minutes or more.
- Aim to be a healthy weight throughout life.

And always remember –

do not smoke or chew tobacco.

AICR is part of the World Cancer Research Fund global network.

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