

Washington Friends of Farms & Forests

PO Box 7644
Olympia, WA 98507
Phone: 360-705-2040
Web: www.wafriends.org

What everyone should know about pesticides and their regulation

**“Cockroaches found
in an Olympia
middle school
cafeteria.”**

**“Child bitten by rat
on playground in
Snohomish
County.”**

**“Invasive, tree-
destroying moth
discovered in Pierce
County.”**

You may not have seen the headlines, but they are just a small sample of why pesticides are used to protect human health, crops and the environment.



Cockroaches have been shown to carry the pathogens that cause tuberculosis, cholera, leprosy, dysentery, and typhoid, as well as over 40 other bacteria (like salmonella) or viruses that can cause disease.

Why use pesticides?

Pesticides are like environmental medicines that help protect people, wildlands and crops from weeds, insects and diseases in much the same way pharmaceuticals protect people from diseases. Without them, it would be much more difficult to keep cockroaches out of restaurant kitchens, rodents out of stored food, weevils out of flour, prevent mold, mildew and bacteria, control mosquitoes that carry West Nile virus, and even control the spread of invasive weeds that destroy wildlife habitat. In addition, they allow our farmers to produce bountiful and affordable food that is consumed in the United States and exported around the world.

How are pesticides tested?

The Environmental Protection Agency (EPA) and the Food and Drug Administration (FDA) enforce the most stringent regulatory systems in the world to ensure safe food and proper use of insecticides, fungicides,

and herbicides. Before a pest control product can be sold or used in this state, it must be registered by the EPA and the Washington State Department of Agriculture. More than 120 tests are required on each product to evaluate safety for both people and the environment. The development and testing process for a new pesticide takes 8-10 years to complete and costs manufacturers \$150 million per product.

When Congress passed the Food Quality Protection Act (FQPA) in 1996, additional safety factors specifically designed to protect infants and children were added to the testing and evaluation process. FQPA established a new standard for pesticides “a reasonable certainty that no harm will result from aggregate exposure.” Aggregate exposure means that EPA now considers all ways someone might be exposed, through food, treatments around the house, in water, etc. EPA reviews all available data and approves only label directions that meet the



The Asian gypsy moth devours the leaves of more than 500 species of trees and shrubs. It was first discovered in this country in 1991 on a ship visiting the Port of Tacoma. *Washington State Department of Agriculture*

new standard of “reasonable certainty of no harm.”

EPA issues a label for each product. The label is a legal document. Failure to follow label directions is a violation of law. The Washington State Department of Agriculture has an enforcement division to ensure users follow the label.

The testing process includes toxicology testing in animals to determine acute and chronic effects,

effect on reproduction, and any mutagenic or carcinogenic effects. Tests are conducted on both raw commodities and on processed foods.

Environmental tests determine how the product breaks down in soil, water, air and plants to ensure protection of wildlife and environment. Ecological effects are tested to ensure the safety of birds, aquatic life and plants. All tests must be conducted according to Good Laboratory Practice Standards as determined by the EPA. If tests are not conducted properly, the EPA will not register the product. Even though pesticides are fully tested before they can be sold or used, testing is ongoing. As science advances, more tests may be required to evaluate specific concerns.

What about inert ingredients?

Inert ingredients must also be tested and approved by EPA. Many inerts are soaps or types of vegetable oil. Inerts are added to help the pesticide work better by stabilizing the formula, helping it stick to the plant, or helping it stay in solution. Similar types of ingredients are added to cosmetics and shampoos for similar reasons. Before registration, the product must be tested in its final formulation and approved by EPA.

What about cancer?

The American Cancer Society says, "There is no scientific evidence supporting a link between the proper application of pesticides and any ill effects in humans. Moreover, there is no evidence that the approved use of pesticides contributes in any way to human cancer."

EPA evaluates all available data to insure that the use is not carcinogenic. Their standards are updated as scientific analyses improve and develop. The American Medical Association states that there is only conjecture at best that pesticides may be carcinogenic. The best way to reduce risk of cancer is to exercise and eat a diet rich in fresh fruit and vegetables.

The dose makes the poison.

Caffeine, vitamins and other substances are beneficial in small doses, but harmful in large amounts. Chlorine (a pesticide) is added to swimming pools in small amounts to prevent bacteria from growing, but too much is harmful. The same is true with other pesticides. Small amounts, used correctly, provide benefits and are safe to use. Exceeding or violating

label directions can be harmful.

In the 1950's, scientists could measure to the level of one part per million. Today, scientists can measure to one part per trillion. (One part per million equals one inch in 16 miles. One part per trillion equals one inch in 16 million miles.) Today we can detect many more substances than we used to because we have better technology. Just because something can be detected does not mean it is causing a problem.

Dr. Roberta Cook, University of California, Davis, stresses that scientific surveys repeatedly show that pesticide residues in foods are 100 to 1,000 times lower than levels considered safe by the World Health Organization.

Who uses pesticides?

Most pesticides are applied by professional applicators who must pass a state test and receive a license to legally apply pesticides. They must attend continuing education classes to retain their license.



Each year, more than 45,000 people, mostly infants and children, are treated for rat bites. *Responsible Industry for a Sound Environment*

For more information contact:

Washington State Department of Agriculture:
1-877-301-4555

Washington Poison Control Center:
1-800-732-6985

National Pesticide Telecommunications network: 1-800-858-7378

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