



PESTICIDES ON FOOD

#3 IN A SERIES OF 6

Pesticide residues are pesticides that may remain on food such as grains, animal products, fruits and vegetables after they are harvested and sold at the grocery store.

According to Health Canada, approximately **88%** of all fresh food items in Canada contain no traces of pesticides at all, and more than **99%** of fresh fruits and vegetables are below Health Canada's residue limits.¹

WHAT IS TOXICITY?

Toxicity refers to how poisonous or harmful a substance can be, usually with respect to human exposure. A **toxin** is a poisonous, usually protein-based substance, produced by a living organism. Examples of how substances can be toxic include:

- **chronic toxicity** - results from prolonged exposure over a period of time (24 months)
- **sub-chronic toxicity** - prolonged exposure over a shorter period of time (90 days)
- **acute toxicity** - single or short exposure (within 24 hours)
- **carcinogenicity** - cancer-causing ability
- **teratogenicity** - ability to cause developmental abnormalities
- **mutagenicity** - ability to change DNA which results in mutations
- **immunotoxicity** - compromising the immune system
- **endocrine disruption** - compromising the hormonal system
- **irritation and sensitization** of the skin, eyes or other parts of the body¹

The toxicity of any substance depends on the **dose** (how much you are given) and **exposure** (how long you are exposed to that dose).

Most substances, even water and oxygen, can be toxic at some level. For every product there is a point, or a dose level, that is low enough that will not produce a response in a living organism. For pesticide regulation, that point is called the **No Observed Adverse Effect Level**.⁵

Agencies across the globe, including Health Canada, the U.S. Environmental Protection Agency (EPA) and the EU all have strict controls related to pesticide toxicity levels.

SAFETY PLUS!

Health Canada determines maximum residue limits (MRLs) allowed to remain on food products when a pesticide is used according to label directions. MRLs are established well below levels that could result in a health concern.² All food sold in Canada, whether produced here or imported from other countries, must not contain traces of pesticide residues that are above the maximum residue limits.

Maximum residue limits are regulated under the *Pest Control Products Act*.³ The National Chemical Residue Monitoring Program of the Canadian Food Inspection Agency (CFIA)⁴ regularly tests food products for pesticide residues. The risk of ingesting pesticide residues that would be harmful to your health is extremely low.



The dose makes the poison!

If you crush an aspirin and consume 1/10 of the powder, it probably won't get rid of your headache. If you take the recommended dose of 2 aspirin, then under normal circumstances your headache will go away, but consuming the whole bottle could be lethal.



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PESTICIDES ≠ CANCER

Eating lots of fresh fruits and vegetables is an important lifestyle choice for preventing cancer.

Eating fewer fresh fruits and vegetables because we are afraid of the potential presence of low levels of pesticide residues does far more harm to our health than does the presence of any actual pesticide residues that might remain on our food.⁶



Farmer checks wheat in a bin



PEI potato crop

PESTICIDES AND ORGANIC FARMING

Organic farmers also use pesticides, but only as a last resort and then only pesticides from natural sources and those approved by an organic certifying organization and Health Canada. Regardless of whether they are made from naturally occurring chemicals or synthetic ones, both types are used to manage pests and improve food production.



What can I do to reduce the risk of consuming pesticide residues on fresh fruit and vegetables?

- Wash all fresh fruits and vegetables thoroughly under running water to help remove bacteria and traces of chemicals from their surfaces.
- Scrub firm fruits and vegetables, such as melons and root vegetables.
- Discard outer layers of leafy vegetables, such as lettuce and cabbage.
- Peel fruits and vegetables when possible.

Cabbage field

