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## Pesticides

### What are they?

Pesticides are substances used to destroy or control insects, rodents, weeds, or other unwanted organisms that pose a threat to crops or humans. Some examples of pesticides are herbicides, insecticides, rodenticides, and fungicides. In fact, even common household disinfectant sprays for bathrooms are considered pesticides.

### What are they used for?

Pesticides are used to protect crops, modify plant growth, prevent and destroy weed growth, and to protect stored food products from disease-carrying organisms such as rats and cockroaches.

### Where do we find them?

Pesticide residue occurs on crops which are harvested and processed for human consumption. Additionally, farm workers and nearby residents may be exposed to pesticides through inhalation and dermal (skin) routes.

### Are they safe? What are the safe levels of use?

Pesticide residue on food products is a health concern and the U.S. Environmental Protection Agency (EPA) has set tolerances. However, tolerances are not levels of health concern and are developed to ensure the pesticide is applied per established directions.<sup>1</sup> EPA, also, develops levels of health concern—referred to a Reference Dose (RfD)—for various pesticides used to protect crops.<sup>2</sup>

### What do other countries say?

The European Commission strictly regulates pesticide usage. In 2009 the commission finished reviewing about 1,000 substances used in pesticides which led to a two-thirds removal of the substances from the market.<sup>3</sup>

### Why is there a concern?

In high enough doses, pesticides can affect the human body's nervous system, while others can cause cancer. EPA reported that "in many cases the amount of pesticide people are likely to be exposed to is too small to pose a risk".<sup>4</sup>

### What is being done?

The FDA Regulatory Monitoring Program inspects imported and domestic food for pesticide levels. Fruit and Vegetable residue data from the 2008 FDA report showed that 4.4 percent of imported samples, but only 1.7 percent of domestic samples exceeded tolerances.<sup>5</sup> It is important to consider consumer exposure, the quantity of both the pesticide residue and food consumed. Consumer exposure can be compared to the EPA RfD, which represents a level of human health concern, whereas tolerances cannot. Results from a peer-reviewed study, which used consumer exposure, demonstrated that domestic pesticide exposure was highest—compared to that of imported—for 11 of the 15 pesticides studied, including the top five.<sup>1</sup> Pesticide exposure from typical consumption of twelve fruits and vegetables under scrutiny by an environmental advocacy group was shown to be well below the EPA RfD.<sup>6</sup>



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## Summary:

FDA, along with other federal and state agencies, monitor pesticide levels in our food supply. Using these levels, studies have shown that consumer pesticide exposure is a negligible risk. The consumption of fruits and vegetables should be encouraged as they contribute many nutrients lacking in a U.S. diet.

## Referenced sources for Pesticides:

<sup>1</sup> J.M. Katz and C.K. Winter, Food and Chemical Toxicology 47 (2009) 335-338

<sup>2</sup> <http://www.epa.gov/iris/>

<sup>3</sup> [http://ec.europa.eu/food/plant/plant\\_protection\\_products/eu\\_policy/docs/factsheet\\_pesticides\\_en.pdf](http://ec.europa.eu/food/plant/plant_protection_products/eu_policy/docs/factsheet_pesticides_en.pdf)

<sup>4</sup> <http://www.epa.gov/pesticides/health/human.htm>

<sup>5</sup> [http://www.fda.gov/Food/FoodbornellnessContaminants/Pesticides/ucm228867.htm#Results\\_Regulatory\\_Monitoring](http://www.fda.gov/Food/FoodbornellnessContaminants/Pesticides/ucm228867.htm#Results_Regulatory_Monitoring)

<sup>6</sup> <http://www.hindawi.com/journals/jt/2011/589674/>

**For more information contact the FMI Center for Retail Food Safety and Defense @ 202.220.0661**