



Organic Food: Eating with a Conscience



For you, workers and the environment



Editors note: In June 2010, Beyond Pesticides launched its online guide, “Organic Food: Eating with a Conscience,” which shows consumers why organic food is the best option. Recent media attention has focused consumers on purchasing foods that are often referred to as “clean,” but grown with toxic chemicals that show up as residues on their food in only small amounts or are not detectable. While this approach is helpful in alerting consumers to hazardous residues on food, those very same “clean” food commodities can be grown with toxic pesticides that get into waterways and groundwater, contaminate nearby communities, poison farmworkers and farm families, and kill wildlife. View the guide at www.EatingWithAConscience.org.

Our food choices have a direct effect on the health of our environment and those who grow and harvest what we eat. That’s why food labeled organic is the right choice. In addition to serious health questions linked to actual residues of toxic pesticides on the food we eat, our food buying decisions support or reject hazardous agricultural practices, protection of farmworkers and farm families, and stewardship of the earth.

The Organic Choice is Clear

It is important to eat organic food –nurtured in a system of food production, handling and certification that rejects hazardous synthetic chemicals. USDA organic certification is the only system of food labeling that is subject to independent public review and oversight, assuring consumers that toxic, synthetic pesticides used in conventional agriculture are replaced by management practices focused on soil biology, biodiversity, and plant health.

This eliminates commonly used toxic chemicals in the production and processing of food that is not labeled organic –pesticides that contaminate our water and air, hurt biodiversity, harm farmworkers, and kill bees, birds, fish and other wildlife.

Food Choices Based Only on Pesticide Residues Fall Short

To help explain the urgent need for a major shift to organic food consumption, Beyond Pesticides has begun the *Eating with a Conscience* database which evaluates the impacts on the environment and farmworkers of the toxic chemicals allowed for use on major food crops, grown domestically and internationally. We have started with those foods that have been identified widely in the media as “clean.” While the Clean 15/Dirty Dozen list generated by Environmental Working Group is helpful in alerting consumers to hazardous residues on food, pesticide residues are only part of the

Domestic and International Food Production

The Eating with a Conscience database, based on legal tolerances (or allowable residues on food commodities), describes a food production system that enables toxic pesticide use both domestically in the United States and internationally. In many cases, while a pesticide's use may have been canceled in the U.S., EPA's continued allowance of a tolerance means that (i) residues have bioaccumulated or remain in the domestic market after use has stopped or (ii) the use of a pesticide banned or discontinued in the U.S. may continue in the country of export. As a result, in purchasing those food commodities with legal tolerances for pesticides no longer used in the U.S., consumers support agricultural production practices in other countries that are associated with the range of adverse effects noted in the database.

story. It turns out that those very same "clean" food commodities may be grown with hazardous pesticides that get into waterways and groundwater, contaminate nearby communities, poison farmworkers, and kill wildlife, while not all showing up at detectable levels on our food.

Chlorpyrifos: A Case Study

Chlorpyrifos is a neurotoxic insecticide that was banned for household use in 2000 because of the hazards it poses to human health, especially to children. However, it is still widely used in agriculture,

resulting in exposure to farmworkers, farm families and others living near agricultural areas. It is also a frequent water contaminant and a long-range contaminant, exposing communities and contaminating pristine areas far from where it was applied. A Harvard University study links exposure to organophosphate pesticides like chlorpyrifos to attention deficit hyperactivity disorder (ADHD).

Chlorpyrifos is registered for use on more than half of the 15 "cleanest" fruits and vegetables (asparagus, cabbage, corn, grapefruit, kiwi fruit, onion, peas and sweet potatoes).

Farmworkers

While taking hazardous pesticides out of food production reduces hazards on the farm, farmworkers often face a lot of hardships that are not addressed by this guide. Farmworkers have long fought for better working conditions, wages and labor practices. To complement the contribution you are making by purchasing organic food, consider contacting the following organizations to learn what more you can do.

- Campesinos sin Fronteras, www.campesinossinfronteras.org
- Centro Campesino, www.centrocampesino.net
- Coalition of Immokalee Workers, www.ciw-online.org
- Domestic Fair Trade Association, www.dftassociation.org
- Farmworker Association of Florida, www.farmworkers.org
- Farmworker Health and Safety Institute, www.farmworkersafety.org
- Farmworker Justice, www.fwjjustice.org
- Farm Labor Organizing Committee, AFL-CIO, www.supportfloc.org
- Farmworker Support Committee (CATA), www.cata-farmworkers.org
- Lideres Campesinas, www.liderescampesinas.org
- Northwest Treeplanters and Farm Workers United, www.pcun.org
- United Farm Workers, www.ufw.org



Choosing Organic: For you, the environment and workers

Eating with a Conscience looks at the toxic chemicals that are allowed in the production of the food we eat and the environmental and public health effects resulting from their use. The chart below provides a summary of the health and environmental effects of the pesticides with established tolerances (domestic or import) for 15 low residue crops, starting with the least residues. Its purpose is to highlight the impacts of the conventional, chemical-intensive agricultural system - in addition to pesticide residues.

Low Residue Crops	Farmer/Worker Acute Poison	Farmer/Worker Chronic Poison	Stream Contaminant	Ground Water Contaminant	Wildlife Poison	Long-Range Transport
Onion	X	X	X	X	X	X
Avocado	X	X	X	X	X	not documented
Corn	X	X	X	X	X	X
Pineapple	X	X	X	X	X	X
Mango	X	X	not documented	not documented	X	X
Peas	X	X	X	X	X	X
Asparagus	X	X	X	X	X	X
Kiwi	X	X	X	X	X	X
Cabbage	X	X	X	X	X	X
Eggplant	X	X	X	X	X	X
Cantaloupe	X	X	X	X	X	X
Watermelon	X	X	X	X	X	X
Grapefruit	X	X	X	X	X	X
Sweet Potato	X	X	X	X	X	X
Honeydew	X	X	X	X	X	X

Eating with a Conscience is based on pesticide tolerances (residue limits for pesticides used in the U.S. or by countries exporting to the U.S.) and taken from EPA's *Tolerances by Commodity, Crop Group, or Crop Subgroup Index*, updated July 2009. Effects evaluated include:

- 1. Farmer/Worker Acute Poison:** Any pesticide rated EPA Toxicity Class I (highly hazardous) and Class II (moderately hazardous) is considered acutely toxic. These pesticides create a hazardous work environment for people who work and/or live on or near farms.
- 2. Farmer/Worker Chronic Poison:** Any pesticide shown to be a carcinogen, kidney/liver, reproductive or developmental toxicant, nervous or immune system poison, or endocrine disruptor is considered to be a chronic poison. Exposure to these pesticides is linked to long-term health effects for people who work and/or live on or near farms.
- 3. Stream Contaminant:** In its *Pesticides in the Nation's Streams and Ground Water, 1992–2001* report, the U.S. Geological Survey (USGS) identifies pesticides detected in more than 10% of all streams sampled as "detected most frequently." Using USGS *Pesticide National Synthesis Project* data, pesticides detected in greater than 10% of all sampled streams are identified.
- 4. Ground Water Contaminant:** In its *Pesticides in the Nation's Streams and Ground Water, 1992–2001* report, the U.S. Geological Survey (USGS) identifies pesticides detected in more than 2% of all ground water sampled as "detected most frequently." Using USGS *Pesticide National Synthesis Project* data, pesticides detected in greater than 2% of all sampled ground water are identified.
- 5. Wildlife Poison:** Pesticides identified by EPA to be toxic (moderately to highly toxic) to bees, birds, fish, aquatic organisms and other wildlife have established tolerances for this crop.
- 6. Long-Range Transport:** Pesticides identified as long-range transporters with certain chemical properties are able to travel great distances by air, water and through the food chain. They contaminate communities and ecosystems hundreds to thousands of miles from their application site.

Using the Eating with a Conscience Database

In the current database, consumers can identify chemicals that are used in the production of foods that have been characterized as “clean” in the media, despite the use of highly hazardous pesticides in their production. The database is being expanded to include all of the most commonly consumed foods. A webpage

in the database, as depicted below, provides a summary of the hazards associated with the crop’s production and the pesticides that are allowed by EPA to be used. The pesticide names link to detailed chemical profiles in *Beyond Pesticides’ Gateway on Pesticide Hazards and Safe Pest Management*, which contains detailed citations.

Onions

Below are the pesticides with established tolerances (residue limits for pesticides used in the U.S. or by countries exporting to the U.S.) for onions. While not all the pesticides on the list are applied to every onion, there is no way to tell which pesticides are applied to any given piece of conventional produce on your store shelf. You may consider talking to the farmers at your local farmers market about the pesticides they use, but eating organic is the only way to know for sure.

Health and environmental effects summary: The database shows that while onions grown with toxic chemicals show low pesticide residues on the finished commodity, there are 63 pesticides with established tolerance for onion, 26 are acutely toxic creating a hazardous environment for farmworkers, 60 are linked to chronic health problems (such as cancer), 8 contaminate streams or ground water, and 54 are poisonous to wildlife.

Key: A = acute health effects, C = chronic health effects, SW = surface water contaminant, GW = ground water contaminant, W = wildlife poison, LT = long-range transport.



Acetamiprid (A, C, W)	Diazinon (A, C, SW, W, LT)	Maneb (C, W)
Acibenzolar-S-methyl (C, W)	Dicloran (C, W)	Metalaxyl (A, C, W)
Avermectin B1 (A, C, W)	Dimethenamid (A, C, W)	Methyl Bromide (A, C, W)
Azinphos-methyl (A, C, W)	Dimethomorph (C, W)	Methyl parathion (A, C, W)
Azoxystrobin (C, W)	Ethofumesate	Metolachlor (C, SW, GW, W)
Bensulide (A, C, W)	Famoxadone (C, W)	Oxamyl (A, C, GW, W)
Boscalid (C, W)	Fenamidone (C, W)	Oxyfluorfen (C, W)
Bromoxynil (A, C, GW, W)	Fluazifop-butyl (C, W)	Paraquat (A, C, W)
Captan (A, C, W)	Fludioxonil (C)	Pendimethalin (C, W)
Carboxin (C, W)	Flumioxazin (C, W)	Permethrin (A, C, W)
Carfentrazone-ethyl (W)	Fluopicolide (C, W)	Propiconazole (A, C, W)
Chlorothalonil (A, C, W)	Fluroxypyr (C, W)	Propylene oxide (A, C)
Chlorpyrifos (A, C, SW, W, LT)	Folpet (C, W)	Pyraclostrobin (C, W)
Clethodim (A, C)	Fosetyl-aluminium (A, C)	Pyrimethanil (C, W)
Crotoxyphos (A, C, W)	Glyphosate (C, W)	Pyriproxyfen (C, W)
Cymoxanil (C)	Iprodione (C, W)	Sethoxydim (C, W)
Cypermethrin (A, C, W)	Lambda-cyhalothrin (A, C, W)	Spinetoram (C, W)
Cyprodinil (C, W)	Malathion (A, C, SW-URBAN, W)	Spinosad (C, W)
Cyromazine (C)	Maleic hydrazide	Spirotetramat (C, W)
DCPA (C, SW, GW, W)	Mancozeb (C, W)	Tebuconazole (A, C, W)
Deltamethrin (C, W)	Mandipropamid (C, W)	Trifluralin (C, SW, GW, W, LT)

In-Depth Pesticide Information: The *Eating with a Conscience* website links to information on individual pesticides in *Beyond Pesticides’ Pesticide Gateway*, a database that provides decision and policy makers, practitioners and activists with easier access to current and historical information on pesticide hazards and safe pest management, drawing on and linking to numerous sources and organizations that include information related to pesticide science, policy and activism.