


# Smart Produce Guide

## Safer, sustainable produce for healthy children



Fruits and vegetables provide essential minerals, vitamins and fiber that are critical for growing children and pregnant and nursing women. To maximize health benefits, everyone should try to eat three to five servings of vegetables and two to four servings of fruit each day. On the other hand, produce often contains residues of pesticides, chemicals designed to kill weeds and insects. Pesticide residue levels vary depending on the type of produce and how it's grown. This guide will help you choose fruits and vegetables that have lower residues, so you can minimize pesticide exposure, while enjoying fresh produce. It also provides tips on avoiding other contaminants affecting produce and resources on locally produced and organic foods.



ing pesticide residue by half in one study, and where residues remained, levels declined significantly after washing.<sup>1</sup> Washing also helps reduce exposure to soil lead and to pathogens on produce.

► Buy organic produce as much as possible.

Since organic certification restricts the use of chemical pesticides, look for certified organic produce at your local supermarket, food co-op or farmer's market. If you can't buy all organic, selectively purchase organic among the types of produce that typically have the highest pesticide residues, especially for produce your child eats the most.

► Choose local produce whenever possible. Most food in the U.S. is produced on large industrial farms far away from the people who consume it. Industrial farms use more chemicals and energy while producing more pollution than local food systems.<sup>4</sup> Local produce is usually fresher and better tasting, because it doesn't have to be shipped long distances. Local food production causes less harm to the environment and public health, and helps the farmer and the local economy too.<sup>5</sup> Not all local farms are organic, but small-scale, local farmers tend to be more receptive to consumer demands. Ask local farmers if they use pesticides and chemical fertilizers.

### Tips for reducing your family's exposure to pesticides on produce

► Wash and peel. Thoroughly wash produce under cold water, and then do what you would normally do: scrub potatoes, peel carrots, stem strawberries, and so on. Washing reduced the amount of produce contain-

Highest pesticide residues		Moderate pesticide residues		Lowest pesticide residues	
<i>Fruits</i>	<i>Vegetables</i>	<i>Fruits</i>	<i>Vegetables</i>	<i>Fruits</i>	<i>Vegetables</i>
Apples	Bell peppers	Apricots	Collard greens	Apple juice*	Aparagus
Grapes (imported)	Carrots	Blueberries	Cucumbers	Bananas	Avocado
Nectarines	Celery	Cantaloupe	Kale	Kiwifruit	Broccoli
Peaches	Green beans	Grapefruit	Lettuce	Mangoes	Cabbage
Pears	Hot peppers	Grapes (domestic)	Mushrooms	Orange juice*	Cauliflower
Red raspberries	Potatoes	Honeydew melons	Sweet potatoes	Papaya	Onion
Strawberries	Spinach	Oranges	Tomatoes	Peaches (canned)	Sweet corn
			Turnip greens	Pineapples	Sweet peas
			Winter squash	Plums	
				Tangerines	
				Watermelon	

List based on analysis of USDA and FDA data (1992-2001) by the Environmental Working Group<sup>2</sup>, except for items with an asterisk (\*), which are based on a study by Consumers' Union of USDA, California Department of Pesticide Regulation and CU testing data<sup>3</sup>.

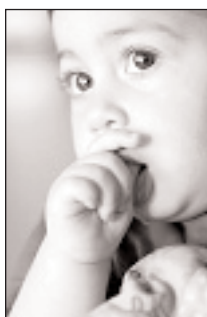
## Support local food systems

► **Shop at your local farmers market.** For information, visit the USDA's national farmers market state-by-state directory at [ams.usda.gov/farmersmarkets](http://ams.usda.gov/farmersmarkets).

► **Grow your own pesticide-free produce in your backyard or join a community garden.** Get more information at [communitygarden.org](http://communitygarden.org).

► **Join a community-supported agriculture farm,** where you can buy a share of the year's crop to guarantee the farmer's income and get fresh organic produce during the growing season. Visit [localharvest.org](http://localharvest.org) for more information.

## Health and environmental impacts of pesticides



Although pesticides are by definition toxic, amounts on produce tend to be small compared with exposures that often result from use of pesticides in homes, gardens, child-care centers, parks and schools. Children can also be exposed to pesticide residues in drinking water—a child's most consumed "food."<sup>6</sup> However, it is prudent to minimize a child's exposure to pesticide residues on produce, because of the inherent toxicity of pesticides, along with a child's unique vulnerability to their toxic effects and a child's higher weight-adjusted consumption of some types of produce. Aside from their health risks, conventional agriculture's reliance on pesticides and chemical fertilizers pollutes both ground and surface waters, making it less sustainable than organic agriculture.

**"According to data from the Centers for Disease Control (CDC), children have higher levels of many pesticides and pesticide metabolites in their urine than do adults. For example, children ages 6–11 had nearly twice the body burden of a breakdown product (or metabolite) of chlorpyrifos (Dursban), a widely used insecticide."**

—Pesticide Action Network North America, May 2004  
*Chemical Trespass Pesticides in Our Bodies and Corporate Accountability*  
[panna.org](http://panna.org)

## Other contaminants affecting produce

► **Sewage sludge**—which can contain bacteria, viruses, heavy metals, synthetic organic chemicals and prescription drugs—is often used as a fertilizer in conventional agriculture. Organic standards currently prohibit the use of sewage sludge. For more information, visit [iatp.org/foodandhealth](http://iatp.org/foodandhealth).

► **Pathogens.** The most common disease-causing bacteria found on produce are *E. coli* and salmonella. There is no evidence to support a greater risk of pathogens on organic produce than on conventional produce.\* *Thoroughly washing all produce helps reduce your risk from pathogens on produce.*

► **Lead.** Lead from paint chips or from older auto emissions persists in the soil, so lead on produce grown in city gardens can be a problem. Although very little lead is taken up into the plant itself, external lead dust can adhere to the plant, especially leafy and root plants. *To reduce lead exposure, thoroughly wash all produce.* To have your garden soil tested for lead, contact your local university soil testing laboratory.

\*Bourn D and Prescott J, 2002. A comparison of the nutritional value, sensory qualities, and food safety of organically and conventionally produced foods, *Critical Reviews in Food Science and Nutrition* 42(1): 1-34.

**By choosing produce that's grown organically or with fewer chemicals parents can support a healthier environment and protect their children by reducing pesticide exposures. ●**

## For more information

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## References

1. Schattenberg et al. 1996. Effect of household preparation on levels of pesticide residues in produce, *Journal of AOAC International* 79(6): 1447-53.
2. The Environmental Working Group, [www.ewg.org](http://www.ewg.org) or (202) 667-6982.
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4. Pirog, R et al. June 2001. Food, Fuel and Freeways: An Iowa Perspective on How Far Food Travels, Fuel Usage, and Greenhouse Gas Emissions. Leopold Center for Sustainable Agriculture at Iowa State University, Ames Iowa. [www.leopold.iastate.edu](http://www.leopold.iastate.edu).
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6. EPA, 2000 *Estimated Per Capita Water Ingestion in the United States*, <http://www.epa.gov/waterscience/drinking/percapita/>.