



Know your environment.
Protect your health.

From **Children and Environmental Toxins: What Everyone Needs to Know** by **Philip J. Landrigan and Mary M. Landrigan**. Copyright © 2018 published by Oxford University Press. All rights reserved.

The food system in the United States has plenty of shortcomings, not the least being that the most readily available food is generally the least healthy. Chemicals in our food are not discussed as they should be, and this chapter provides guidance on navigating the food– chemical environment. It begins where the last chapter left off, with pesticides.

Which foods are the most likely to contain toxic pesticide residues?

Fruits and vegetables are directly treated with pesticides, sometimes only days or hours before being shipped to market, and the pesticide chemicals are likely to remain present in or on the fruits and vegetables in large amounts while the foods await purchase on grocery store shelves. In the 1993 landmark report, *Pesticides in the Diets of Infants and Children*, the National Academy of Sciences expressed concern that the residual levels of pesticides found on produce may affect children’s health and development. Researchers today have found that even minuscule amounts of pesticides can interfere with a child’s brain or with the hormones that regulate growth and development. As the list of chemicals that can harm the developing infant and child continues to expand, parents are encouraged to do what they can to minimize their child’s exposure to pesticide residues on fruits and vegetables. Here are some strategies that will help.

Use certified- organic produce when possible. The term “organic” is tightly regulated, and organic produce is grown without any pesticides, herbicides, or fertilizers. Because organic food is grown without chemicals, it’s free of the toxic pesticide residues present on “traditionally grown” produce that is raised with the use of chemicals and pesticides. In order for fruits and vegetables to be labeled “organic,” they must meet minimum criteria established by the federal government, allowing them to be labeled “certified organic.” (Note: Food marketers have gotten creative with their use of other unregulated, meaningless terms such as **natural** or **homegrown**. While it’s not foolproof, looking for the “USDA Organic” green label on foods is the best practice in the United States.)

Limit quantities of imported produce. Although most of the fruits and vegetables grown in the United States are treated with pesticide, the federal government has outlawed the use of many of the most dangerous pesticides, such as DDT, because of their long- term toxic effects. Unfortunately, chemical manufacturers have found a market for many of the banned chemicals in countries with less restrictive laws. Growers in countries outside of the United States use these toxic pesticides on fruits and vegetables that are then exported to the United States. Although the federal government regulates produce imported into the United States, regulation is imperfect and there is no doubt that traces of the banned pesticides manage to get into our food supply, in part due to lax enforcement of the bans at ports of entry.

The best way to tell whether fruits or vegetables are imported is to check the label. If you can’t tell from the label, ask your grocer. If he doesn’t know, consider looking elsewhere.



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Some grocery chain stores are now labeling fruits and vegetables with their country of origin and indicating whether the produce is traditionally grown (i.e., grown with pesticides and fertilizers) or organic.

Are some fruits and vegetables more likely than others to carry pesticide residues?

Yes. According to the Environmental Working Group (www.ewg.org), which produces an annual “dirty dozen” list of fruits and vegetables containing the highest pesticide residues, the most pesticide-heavy types of produce, as of 2016, were:

- Strawberries
- Apples
- Peaches
- Celery
- Grapes
- Cherries
- Spinach
- Tomatoes
- Sweet bell peppers
- Cherry tomatoes
- Cucumbers

This makes sense: fruits and vegetables with soft skins and edible outer layers are more likely to deliver pesticides in human consumption than those with removable skins and shells.

Conversely, the EWG’s “clean fifteen,” the least pesticide-burdened fruits and vegetables are:

- Avocados
- Sweet corn
- Pineapples
- Cabbage
- Sweet peas
- Onions
- Asparagus
- Mangoes
- Papayas
- Kiwi
- Eggplant
- Honeydew melon
- Grapefruit
- Cantaloupe
- Cauliflower



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Regardless of which list a food item lands on, it behooves consumers to wash all produce thoroughly before consuming it (particularly greens and anything with a waxy coating).

EWG updates the website (www.ewg.org) frequently with new information on pesticide levels in fruits and vegetables.

Do terms like local and in season really matter when it comes to fruits and vegetables?

Yes. If you can't find organic produce, your next best option is to buy produce that's been grown locally. In general, locally grown fruits and vegetables, raised on small local farms, are not treated with as many chemicals as produce grown far away. That's partly because locally grown produce doesn't need to be picked unripe, then ripened with chemicals, and then treated with preservatives for the long cross-country (or international) trip.

Buying produce that is in season at your location is another way to make sure you're getting fresh, local produce. The reasoning behind this is simple: in-season fruits and vegetables are ample and are found close by during their harvest seasons, and the economics of food favor goods that are close over goods from afar. An internet search for "produce in season now" can be a valuable guide as you search to find the least pesticide-heavy food.

Another tip— get to know local farmers, either through the farmer's market or through the outlet where their produce is sold. Find out which farmers are using organic techniques and working to minimize or eliminate the use of pesticides on their crops. Choose these farmers over those who are using pesticides is better; none is best.

Finally, exercising your power as a consumer can have a profound impact on the food that's made available in stores in your region. The simplest and most direct way to influence this is for you, your neighbors, and your friends to communicate directly with your grocer. Some grocery stores now label their produce much more clearly than before. Look for store signs in the produce aisles that tell you whether fruits and vegetables are local or not. In response to consumer demand, some stores give the name of the state or country in which the produce was grown. Others display their certified organic produce on a separate display within the fruit and vegetable section. Encourage whoever sells you your food to do the things you want them to do; it behooves them to listen.