

## A SHOPPER'S GUIDE TO PESTICIDES IN PRODUCE

More than half of the health risks from pesticides in 42 crops are concentrated in twelve fruits and vegetables that are consistently contaminated with the highest levels of the most toxic pesticides. Avoiding these will reduce pesticide health risks by half, and still provide a diet rich in fruits and vegetables with all the nutritional and health benefits they provide.

### YOU DECIDE

The Shopper's Guide to Pesticides in Produce does not tell people what to eat. Instead, the Guide provides easily understood ranking of fruits and vegetables, from highest to lowest toxic contamination. It also provides a simple selection of nutritious alternative fruits and vegetables with consistently lower pesticide risks.

For example, the Guide does not recommend that people never eat strawberries. The Guide does tell consumers, however, that strawberries have the highest combined score for pesticide contamination and toxicity of all fruits and vegetables examined, and that there are many equally or more nutritious alternatives containing fewer pesticides. Similarly the Guide does not tell people to eat avocados, but it clearly reveals that avocados have the lowest levels of the fewest number of pesticides of all 42 crops examined.

### EAT HEALTHY AND REDUCE RISKS

Thanks to the bounty of fruits and vegetables in most American supermarkets, people can radically minimize consumption of the twelve most contaminated fruits and vegetables with no nutritional risk. All of the vitamins, nutrients and carotenoids provided by the crops on the list of the twelve most contaminated are found in abundance in other less contaminated fruits and vegetables available in just about any grocery store. Carotenoids include the relatively well-known beta carotene and a host of other related chemicals. Carotenoids have been linked to reduced incidence of cancer, reduced rates of macular degeneration and resulting blindness, and reduced rates of heart disease (CSPI 1995).

Few of the twelve most contaminated foods - with the notable exception of spinach - provide high levels of vitamins and carotenoids. A quick review of the list reveals plenty of equally nutritious, and safer, substitute foods (see table below).

The top twelve

The following is a review of the twelve most contaminated fruits and vegetables, in decreasing order of contamination.

**Strawberries** are a good source of vitamin C, but vitamin C is common in many other fruits and vegetables. Strawberries consistently show high levels of fungicides. Two of these, captan and iprodione, are classified by the EPA as probable human carcinogens. Another common fungicide, vinclozolin, blocks the normal functioning of the male hormone, androgen. Strawberries are also routinely contaminated with endosulfan, a relative of DDT that interferes with normal hormone function by imitating the hormone estrogen. Nutritious substitutes with far lower pesticide residues include blueberries, raspberries, blackberries and kiwis.

**Green bell peppers** are a good source of vitamin C, and red bell peppers add vitamin A and a moderate dose of carotenoids to a meal. Unfortunately, bell peppers are more heavily contaminated with neurotoxic insecticides than all other crops analyzed. Good alternatives include broccoli, romaine lettuce, or carrots among many others.

**Spinach** is rich in vitamins, iron, folate and carotenoids. It is also high in DDT, permethrin, chlorthalonil and other cancer causing pesticides. Other greens such as kale, Swiss chard, mustard greens, collard greens are good nutritional substitutes, but have a roughly equivalent pesticide contamination profile. For raw spinach, romaine lettuce is far less contaminated alternative that is relatively high in carotenoids. For cooked spinach, broccoli or brussels sprouts are reasonable substitutes that are high in carotenoids, vitamins A and C, and folate (folic acid).

**Cherries** are a marginal source of vitamin C, but have little other nutritional value. Cherries from the United States, in contrast to their imported counterparts, are heavily contaminated with pesticides. Nutritious substitutes with far lower pesticide residues include blueberries, raspberries, blackberries, kiwis, oranges and watermelon.

**Peaches** provide low amounts of vitamins A and C, and negligible amounts of carotenoids. They also can contain a heavy dose of the cancer causing fungicides captan and iprodione, and the neurotoxic pesticide methyl parathion. Many fruits

with lower and less toxic pesticide loads provide the same or better nutritional benefits. Nectarines, tangerines, cantaloupe, and watermelon provide more vitamins A and C, and many other fruits - like oranges, grapefruits, papayas, or kiwis - provide high levels of one of these two vitamins.

**Cantaloupe** is a highly nutritious fruit, packed with carotenoids and over 90 percent of the U.S. Recommended Daily Allowance (USRDA) for vitamins A and C. To avoid cantaloupes with high pesticide residues, hold off on this fruit during January through April, when imports from Mexico are at their peak. The rest of the year, enjoy this marvelous melon.

**Celery** is a marginal source of carotenoids, but provides virtually no vitamins or minerals. It is a major source of exposure to neurotoxic pesticides and the probable human carcinogen, chlorthalonil. Celery also had the highest percentage of samples with detectable residues (81 percent) of all 42 fruits and vegetables analyzed. Romaine lettuce and carrots are just two of the many safer salad substitutes.

**Apples** provide low amounts of vitamin C, but provide very little else in the way of measurable nutrients or carotenoids. Their pesticide load, in contrast, is disturbingly high. There were more pesticides detected on apples (36), and more pesticides found on single samples of apples (7) than any other fruit or vegetable analyzed. Safer and more nutritious substitutes would include just about any fruit or vegetable not on the most contaminated list.

**Apricots** are a nutritious fruit providing relatively high levels carotenoids, vitamins A and C and potassium. Unfortunately, they typically contain high levels of pesticides, including the probable human carcinogen, captan, and the endocrine (hormone) disrupters endosulfan and carbaryl. An equally nutritious and safer substitute is cantaloupe from the United States. A host of other fruits and vegetables provide vitamins C and A and other nutrients.

**Green beans** provide modest amounts of vitamins C and A and potassium, but little in the way of carotenoids. Green beans are also a major source of the cancer causing fungicides chlorthalonil and mancozeb, the neurotoxin methamidophos, and the endocrine disrupter endosulfan. Safer and more nutritious alternatives include green peas, broccoli, zucchini, potatoes and many other vegetables.

**Grapes** are tasty, but provide few vitamins or carotenoids. Complementing this slim nutritional profile, grapes from Chile add a load of cancer causing and endocrine disrupting fungicides. The solution for grape lovers is simple: eat U.S. grown grapes in season and avoid grapes from January through April, when grapes from Chile dominate the market.

**Cucumbers** have few vitamins or carotenoids. They do, however, have a tendency to absorb dieldrin - a banned, extremely potent carcinogenic pesticide - from the soil. When eaten, dieldrin persists in human body fat for decades. Substitutes for cucumbers include just about any vegetable not found on the most contaminated list.

The twelve crops with the least pesticide contamination are:

**Avocados, Corn (although high GMO's, Onions, Sweet Potatoes, Cauliflower, Brussels sprouts, Grapes (U.S. grown.), Bananas , Plums , Green onions , Watermelon, Broccoli**

*As always, this information is provided to enable you to understand the steps necessary for recovery of good health, to allow you to take a more active role in your own healing, and to make informed decisions concerning your health care.  
This information is not intended to replace medical advice*

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