



# Know Your Produce

by Sarah Parkin



**O**rganic produce has sprouted up as the fastest growing segment of the grocery business. The United States Department of Agriculture (USDA) says organic sales jumped 22 percent in 2006. Organic produce sits alongside conventional produce. Usually, the organic produce comes with a premium price. Tomatoes at the grocery store sell for 99 cents per pound. Organic tomatoes sell for \$2.49 per pound. Is it worth spending the extra money? Are the 99-cent tomatoes dangerous to eat? Do the organic tomatoes taste better? Organic raspberries may be three times the cost of conventional raspberries. Sometimes you get what you pay for. Sometimes you don't. There is a growing demand for organic foods driven by consumers' perceptions of the quality and safety of these foods and by the positive environmental impact of organic agricultural practices.

It is important to note that the term "organic" refers to the method of growing and handling the food. It began as a movement to protect the environment. This does not mean pesticide-free. According to USDA organic standards, any pesticides used on organic produce must come from natural sources and not be synthetically manufactured. These natural pesticides must be applied using equipment that has not been used to apply any synthetic materials for the past three years. In addition, the soil must be free of synthetic materials for three years. Since toxins occur naturally, the organic label does not mean toxin-free. Natural pesticides can include sulfur, nicotine and copper. Before labeling

a product "organic," a government-approved certifier inspects the farm to make certain the grower is following the USDA organic standards.

## *Food Safety*

The USDA regulates the safety of the majority of the food supply, including produce. The U.S. Environmental Protection Agency (EPA) regulates the development, distribution, use and disposal of pesticides. The EPA requires rigorous testing on pesticides for both organic and conventional use. Only pesticides that meet their standards for human health, the environment and wildlife are registered. To ensure a safe food supply, the EPA sets safety standards that limit the amount of pesticide residues that legally may remain in or on food sold in the United States. The United States Food and Drug Administration (FDA) and the USDA monitor both domestic and imported foods. If any pesticide residue exceeds its tolerance on a food, the FDA does not permit the food to be sold.

The USDA makes no claims that organically produced food is safer or more nutritious than conventionally produced food. Organic food differs from conventionally produced food in the way it is grown, handled and processed. The American Dietetic Association states, "Although organic foods generally are grown with lower levels of pesticides, no scientific evidence shows that these foods are healthier or safer than conventionally grown foods." In addition, the American Medical Association and the American Cancer Society have concluded that benefits

of a diet rich in fruits and vegetables far outweigh any pesticide-related risks. The National Organic Program (NOP) is a marketing program housed within the USDA Agricultural Marketing Service. Neither the Organic Foods Production Act of 1990 (OFPA) nor the NOP regulations address food safety or nutrition.

### *The Dirty Dozen*

Studies show trace amounts of pesticides remain on some produce when it hits the supermarket. While we all consume small amounts of pesticides regularly, levels in our food generally are well below legal limits by the time the food reaches the grocery store shelves. In addition, organic produce consistently tests lower in pesticide amounts than conventional produce. The Environmental Working Group (EWG), a non-profit food-safety organization compiled lists based on tests run by the USDA and the FDA. The first list are the fruits and vegetables that are high-pesticide offenders, starting with the most contaminated. These are nicknamed “the dirty dozen.”

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|-----------------|--------------------|
| 1. peaches      | 7. cherries        |
| 2. apples       | 8. pears           |
| 3. bell peppers | 9. imported grapes |
| 4. celery       | 10. spinach        |
| 5. nectarines   | 11. lettuce        |
| 6. strawberries | 12. potatoes       |

At the other end of the spectrum lists foods that are least contaminated by pesticides, starting with the least contaminated.

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|---------------|---------------|
| 1. onions     | 7. sweet peas |
| 2. avocado    | 8. kiwifruit  |
| 3. sweet corn | 9. bananas    |
| 4. pineapples | 10. cabbage   |
| 5. mango      | 11. broccoli  |
| 6. asparagus  | 12. papaya    |

These lists may help consumers to make choices about which produce to choose to buy organic.

Because pesticide residue may exist on both organic and conventional produce, experts agree that all fruits and vegetables should be washed before eating. This includes food that is peeled, or where the rind is not eaten, as a knife can carry contaminants from the outside to the inside of the food.

In 2003, the USDA instituted strict regulations on organic labeling.

- **100 Percent Organic:** Contains all organically produced ingredients. These products may display the USDA organic seal.
- **Organic:** At least 95 percent of the ingredients were organically grown. These products may display the USDA organic seal.
- **Made with Organic Ingredients:** Contains at least 70 percent organic ingredients. These products cannot bear a USDA organic seal.
- **Natural:** Contains no artificial ingredients and is only minimally processed. This label is not the same as “organic” and is not a label certified by the USDA.
- **Conventional:** Food grown by conventional farming practices.

### *Studies*

Some studies to determine the health benefits of organic compared to conventional foods indicate slightly higher levels of vitamins and antioxidants in organic foods. A recent study at the University of California at Davis printed in the July 18, 2007, edition of the *Journal of Agricultural and Food Chemistry* following tomatoes over a 10-year period showed nearly double the flavonoid compounds quercetin and kaempferol in organic tomatoes. The study analyzed organic and conventional tomatoes under identical conditions that were dried and archived from 1994 to 2004. The study suggested the differences were due to the nitrogen levels in the soil. Each year the flavonoids increased, so did the nitrogen in the soil. Organic farms spend more effort to improve the quality of the soil through cover crops, compost, and manure. It is possible that continuing to improve the soil will lead to crops with considerable health benefits.

While these higher levels of vitamins, antioxidants, and flavonoids are important and may be a positive trend in the future of organic farming, the levels were small. At this point, most health professionals question whether these increases are of any appreciable health benefit. Medical experts encourage the eating of the recommended daily allowance of fruits of vegetables, regardless of whether they are grown organically or conventionally.

Ron Garder, senior extension associate at Cornell University stated in the July 26, 2006, edition of the

Chicago Tribune that attention should be focused on eating enough fruits and vegetables, not whether they are conventionally or organically grown. "Americans fall drastically short of meeting the recommended five or more daily servings of fruits and vegetables," Gardener said, "and research has shown that can have a detrimental impact on health. The same cannot be said for the minute risk posed by pesticides used in crops."

ABC News released an opinion from Keith-Thomas Ayoob, an associate professor at the department of pediatrics at the Albert Einstein College of Medicine in New York City. "There is a mountain of support for eating more fruit and vegetables. The benefits are very clear, and the solid science is absolutely overwhelming," he stated. "Diets high in fruits and vegetables are associated with better heart health, lower risk of diabetes, several cancers and stroke, lower blood pressure, the list goes on and on."

Regarding the UC Davis study, he said, "True, this latest study on the higher flavonoid level of organic tomatoes is important. Then again, we're eating only about half the fruit and vegetables we should, so if we ate nonorganic produce but ate the amounts we should, we'd be getting a whole lot more antioxidants and other good stuff than we do now, for sure."

## The Environment

Organic growing practices exist to protect the environment. Organic farming reduces erosion caused by runoff of rain or irrigation, increases infiltration of water into the soil, and conserves this moisture by reducing evaporation. Prince Charles, the Prince of Wales, has been involved in organic growing practices for decades and has recently released a new book called *The Elements of Organic Gardening*. His dedication to organic farming is evident in his 15-acre garden at Highgrove.

The leading retailer of organic foods is Whole Foods Market. Their concern about the environment is stated on their website (<http://www.wholefoodsmarket.com/issues/organic/organicsandyou.html>) as follows:

## Reasons to Buy Organic

- Organic farming meets the needs of the present without compromising the needs of future generations.
- Growing organically supports a biologically diverse, healthy environment.

- Organic farming practices help protect our water resources.
- Organic agriculture increases the land's productivity.
- Organic production limits toxic and long-lasting chemicals in our environment.
- Buying organic supports small, independent family farms.
- Organic farmers are less reliant on non-renewable fossil fuels.
- Organic products meet stringent USDA standards.
- Buying organic is a direct investment in the long-term future of our planet.
- Organic farmers preserve diversity of plant species.
- Organic food tastes great.

## The Cost

Organic foods generally cost more money. Organic farms are usually smaller, and organic growing is more labor intensive. In addition, the time of year and how far the item has to travel to arrive at the local supermarket affect the price. Consumer Reports state on their website ([www.consumerreports.org](http://www.consumerreports.org)) that consumers pay about 50 percent more on average for organic produce. However, prices may drop as more consumers choose organic foods.

Consumers need to make their decision on whether or not to buy organic produce by weighing concerns about pesticides, harm to the environment, and their grocery budget. The important thing is to know the facts. New research studies sprout up on a regular basis and sometimes contradict one another. Even the most educated consumer can struggle to keep up. Use the information from this article to know what organic means, and the reasons why you may want to buy it. Most of all, remember to eat your fruits and vegetables.



ADA – American Dietetic Association

EPA – Environmental Protection Agency

EWG – Environmental Working Group

NOP – National Organic Program

NOSB – National Organic Standards Board

OFPA – Organic Foods Production Act of 1990

USDA – United States Department of Agriculture