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Organic foods: Are they safer? More nutritious?

With an assist from the Mayo Clinic Staff

Once found only in health food stores, organic food is now a regular feature at most supermarkets. And that's created a bit of a dilemma in the produce aisle. On one hand, you have a conventionally grown apple. On the other, you have one that's organic. Both apples are firm, shiny and red. Both provide vitamins and fiber, and both are free of fat, sodium and cholesterol. Which should you choose? Conventionally grown produce generally costs less, but is organic food safer or more nutritious? Get the facts before you shop.

Conventional vs. organic farming

The word "organic" refers to the way farmers grow and process agricultural products, such as fruits, vegetables, grains, dairy products and meat. Organic farming practices are designed to encourage soil and water conservation and reduce pollution. Farmers who grow organic produce and meat don't use conventional methods to fertilize, control weeds or prevent livestock disease. For example, rather than using chemical weed killers, organic farmers may conduct more sophisticated crop rotations and spread mulch or manure to keep weeds at bay.

Here are some key differences between conventional farming and organic farming:

Conventional	Organic
Apply chemical fertilizers to promote plant growth.	Apply natural fertilizers, such as manure or compost, to feed soil and plants.
Spray synthetic insecticides to reduce pests and disease.	Spray pesticides from natural sources; use beneficial insects and birds, mating disruption or traps to reduce pests and disease.
Use synthetic herbicides to manage weeds.	Use environmentally-generated plant-killing compounds; rotate crops, till, hand weed or mulch to manage weeds.
Give animals antibiotics, growth hormones and medications to prevent disease and spur growth.	Give animals organic feed and allow them access to the outdoors. Use preventive measures — such as rotational grazing, a balanced diet and clean housing — to help minimize disease.

Organic or not? Check the label

The U.S. Department of Agriculture (USDA) has established an organic certification program that requires all organic foods to meet strict government standards. These standards regulate how such foods are grown, handled and processed. Any product labeled as organic must be USDA certified. Only producers who sell less than \$5,000 a year in organic foods are exempt from this certification; however, they're still required to follow the USDA's standards for organic foods.

If a food bears a **USDA Organic** label, it means it's produced and processed according to the USDA standards. The seal is voluntary, but many organic producers use it. **Products certified 95 percent or more organic display this USDA seal.** Products that are *completely* organic — such as fruits, vegetables, eggs or other single-ingredient foods — are labeled **100 percent organic** and can carry the USDA seal as well.

Foods that have more than one ingredient, such as breakfast cereal, can use the USDA organic seal plus the following wording, depending on the number of organic ingredients:

100 percent organic. To use this phrase, products must be either completely organic or made of all organic ingredients.

Organic. Products must be at least 95 percent organic to use this term.

Products that contain at least 70 percent organic ingredients may say "made with organic ingredients" on the label, but may not use the seal. Foods containing less than 70 percent organic ingredients can't use the seal or the word "organic" on their product labels. They can include the organic items in their ingredient list, however.

Do 'organic' and 'natural' mean the same thing?

No, "natural" and "organic" are not interchangeable terms. You may see "natural" and other terms such as "all natural," "free-range" or "hormone-free" on food labels. These descriptions must be truthful, but don't confuse them with the term "organic." Only foods that are grown and processed according to USDA organic standards can be labeled organic.

Organic food: Is it more nutritious?

The answer isn't yet clear. A recent study examined the past 50 years' worth of scientific articles about the nutrient content of organic and conventional foods. The researchers concluded that organically and conventionally produced foodstuffs are comparable in their nutrient content. Research in this area is ongoing.

Organic food: Other considerations

Many factors influence the decision to choose organic food. Some people choose organic food because they prefer the taste. Yet others opt for organic because of concerns such as:

Pesticides. Conventional growers use pesticides to protect their crops from molds, insects and diseases. When farmers spray pesticides, this can leave residue on produce. Some people buy organic food to limit their exposure to these residues. According to the USDA, organic produce carries significantly fewer pesticide residues than does conventional produce. However, residues on most products — both organic and nonorganic — don't exceed government safety thresholds.

Food additives. Organic regulations ban or severely restrict the use of food additives, processing aids (substances used during processing, but not added directly to food) and fortifying agents commonly used in nonorganic foods, including preservatives, artificial sweeteners, colorings and flavorings, and monosodium glutamate.

Environment. Some people buy organic food for environmental reasons. Organic farming practices are designed to benefit the environment by reducing pollution and conserving water and soil quality.

Are there downsides to buying organic?

One common concern with organic food is cost. Organic foods typically cost more than do their conventional counterparts. Higher prices are due, in part, to more expensive farming practices.

Because organic fruits and vegetables aren't treated with waxes or preservatives, they may spoil faster. Also, some organic produce may look less than perfect — odd shapes, varying colors or smaller sizes. However, organic foods must meet the same quality and safety standards as those of conventional foods.

Food safety tips

Whether you go totally organic or opt to mix conventional and organic foods, be sure to keep these tips in mind:

Select a variety of foods from a variety of sources. This will give you a better mix of nutrients and reduce your likelihood of exposure to a single pesticide.

Buy fruits and vegetables in season when possible. To get the freshest produce, ask your grocer what day new produce arrives. Or check your local farmers market.

Read food labels carefully. Just because a product says it's organic or contains organic ingredients doesn't necessarily mean it's a healthier alternative. Some organic products may still be high in sugar, salt, fat or calories.

Wash and scrub fresh fruits and vegetables thoroughly under running water. Washing helps remove dirt, bacteria and traces of chemicals from the surface of fruits and vegetables. Not all pesticide residues can be removed by washing, though. You can also peel fruits and vegetables, but peeling can mean losing some fiber and nutrients.

The "Dirty Dozen"

Every year, the Environmental Working Group releases a *Shopper's Guide*. The guide has information on 45 different conventional fruits and vegetables and their pesticide loads. At the top of the list — the produce found to contain the highest amount of pesticides — is the **Dirty Dozen**. These are the 12 foods that they recommend consumers always purchase in their organic form. Apples are at the top of the 2013 *Shopper's Guide* for the second year in a row. The EWG guide is based on the group's analysis of pesticide residue testing data from the U.S. Department of Agriculture.

This year's dirty dozen:

- Apples
- Celery
- Sweet bell peppers
- Peaches
- Strawberries
- Imported nectarines
- Grapes
- Spinach
- Lettuce
- Cucumbers
- Domestic blueberries
- Potatoes



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