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Is organically grown food safer or more nutritious? Consumers should weigh the cost vs. benefits

Some consumers are more than willing to pay higher prices for organically grown food. But are organic strawberries worth the extra dollar?

The health benefits of organic food are one of the most intensely debated issues in the food industry. By definition, organically grown foods are produced without most conventional pesticides, fertilizers made with synthetic ingredients or sewage sludge. Livestock aren't given antibiotics and growth hormones. And organic farmers emphasize renewable resources and conservation of soil and water.

The U.S. Department of Agriculture, which runs the [National Organic Program](#), says that organic is a "production philosophy" and an organic label should not imply that a product is superior. Moreover, some say there's no need to eat organic to be healthy: Simply choose less processed food and more fruits and vegetables.

The crux of the argument often comes down to the nutritional benefits of organic foods, something that's hard to measure. To compare the nutrient density between organically and conventionally grown grapes, for example, researchers would have to have matched pairs of fields, including using the same soil, the same irrigation system, the same level of nitrogen fertilizer and the same stage of ripeness at harvest, said Charles Benbrook, chief scientist at [The Organic Center](#), a pro-organics research institution.

Last summer, the debate came to a head after the American Journal of Clinical Nutrition published a [comprehensive systemic review](#) that concluded organic and conventional food had comparable nutrient levels.

The outraged organic community criticized the study for not addressing pesticide residues, a major reason people choose organic. The study also did not address the impact of farming practices on the environment and personal health.

[Maria Rodale](#), a third-generation advocate for organic farming, urges consumers to look beyond nutrition to the chemicals going into our soil, our food and our bodies. "What we do to our environment, we are also doing to ourselves," said Rodale, chairwoman and CEO of [Rodale Inc.](#), which publishes health and wellness content.

Some experts also suggest consumers focus on the producers rather than the product itself. For example, Vicki Westerhoff, 54, owner of [Genesis Growers](#) in St. Anne, Ill., uses organic procedures but calls her food "natural" and "chemical-free" because she hasn't gone through the expensive certification process.

Here's a closer look at some of the factors that may influence your decision whether to buy organic products.

Fruits and vegetables

Farmers using conventional practices treat crops with pesticides that protect them from mold, insects and disease but can leave residues. Organic fruits and vegetables have fewer pesticide residues and lower nitrate levels than do conventional fruits and vegetables, according to a [2006 scientific summary report](#) by the [Institute of Food Technologists](#).

The bottom line: Experts say pesticide residues pose only a small health risk. But fetuses and children are more vulnerable to the effects of the synthetic chemicals, which are toxic to the brain and nervous system, said [Dr. Philip Landrigan](#), director of the [Children's Environmental Health Center](#) at the Mount Sinai School of Medicine in New York City. The [Environmental Working Group](#) recommends buying organically grown peaches, apples, bell peppers, celery, nectarines, strawberries, cherries, kale, lettuce, imported grapes and pears because they are the most heavily sprayed. Onions, avocado, sweet corn and pineapple have some of the lowest levels of pesticides, according to the [EWG's Shopper's Guide to Pesticides](#).

As for nutrition, one French study found that, in some cases, organic plant products have more minerals such as iron and magnesium and more antioxidant polyphenols. But although mounting evidence suggests that soil rich in organic matter produces more nutritious food, "we are never going to be able to say organic is always more nutrient dense; that's going beyond the science," said Benbrook of The Organic Center.

Dairy and meat

Organic dairy and meat products come from animals not treated with antibiotics or genetically engineered bovine growth hormones, which are used to stop the spread of disease and to boost milk production. Past rules on "access to pasture" were vague and didn't require that the animals actually venture into it. But [a new regulation](#) requires that animals graze for a minimum of 120 days. In addition, 30 percent of their dietary needs must come from pasture.

The bottom line: The dairy cow's diet is key. Organic milk has more vitamins, antioxidants, omega-3 fatty acids and conjugated linoleic acid because the cows eat high levels of fresh grass, clover pasture and grass clover silage. Research published in the British Journal of Nutrition found organic milk can improve the quality of breast milk and may protect young children against asthma and eczema.

Though the FDA says milk from cows treated with bovine growth hormone is safe and indistinguishable from other milk, consumers are spooked. Dean Foods, the nation's largest dairy producer, no longer sells milk from those cows, and Krogers, Wal-mart, Costco, Starbucks, Dannon, Yoplait and several other companies have pledged not to use it.

As with dairy, organic meat has higher levels of omega-3's because of the higher forage content in their diet. It also has lower fat overall than animals fed a high-corn diet, said Benbrook. Eating organic dairy or meat also can help with another issue: The use of antibiotics on farms has contributed to an increase in antibiotic-resistant genes in bacteria.

“Pushing animals to grow really fast has a cascade of effects on the environment and the health of the animal,” said Benbrook. “We need to back off the accelerator and focus on the health of the plant, the health of the animal, as well as the nutrient composition of the food.”

Cosmetics, personal care

Chemicals in personal care products have been linked to both environmental pollution and human health concerns. Of particular concern are phthalates, which have been linked to endocrine disruption. Environmental concerns also are rising about the tiny nanoparticles now being added to cosmetics, sunscreens and other products. Notably, organic personal care products can be labeled “organic” but still contain synthetic ingredients.

The bottom line: Of the 3,000 chemicals used in high volume in personal care products, only half have been put through basic toxicity testing, according to Landrigan. You may be paying more for “organic” products that aren’t actually organic; the USDA regulates organic personal care products only if they’re made of agricultural ingredients. Look for the USDA logo rather than the word “organic” on the label.

Processed foods

Many processed foods — pasta, candy, cookies, crackers, baby food — now come in organic versions. Products made from at least 95 percent organic ingredients can carry the “USDA Organic” seal if the remaining ingredients are approved for use in organic products. Products with at least 70 percent organic ingredients may label those on the ingredient list.

The bottom line: Processed organic food hasn’t been shown to be any more nutritious than processed conventional food. In conventionally processed products such as baby food, pesticides aren’t commonly detected because the processing steps “are quite effective in breaking down trace residues of pesticides,” said food toxicologist Carl Winter, director of the FoodSafe Program at the University of California at Davis and co-author of the Institute of Food Technologists scientific summary.

“Pesticides are rarely used on crops grown for baby foods since the ultimate appearance of the crop is less important due to the processing before the product is ultimately sold,” Winter said.

Some consumers may decide to choose organic because those products are not supposed to contain genetically modified organisms.

Cotton, coffee

Cotton and coffee are two of the most pesticide-intensive crops in the world. Pesticide residues have been detected in the cottonseed hull, a secondary crop sold as a food commodity. It’s estimated that as much as 65 percent of cotton production ends up in our food chain, whether directly through food or indirectly through the milk or meat of animals, according to a report by the [Environmental Justice Foundation](#). Conventional coffee production also has contributed to the deforestation of the world’s rainforests.

The bottom line: Pesticide residues are generally removed during the processing but the chemicals can have a huge impact on the local land, biodiversity and the health of the workers involved. Though buying organic can help preserve environmental health and support farmers who use ecological methods, “it’s more important to focus on the circumstances of growers and farms versus the product itself,” said food writer [Corby Kummer](#), the author of “[The Joy of Coffee](#).”