

### Overview of National Organic Standards Program

Interest in food produced without synthetic fertilizers and pesticides increased in the 1970's and 80's on the part of consumers and growers, but the organic industry lacked a centralized system of standards, until passing of the Organic Foods Production Act of 1990 and the establishment in 2000 of the National Organic Program (NOP) which governs organic foods. The NOP covers fresh and processed foods, including agricultural crops, livestock, and non-food products, such as natural fibers or soaps. The NOP maintains a list of allowed and prohibited substances which can and cannot be used in organic production. The USDA Organic Seal is used to identify products with at least 95% organic ingredients and fines can be levied for misuse of the seal. Price look-up (PLU) stickers with a 5-digit number starting with the number '9' differentiate organic produce from conventional grown produce, which is marked with a 4-digit number starting with a '4' or '5.'



In addition to the avoidance of synthetic chemical inputs, organic certification requires use of farmland that has been free of prohibited inputs for at least three years, separation of organic and non-certified products, adherence to specific livestock requirements for feed and housing, and avoidance of genetically modified seed. Any farms or handling operations with less than \$5,000 a year in organic agricultural products are exempt from certification.

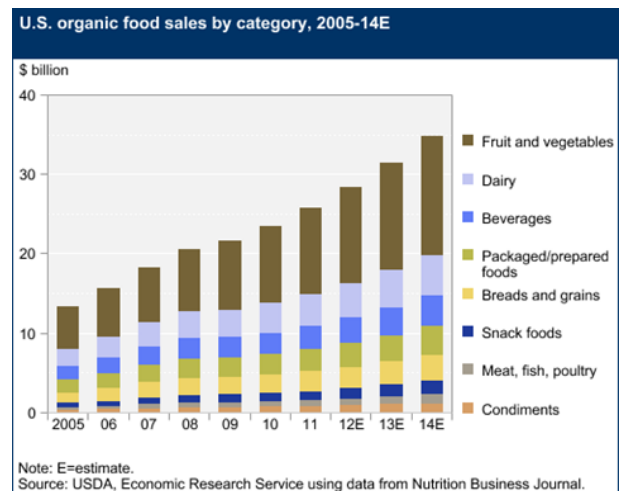
Even though organic production standards were not initiated for their impacts on nutrition or food safety, consumer perceptions often link organic foods with these attributes.

There are organic farms in all 50 states, and organic sales accounted for \$28.4 billion in 2012, a little over 4% of total U.S. food sales. Fresh fruits and vegetables have always been the top selling category of organically grown food, making up 43% of organic food sales in 2012. According to the Census of Agriculture, Colorado ranked 8<sup>th</sup> in organic sales in 2014 with a total of \$147 million.

References:

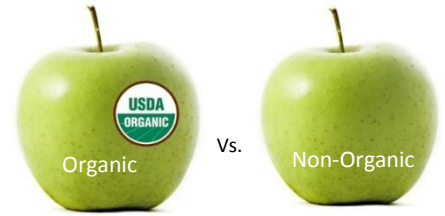
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Submitted by Marisa Bunning



## Is Eating Organic More Nutritious?

In today's world, grocery stores have so many varieties of foods to choose from it can often be paralyzing. From produce to packaged foods, the options are endless. Among these options is whether a food is organic or non-organic. Once found in only health food stores, many organic foods can now be found at popular grocery chains. So which do you choose? Another option, another decision to be made. But, is organic more nutritious? Maybe not, yet the answer is still unclear.



When it comes to nutrition and organic food versus non-organic food, it seems the verdict is still out. A study published in 2009 in the *American Journal of Clinical Nutrition* studied 50 years' worth of scientific literature comparing the nutrient content of organic and conventional foods. The study concluded that there is no evidence that organic foods are more nutritious than conventional. Another review from 2012 found similar results. However, they noted that consuming organic foods may reduce an individual's exposure to pesticide residues and antibiotic resistant bacteria.

More recently, in a study published in 2014 in the *British Journal of Nutrition*, researchers found there to be higher antioxidant content in organic fruits and vegetables than in non-organic fruits and vegetables. The results, however, were just modestly statistically different. Another review from earlier this year looked at nutrient density of organic milk vs. non-organic milk. Researchers found that organic milk had a higher percentage of the very long-chain omega-3 fatty acids such as EPA and DHA than did conventional milk. Yet, when put in context of the recommended daily intake of those fatty acids, organic milk provides only a modest amount more (16%) than does conventional (11%). This advantage only seems to come with consuming whole milk products, since skimming off the fat reduces the omega-3 content.

Bottom line, there is currently not enough evidence to strongly prove organic foods are more nutrient dense than non-organic foods. It is also important to keep in mind that providing higher nutrient density for some nutrients is different than providing better nutritional health overall.

Given the big picture, many health experts would advise that eating an overall healthy diet is more important than whether or not you choose organic. Most Americans continue to fall short on fruit and vegetable intake, so perhaps even more importantly is for people to add more fruits and vegetables to their diet in the first place, regardless of whether they are organic or not.

### References:

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Submitted by: Jessica Clifford and Abby Diehl

## Food Safety Concerns of Organic Produce

Interest in organic food has increased dramatically since 2000. Aside from nutritional qualities, a driving force for consumers to choose organics is that of food safety, primarily in an attempt to reduce exposure to both amounts and numbers of pesticides that are commonly found on fresh produce.

Produce collection surveys comparing pesticide residues remaining on organic and conventional produce have shown both a higher rate and higher levels of pesticides on conventional. Amounts detected are almost always within allowable levels set by the Environmental Protection Agency (EPA), but questions remain as to risks associated with long-term exposure to low levels of pesticides.

Research on food safety issues pertinent to organic food varies widely in focus, methodology, results and scientific validity. Carl Winter, researcher in Food Science and Technology at University of California-Davis, has extensively analyzed data collected by the EPA Pesticide Data Program (PDP). According to Winter, consumption of organic produce should not be equated with consumption of pesticide-free produce. Findings showed that conventional produce was between 2.9 and 4.8 times more likely to contain detectable pesticide residues than organic produce, and that 23% of organic produce samples contained residues as well.(3)

Much attention has been drawn to the Environmental Working Group (EWG) "Dirty Dozen" commodity list, which according to their analysis, lists the top ten produce items to avoid in order to reduce risk of higher pesticide exposure. However, the EWG lists are not viewed favorably by all. Opposing opinions state that consumers may be avoiding nutritional foods that can safely be part of a healthy diet, due to unwarranted fears about pesticide exposure. In fact, differing analysis of the same data used by EWG has "demonstrated that consumer exposures to the ten most frequently detected pesticides on EWG's "Dirty Dozen" commodity list are at negligible levels and that the EWG methodology is insufficient to allow any meaningful rankings among commodities"(2).

Safety of fresh produce is multi-faceted, as is our overall food supply. Rather than labeling foods as "good" or "bad", promoting an overall healthy diet seems the best approach. Evidence supports that eating more quantity and variety of fruits and vegetables outweighs the possible risks associated with one specific concern.

Equally important are food safety messages to reduce risk of foodborne illness associated with fresh produce. Be sure to rinse well all fresh produce under clean running water, including scrubbing outer rinds of melons and other hard to clean produce, prior to eating. If concerned about residues on the surface of foods, the outer skins may be peeled after washing.

### References:

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Submitted by: Mary Schroeder