Crop Yields Expand, but Nutrition Is Left Behind

Though crops like tomatoes are being produced in greater abundance, their nutritional value has declined.
Photo by Magdalena Rittenhouse via Flickr

Farmers today can grow two to three times as much grain, fruit, and vegetables on a plot of land as they could 50 years ago, but the nutritional quality of many crops has declined, according to a new report from The Organic Center, a group based in Boulder, Colorado. “To get our recommended daily allowance of nutrients, we have to eat many more slices of bread today than people had to eat in the past,” notes report author and Worldwatch Institute food expert Brian Halweil. “Less nutrition per calorie consumed affects consumers in much in the same way as monetary inflation; that is, we have more food, but it’s worth less in terms of nutritional value.”

According to the report, *Still No Free Lunch*, food scientists have compared the nutritional levels of modern crops with historic, and generally lower-yielding, ones. Today’s food produces 10 to 25 percent less iron, zinc, protein, calcium, vitamin C, and other nutrients, the studies show. Researchers from Washington State University who analyzed 63 spring wheat cultivars grown between 1842 and 2003 found an 11 percent decline in iron content, a 16 percent decline in copper, a 25 percent decline in zinc, and a 50 percent decline in selenium.

Improving the nutritional quality of food on a per-serving basis is an important step in addressing worldwide health problems, the report notes. “Less nutrient-dense foods, coupled with poor food choices, go a long way toward explaining today’s epidemics of obesity and diabetes,” says The Organic Center’s chief scientist, Charles Benbrook.

Plants cultivated to produce higher yields tend to have less energy for other activities like growing deep roots and generating phytochemicals—health-promoting compounds like antioxidants—the report explains. And conventional farming methods, such as close plant spacing and the application of chemical fertilizers and pesticides, often cause crops to absorb fewer nutrients and have unhealthy root systems and less flavor, and sometimes make them more vulnerable to pests.

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Organic farming methods, on the other hand, use manure or cover crops to provide nutrition to crops, have more balanced mixtures of nutrients, and tend to release the nutrients more slowly, the report explains. According to Benbrook, this means plants “develop more robust

root systems that more aggressively absorb nutrients from the soil profile, and produce crops with higher concentrations of valuable nutrients and phytochemicals." Organic food may have as much as 20 percent higher nutritional content for some minerals, and 30 percent more antioxidants on average, than conventional fare, the report concludes.

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