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Organic farms have better fruit, soil, environment, study finds

Sept. 2, 2010
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Compared to conventional strawberry farms, organic ones consistently produce fruit that's equal or better in taste and nutrition, while leaving healthier and more genetically diverse soil, a study has found.

Soil scientist John Reganold of Washington State University and colleagues conducted the analysis comparing conventional and organic farms in California.

"Our findings have global implications and advance what we know about the sustainability benefits of organic farming systems," said Reganold, whose findings were published Tuesday in the research journal *PLoS One*. "We also show you can have high quality, healthy produce without resorting to an arsenal of pesticides."

The study is among the most comprehensive of its kind, he said. His group analyzed 31 chemical and biological soil characteristics, soil DNA, and the taste, nutrition and quality of three strawberry varieties on more than two dozen commercial fields—13 conventional and 13 organic.

California is home to 90 percent of the nation's strawberries and the center of an ongoing debate about the use of soil fumigants. Conventional farms in the study used methyl bromide, an ozone-depleting compound. Methyl bromide is slated to be replaced soon by methyl iodide, over the protests of a bevy of health advocates, environmentalists and scientists, including more than 50 Nobel laureates, who call the chemical highly toxic.

In July, California Sen. Dianne Feinstein asked the U.S. Environmental Protection Agency to reconsider its approval of methyl iodide.

On almost every major indicator, Reganold said his team found the organic fields and fruit were equal to or better than their conventional counterparts. The organic strawberries also had a longer shelf life, according to the scientists, who used anonymous testers who evaluate the berries. A DNA analysis found the organically managed soils had dramatically more genetic diversity, a measure of resilience to stress and ability to carry out essential processes.