

## **Organic diets keep kids pesticide free**

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WASHINGTON, Feb. 22 (UPI) Children who switched their diets for only a few days to organic foods dramatically and immediately lowered the amount of toxic pesticides in their bodies, researchers report. Lead author Chensheng Lu of Emory University found that when kids eat organic foods, pesticides in their body plummet to undetectable levels even when following the diet for only five days. "An organic diet does provide protective measures for pesticide exposure in kids," said Lu, who presented his research at a panel at the American Association for the Advancement of Science meeting in St. Louis. His study appeared in the journal *Environmental Health Perspectives*. Lu designed a novel intervention study by substituting organic foods into the diets of 23 elementary school children in the Seattle area. All the kids, who were aged 3 to 11, had metabolites -- or evidence of pesticides in their urine at the study's start. But as soon as they began eating organic foods, the concentration of metabolites dropped to essentially zero. Once they returned to their conventional diet, the pesticides levels bounced back up. The parents were given shopping lists to buy organic vegetables, fruits and juices, as well as wheat and corn products. Meat and dairy products were left out, Lu said, because these foods don't usually have pesticide residues. The parents fed their children organic foods for five

consecutive days during a 15-day study period. The researchers evaluated the kids four times over the course of a year by analyzing their urine and saliva. Lu said he is confident that the pesticide reductions can be attributed to the kids' diet, because the particular class of pesticides studied, called organophosphorus pesticides, or OPs, are not found in households. The kids ingested these pesticides from eating conventional foods, and not from playing in grass treated with chemicals, for example. Although this study to some degree proves the obvious pesticide-free foods create pesticide-free children co-author Richard Fenske at the University of Washington says he was impressed by the magnitude of difference in the results.

### **So should parents be worried?**

Lu and Fenske claim the health risks to children are still uncertain, although Lu points out that there's no getting around the fact a pesticide is a neurotoxin. Since the chemicals disrupt enzymes in the brain which govern communication, exposure to pesticides could damage a child's brain. These chemicals are developed, after all, to kill bugs by paralyzing or over-exciting their neurological systems. "In terms of the impact of these low levels of chemicals on a regular basis in a developing organism -- and that's what a child's neurological system is this is extremely important that we try to understand this," Fenske said.

The Environmental Protection Agency warns children may be sensitive to pesticides because their excretory systems are not developed enough to excrete pesticides, and that in relation to their body weight, kids eat and drink more than adults. Currently, researchers are studying whether conditions like attention deficit disorder, lowered IQs, Alzheimer's disease and Parkinson's disease can be linked to early exposure to pesticides. Children are most vulnerable to pesticides from formation of the fetus up to 2 years of age. Charles Benbrook, the chief scientist of The Organic Center, a Rhode Island-based nonprofit encouraging the widespread adoption of organic foods and processes, says there's enough consensus to act now to rid agriculture of pesticides. He mentioned the work of Robin Whyatt at Columbia University with pregnant women in New York. Whyatt found that birth weight and birth length is lower in children whose mothers were exposed to pesticides.

Benbrook said he was amazed at how fast and how significantly the urinary metabolites fell in Lu's study participants. "This is very encouraging. What it says is this point is bigger than the debate about organics. If farmers were to change how they managed pests for six or eight crops, we could essentially eliminate most of pesticide exposure and take this risk factor out of equation," he said. Lu emphasized children also get exposed in other outlets, for example around the home or in public sports fields, where pesticides are often oversprayed.

"You have to accept the fact a farmer needs to use pesticides to have healthy crops for harvest, but is it really necessary for parents to use pesticides around the home?" he asked. Overall, parents should be aware of how their kids could be in contact with pesticides, Lu said. Since organics tend to cost more than conventional foods, parents don't need to go 100 percent organic to get protective benefits, he said. He recommends checking out [www.ewg.org](http://www.ewg.org), which provides a list of foods and their pesticide risk.

"The message of this paper is not to scare parents from eating conventional diets, but it's for them to think about pesticide exposure as a whole, and how to minimize the exposure. Diet is not necessarily the only answer," Lu said.