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Study Indicates Organic Foods Are Best for Children

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Study Indicates Organic Foods Are Best for Children
By Marla Cone

Los Angeles Times Staff Writer
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Switching to organic foods provides children "dramatic and immediate" protection from widely used pesticides that are used on a variety of crops, according to a new study by a team of federally funded scientists.

Concentrations of two organophosphate pesticides -- malathion and chlorpyrifos -- declined substantially in the bodies of elementary-school age children during a five-day period when organic foods were substituted for conventional foods.

The two chemicals are the most commonly used insecticides in U.S. agriculture. More than 2 million pounds were applied to California crops in 2003, according to records of the state Department of Pesticide Regulation.

The health effects of exposure to minute amounts of pesticides found in food are largely unknown, especially for children. Some research, however, suggests that the residue may harm the developing nervous system.

For 15 days, a team of environmental health scientists from the University of Washington, Emory University and the Centers for Disease Control and Prevention tested the urine of 23 elementary-school age children in the Seattle area.

During the first three days and last seven days, the children ate their normal foods. But during the middle five days, organic items were substituted for most of their diet, including fruits, vegetables, juices and wheat and corn-based processed items such as cereal and pasta.

Average levels of both pesticides in the children "decreased to the non-detect levels immediately after the introduction of organic diets and remained non-detectable until the conventional diets were reintroduced," the researchers reported Thursday in the online version of the scientific journal [Environmental Health Perspectives](#).

When they ate organic foods, the children on average had zero malathion detected in their urine, with a high of 7 parts per billion in one child. But when the children returned to eating conventional foods, one child had as much as 263 ppb and the average increased to 1.6 ppb.

For chlorpyrifos, the children had less than one part per billion when they ate organic foods, but the average increased five-fold as soon as they returned to their previous diet.

The findings suggest that children are exposed to organophosphate chemicals mainly through food, not through spraying in homes or other sources. In 2001, the U.S. Environmental Protection Agency banned most residential uses of chlorpyrifos but has left most agricultural uses unrestricted.

Three other organophosphate pesticides that are not widely used on farms and are more highly restricted by the EPA were undetectable in most of the children, according to the study, directed by Emory University's Dr. Chensheng Lu.

"In conclusion," the researchers wrote, "we were able to demonstrate that an organic diet provides a dramatic and immediate protective effect against exposure to organophosphorus pesticides that are commonly used in agricultural production."

Margaret Reeves, a staff scientist at the San Francisco-based Pesticide Action Network North America, said the findings are "not surprising because we know that food is an important source of (organophosphate) exposure. Also, we know that these pesticides don't last very long ... in the body, and you can have a relatively quick response" to a diet change.

Pesticide manufacturers say that while low levels of residue are detectable on many products, there is no evidence that children are harmed by them. They say that pesticides, which are the most highly tested and regulated chemicals in the United States, are vital to providing an affordable and plentiful world food supply.

But Reeves said the children's study "is a pretty strong argument that (organic food) is a good way to go, if you have access to it and can afford it."

Organic foods can be expensive and sometimes difficult to find. But parents can minimize their children's exposure if they substitute organic products for those that contain the most residue. Experts advise parents to wash produce and peel skins if they buy conventional foods but for foods that cannot be peeled, such as grapes and strawberries, organic may be a wise choice.

In the late 1990s, U.S. Department of Agriculture data showed that nearly three-quarters of foods sampled from conventionally grown crops contained pesticide residue, while 23 percent of organic products did.

The Consumers Union reported in 2000 that peaches, apples, pears, grapes, green beans, spinach, winter squash, strawberries and cantaloupe had the highest levels of pesticide residues. Those with few residues included bananas, broccoli, canned peaches, canned or frozen peas, canned or frozen corn, milk, orange juice, apple juice and grape juice.

Read the full study [here](#)

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