

School Pesticide Monitor

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The Benefits of Organic Food to Children

Studies Show Organic Food is Safer and More Nutritious

Should schools serve safer food not grown with pesticides? Some say yes.

A National Academy of Sciences' (NAS) report, *Pesticides in the Diets of Infants and Children*, states the failure of the U.S. government to adequately protect children from potentially harmful exposure to pesticides. The report finds that exposure data does not take into account children's diet, which is disproportionately composed of particular commodities and virtually ignores the limitations of and impact on their developing organ systems.

Although the majority of food today is grown with toxic pesticides, many in agriculture are taking steps to reduce pesticide use by implementing organic farming strategies that are better for the environment and public health.

Concerns About Food Safety. The 724 million pounds of pesticides used each year by U.S. agriculture has resulted in pesticide-contaminated food, groundwater, and human and wildlife tissue, pesticide-resistant pest populations, and crop losses.

Fruits and vegetables are sprayed repeatedly with contact and systemic pesticides, and most are even treated while they travel to market. Thus, it is impossible to avoid all residues on pesticide-treated food.

Reduce Exposure to Pesticides on Foods. Fortunately, there are alternatives to chemically intensive practices and ways to reduce low-level exposure to pesticides in foods:

- Whenever possible, buy USDA certified "organic" products.
- Avoid purchasing imported foods,

which may contain residues of pesticides banned or severely restricted in the U.S.

■ Buy locally and avoid purchasing out-of-season produce that is transported long distances and/or stored for long periods of time.

What Does "Organic" Mean? Congress defined "organic" under the *Organic Foods Production Act of 1990*. Ten years later, USDA announced the Final National Organic Program Rule, the national standard for the production, handling, and processing of organically grown food, which took effect in 2002. Organic food is grown without synthetic pesticides, genetically modified organisms, or irradiation and is cultivated with a commitment to environmental, sustainable practices.

Less Pesticide Residues on Organic. According to a study by Consumers Union (CU), the publisher of *Consumer Reports* magazine, and the Organic Materials Re-

search Institute (OMRI) published in *Food Additives and Contaminants* (2002), organic foods have less pesticide residue than conventional food. The study shows that 73% of conventionally grown foods had at least one pesticide residue. More than 90% of the conventionally grown apples, peaches, pears, strawberries and celery had residues, and conventionally grown crops were six times as likely as organic to contain multiple pesticide residues. The authors cite residues on organic occur due to pesticide drifts.

Environmental and Taste Benefits. A study published in the April 19, 2001 edition of the journal *Nature* finds increased environmental benefits of organic apple farming, while having similar yields to conventional growing techniques. The study finds that organic farming has "a profound impact on soil quality, enhancing soil structure and fertility and increasing water infiltration and storage," which is believed to be the reason why the researchers found

California School District Provides Children with Organic and Sustainable Foods

Berkeley (CA) Unified School District has taken a major step in providing children with sustainable and organic food in cafeterias. The food policy, established in 1999, is part of an overall mission to "improve the health of the entire community by teaching students and families ways to establish and maintain life-long healthy eating habits." One major goal of the policy is to ensure that all food served by the District is "organic to the maximum extent possible." The policy requires the District schools to:

- Purchase food from school gardens and local farmers as a first priority, based on availability and acceptability. Child Nutrition Services will coordinate its menus with school garden production and provide to garden coordinators a list of the produce it wishes to purchase.
- Work with the County cooperative to increase the amount of products purchased from local farms and organic food suppliers.
- Provide regular training, at least annually, to teachers and the Food Service Staff on basic nutrition, nutrition education, and benefits of organic and sustainable agriculture.

For a copy of the policy, see www.beyondpesticides.org/schools or contact Beyond Pesticides.

Farm-to-School Programs

Getting Local Food to School Cafeterias

Farm-to-school programs link schools with local farmers who practice sustainable agriculture. The Community Food Security Coalition (CFSC), through its farm-to-school program, provides guidance for communities in creating systems for growing, manufacturing, processing, making available, and selling food that is regionally based and grounded in sustainable farming practices.

According to CFSC, the movement to organize a farm-to-school project has come from farmers, schools, parents, and community groups. School food service staff are key in design and implementation. Principals, students, school board members, and teachers can also be influential in setting up a project. There is no one blueprint to getting a program implemented - successful projects are "custom-made" for each community.

Such programs are getting a small push from federal and state governments. For example, language in the 2002 Farm Bill has set the stage for healthier meals at schools and more business for small, sustainable farms nationwide, according to the Illinois Healthy Schools Campaign. The Farm Bill that passed Congress in May 2002, recommends that institutions participating in the National School Lunch and Breakfast program purchase local foods where practicable. Similar farm-to-school programs are being implemented by the USDA as well as in California, New York, North Carolina, and Wisconsin.

For more information, see www.healthyschools.org or contact Marion Kalb, Farm to School Program Director, 310- 822-5410, www.foodsecurity.org.

the organic farming system to result in sweeter and less tart apples.

Benefits of Organic for Children.

Children who eat a diet of organic food show a level of pesticides in their body that is six times lower than children who eat a diet of conventionally produced food, according to a study published in the March 2003 issue of *Environmental Health Perspectives*.

The study, "Organophosphorus Pesticide Exposure of Urban and Suburban Preschool Children with Organic and Conventional Diets," examined the effects of food eaten by preschool children in the Seattle, Washington area. The researchers stated, "Consumption of organic produce appears to provide a relatively simple way for parents to reduce their children's exposure to organophosphate (OP) pesticides."

Studies in animals show that even a single, low-level exposure to certain OP pesticides during particular times of early brain development can cause permanent changes in brain chemistry, as well as changes in behavior, such as hyperactivity. This may mean that early childhood exposure to such chemicals can lead to lasting effects on learning, attention, and behavior, just like the environmental neurotoxin lead.

Organic Produce More Nutritious.

The *Journal of Agricultural and Food Chemistry* published a study reporting greater nutritional attributes in organically grown food compared with produce grown conventionally. The study, "Comparison of the Total Phenolic and Ascorbic Acid Content of Freeze-Dried and Air-Dried

Marionberry, Strawberry, and Corn Grown Using Conventional, Organic, and Sustainable Agricultural Practices," suggests that the beneficial qualities in organic food may result from the lack of insecticides and herbicides used. The organic and sustainably grown food contained up to 58% more polyphenolics, which are compounds that act as antioxidants, and may help prevent heart disease and cancer. In the study, sustainably grown and organic produce also had more ascorbic acid, which the body converts to vitamin C. Polyphenolics are natural chemicals a plant produces in response to pest presence, their bitter taste acting to drive pests away. This new research suggests that when pesticides are used the plant needs to make less of these chemicals.

The study authors state that crops grown without pesticides or herbicides might make more polyphenolics because they are more likely to be stressed by insects or other pests, which "may reflect the balance between adequate nutrition in the form of fertilizers and external pest pressures because of the lack of pesticides."

A study commissioned by the Organic Retailers and Growers Association of Australia shows that organic produce has up to ten times more mineral content than conventional produce. The Australian Government Analytical Laboratory found that organic tomatoes, beans, capsicums and silver beets have significantly higher levels of calcium, potassium, magnesium, and zinc than the same types of conventional produce. **For more information and full citations, please see www.beyondpesticides.org/schools or contact, contact *Beyond Pesticides*.**