



# Pediatricians Issue Warnings and Recommendations on Pesticides

By Nichelle Harriott

In late 2012, the American Academy of Pediatrics (AAP) took bold and pioneering moves recognizing the hazards that children's exposure to pesticides create, and the vital role organic foods play in reducing children's exposure. This was the first time the Academy made a statement on pesticides and the benefits of organic. The Academy first published a clinical finding in October 2012 that states that reducing pesticide residues in food is beneficial for children's health. A few weeks later, it released its policy statement on pesticides, which identifies the current shortfalls in medical training, public health tracking, and U.S. regulatory action on pesticides. This groundbreaking stance on pesticides from a premier medical institution in the U.S. goes far to support broader efforts to educate consumers on the hazards posed by toxic pesticides, especially the risks posed to children, influence chemical reform, as well as credit organic with lower pesticide exposure than food grown in chemical-intensive agriculture. It also serves as a sobering wake-up call for government agencies and elected officials to protect our children and environment from toxic compounds. With these new recommendations from the Academy, Beyond Pesticides urges the U.S. to swiftly act to adopt policies that support a national shift from chemical dependency, including a broader adoption of organic practices, in order to safeguard the health of future generations.

## Clinical Report on Organic Food

In October 2011, AAP published, in the journal *Pediatrics*, "*Organic Foods: Health and Environmental Advantages and Disadvantages*," which is described as a clinical report reviewing the health and environmental issues related to organic food production and consumption. Even though there were conflicting and negative media reports of AAP's report on organic foods, the Academy is clear that organic foods do provide health advantages

by way of reducing exposure to pesticides, especially for children. The Academy not only identified that children are especially vulnerable to pesticides, but also reported "sound evidence" that organic foods contain more vitamin C and phosphorus.

"At this point, we simply do not have the scientific evidence to know whether the difference in pesticide levels will impact a person's health over a lifetime, though we do know that children—especially young children whose brains are developing—are uniquely vulnerable to chemical exposures," said Joel Forman, MD, FAAP, a member of the AAP Council on Environmental Health and one of the lead authors of the AAP clinical report.

But more striking is the Academy's recognition of the linkage between organic systems and improved environmental health. The report notes that choosing organic is based on larger environmental issues, as well as human health impacts, like pollution and global climate change, making it a watershed moment in this medical group's acknowledgement of the health advantages of organic while also linking organic systems to broader environmental benefits.

According to the report, "In terms of health advantages, organic diets have been convincingly demonstrated to expose consumers to fewer pesticides associated with human disease. Organic farming has been demonstrated to have less environmental impact than conventional approaches." The report also goes on to note that organic farming can be competitive and yields comparable to those of conventional farming techniques. The report addresses several topics routinely debated when it comes to choosing between organic and conventional food, including nutritional content, use of antibiotics and hormones.

## Organic vs. Conventional Foods

On nutritional content, the Academy notes that research comparing the nutritional value of conventionally grown produce and organic produce is "not definitive," citing nutritional content as being affected by various factors, including geographic locations, soil characteristics, and climatic conditions. Even though the report acknowledges sound evidence that vitamin C and phospho-

rus content in organic foods are higher, it states that there is no convincing evidence of a substantial difference between the nutritional content of organic and conventional foods.

The report also notes that the “biological effects in humans, if any, are unknown,” when it comes to hormone supplementation, which is prohibited in organic. Furthermore, the Academy points out that more study is needed to investigate the risks to women who eat hormone-treated animals and the development of breast cancer. Importantly, the evidence is clear that the use of these agents can promote the development in drug-resistant organisms, which can then spread through the food chain. According to AAP, organic farming, which prohibits the use of nontherapeutic antibiotics in animal production, reduces this threat and, by extension, lowers the risk of human disease caused by drug-resistant organisms. [While currently under review by the National Organic Standards Board, organic standards still allow in apple and pear production for fire blight. See page 13]

### **Organic Systems Have Less Adverse Environmental Impact**

In drawing a parallel between organic systems and a healthy environment, the report

notes that organic farms use less energy and produce less waste, have soils with higher organic quality and water retention. A review of studies found that organic systems can have comparable productivity to conventional fields, while using less pesticides and reducing environmental pollutions.

AAP recommends that, “Pediatricians should incorporate this evidence when discussing the health and environmental impact of organic foods and organic farming while continuing to encourage all patients and their families to attain optimal nutrition and dietary variety.” The report concludes that the most important thing for children is to eat a wide variety of produce, and suggests that pediatricians talk to their patients about the potential health and environmental benefits of choosing organic.

### **Policy Statement on Pesticide Exposure**

A few short weeks after the organic report, the Academy released a landmark policy statement presenting its position on pesticides. The document, “Pesticide Exposure in Children,” recommends a recognition and reduction of problematic pesticide exposures. Acknowledging the risks to children from both acute and chronic effects, AAP’s policy report provides recommendations to both pediatricians and government health agencies.

The report discusses children’s exposure to pesticides every day in air, food, dust, and soil, observing that children also frequently come into contact with pesticide residue on pets and after lawn,

garden, or household pesticide applications. While diet is likely the main pathway for pesticide exposure in children, AAP, cites scientific findings that switching children to an all-organic diet has an immediate and substantial decrease in the concentration of pesticides in their bodies. In the past decade, an expansion of the evidence showing adverse effects after chronic pesticide exposure has been observed by the Academy, with strong links between pesticides and health effects to children—especially pediatric cancer and adverse neurodevelopment. However, low birth weight, preterm birth, congenital abnormalities, cognitive deficits (ADHD, Lower IQ) and asthma are also increasingly cited as being related to pesticides. Pediatricians, according to the Academy, should become familiar with the “subclinical” effects of chronic exposures.

### **Other Pesticide Policy Recommendations**

The Academy points out that pesticide product labels are critically deficient because they do not disclose all pesticide ingredients and other pertinent information on chronic toxicity. It advises government to require manufacturers to disclose ingredients, either on the product’s label or on the company’s web site, including the creation

of a “risks to children” section, which should list chronic or developmental health concerns for children. While acknowledging that pediatric care providers have a poor track record for recognition of acute pesticide poisoning, the Academy recommends making pesticide-related suspected poisoning universally reportable and supports a systematic central repository of such incidents to optimize national surveillance.

Further, the Academy advises government to set a goal of reducing overall exposure by promoting methods and practices which minimize pesticide contact. Government can accomplish this by supporting least-toxic pesticide alternatives through the adoption of integrated pest management (IPM), according to the Academy. AAP recommends that government provides economic incentives to growers who adopt IPM, and supports research to expand IPM in both agriculture and nonagricultural pest management. Federal support for the adoption of community education and outreach, letting people know when pesticide spraying will occur in public areas, and the strengthening of procedures and enforcement standards for removing hazardous products are also cited as areas where government should focus its efforts.

Finally, the Academy recommends that providers speak with the parents of their patients about the risks associated with pesticide use. According to the policy statement, “Pediatricians can play a role in promotion of development of model programs and practices in the communities and schools of their patients.”

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***“Children encounter pesticides daily and have unique susceptibilities to their potential toxicity. Acute poisoning risks are clear, and understanding of chronic health implications from both acute and chronic exposure are emerging. Epidemiologic evidence demonstrates associations between early life exposure to pesticides and pediatric cancers, decreased cognitive function, and behavioral problems.”***  
*American Academy of Pediatrics, Council on Environmental Health*

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