



# ORGANIC FOR ALL

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March 14, 2019





Environmental Research

Volume 171, April 2019, Pages 568-575

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# Organic diet intervention significantly reduces urinary pesticide levels in U.S. children and adults

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This project is possible thanks to the generous members of Friends of the Earth-US as well as grants from foundations, including California Consumer Protection Foundation and Turner Foundation.

# USDA Pesticide Data Program

77% of ~10,000 samples had residues (2016 data)

## APPLES

47 different pesticide residues found

- 6 Known or Probable Carcinogens
- 16 Suspected Hormone Disruptors
- 5 Neurotoxins
- 6 Development or Reproductive Toxins
- 11 Honeybee Toxins



[www.whatsonmyfood.org](http://www.whatsonmyfood.org)  
Pesticide Action Network

Including:  
 Alcohols  
 Hydrogen peroxide  
 Ozone gas  
 Calcium hypochlorite  
 Soaps  
 Lime sulfur  
 Boric acid  
 Copper sulfate

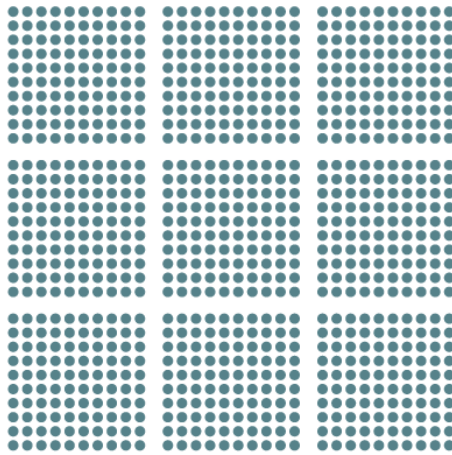
## How do the synthetic pest control products allowed in organic farming compare to the pesticides allowed in conventional farming?

25 synthetic active pest control products allowed in organic crop production



The organic farmer must first use mechanical, cultural, biological and natural materials and move onto the toolbox only when and if they don't work. In this way the toolbox is "restricted."

900+ synthetic active pesticide products registered for use in conventional farming by EPA\*



\*Ware, George W and Whitacre, David M. The Pesticide Book 6th Edition. 2004

## Sixteen participants

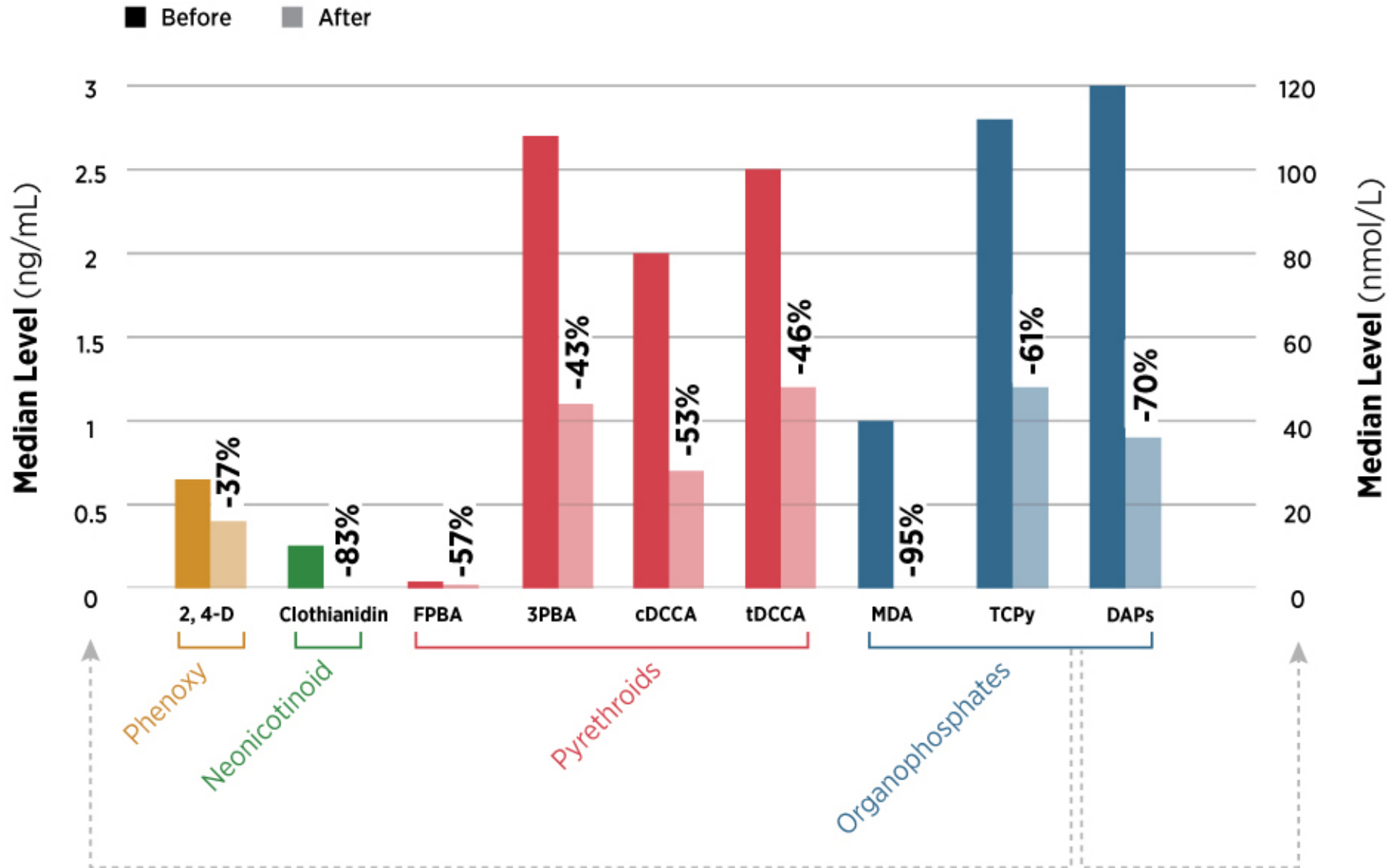


## Six day intervention

	3	4	5	6	7	8	9
<b>X</b>	Six days conventional diet						<b>X</b>
	10	11	12	13	14	15	16
	Six days organic diet						

Type of pesticide	Analyte	Parent compounds	
Organophosphate Insecticides	<b>MDA</b>	Malathion	
	<b>TCPY</b>	Chlorpyrifos	
	<b>DAPS</b>	<b>DMP</b>	Azinphos-methyl, chlorpyrifos-methyl, dichlorvos, dicrotophos, dimethoate, fenitrothion, fenthion, isazofos-methyl, malathion, methidathion, methyl parathion, naled, oxydemeton-methyl, phosmet, pirimiphos-methyl, temephos, tetrachlorvinphos, trichlorfon
		<b>DMTP</b>	
		<b>DMDTP</b>	
		<b>DEP</b>	
	<b>DETTP</b>	Chlorethoxyphos, chlorpyrifos, coumaphos, diazinon, disulfoton, ethion, phorate, sulfotepp, terbufos	
<b>DEDTP</b>			
Pyrethroid Insecticides	<b>3-PBA</b>	Allethrin, cyhalothrin, cypermethrin, deltamethrin, fenpropathrin, permethrin, trialomethrin	
	<b>F-PBA</b>	B-cyfluthrin	
	<b>cis-DCCA</b>	<i>cis</i> -Cypermethrin, <i>cis</i> -cyfluthrin, <i>cis</i> -permethrin	
	<b>trans-DCCA</b>	<i>trans</i> -Cypermethrin, <i>trans</i> -cyfluthrin, <i>trans</i> -permethrin	
Neonicotinoid Insecticide	<b>Clothianidin</b>	Clothianidin	
Phenoxy Herbicide	<b>2,4-D</b>	2,4-D	

# Percent decrease in urinary pesticide levels after six-day organic diet intervention



## ***Organic Diet Intervention Studies***

Bradman, A., et al. 2015. **Effect of organic diet intervention on pesticide exposures in young children living in low-income urban and agricultural communities.** *Environmental Health Perspectives*.

Göen, T., Schmidt, L., Lichtensteiger, W., & Schlumpf, M. 2017. **Efficiency control of dietary pesticide intake reduction by human biomonitoring.** *International journal of hygiene and environmental health*.

Lu, C., et al., 2006. **Organic diets significantly lower children's dietary exposure to organophosphorus pesticides.** *Environmental Health Perspectives*.

Oates, L., Cohen, M., Braun, L., Schembri, A., & Taskova, R. 2014. **Reduction in urinary organophosphate pesticide metabolites in adults after a week-long organic diet.** *Environmental Research*.

## ***Diet Comparison Studies***

Curl, C.L., R.A. Fenske, and K. Elgethun, **Organophosphorus pesticide exposure of urban and suburban preschool children with organic and conventional diets.** *Environmental Health Perspectives*, 2003. 111(3): p. 377. 2003.

Curl, C. L., Beresford et al. 2015. **Estimating pesticide exposure from dietary intake and organic food choices: the Multi-Ethnic Study of Atherosclerosis (MESA).** *Environmental health perspectives*, 123(5), 475.



 Slate

# Organic Shmorganic

Conventional fruits and vegetables are perfectly healthy for kids.

 REUTERS

**Organic food no healthier than non-organic: study**

Los Angeles Times

**Is organic food worth the higher price? Many experts say no**

 TIME

**The Organic Food Movement Is an Insufferably Classist Waste of Money**

**Spinning Food: How Food Industry Front Groups and Covert Communications are Shaping the Story of Food**

<https://foe.org/resources/spinning-food-how-food-industry-front-groups-and-covert-communications-are-shaping-the-story-of-food/>

**“Existing US regulations have not kept pace with scientific advances showing that widely used chemicals cause serious health problems at levels previously assumed to be safe.**

**Our most vulnerable population, our children, face the highest risks.”**

Gross, L. and Birnbaum, L.S., 2017. Regulating toxic chemicals for public and environmental health. *PLoS Biology*, 15(12), p.e2004814.



**Environmental Health News**

Nov 27, 2018

## **Chemicals on our food: When “safe” may not really be safe**

Scientific scrutiny of pesticide residue in food grows; regulatory protections questioned

Carey Gillam

<https://www.ehn.org/when-safe-may-not-really-be-safe-2621578745.html>

# Cumulative exposures add up

~ 40% of US children may be exposed to organophosphate pesticides at levels greater than benchmarks for neurological harm

*Environ. Sci. Technol.* 2009, 43, 7924–7930

## Evaluating Cumulative Organophosphorus Pesticide Body Burden of Children: A National Case Study

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ROSEMARY CASTORINA,<sup>§</sup>  
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TRACEY J. WOODRUFF<sup>⊥</sup>

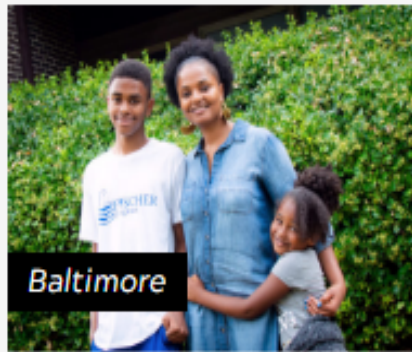
*National Center for Environmental Research, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue NW, Mail Code 8723F, Washington, DC 20460-0001, ICF International, San Francisco, California, Center for Children's Environmental Health Research, University of California, Berkeley, California, Office of Policy, Economics and Innovation, U.S. Environmental Protection Agency, Washington, DC, and Program on Reproductive Health and the Environment, University of California, San Francisco, California*

the last several years, complement the monitoring of pollutants in air, food, and drinking water (1, 2). They reflect the aggregate exposure to chemicals from multiple sources. They also serve as an important component of environmental public health tracking, as they can be used to monitor body burdens of environmental contaminants in the population as part of tracking the continuum from sources to exposures to health status. Biomonitoring data can be used to identify where policies should be directed to reduce important exposures and to document cases in which policies have successfully reduced exposures. For example, biomonitoring confirmed that removing lead in gasoline resulted in reduced lead body burden in children and extensive public health benefits (3, 4).

However, using biomonitoring data in tracking or other policy-oriented contexts poses a number of challenges. Key questions include how to determine exposures from body burden measurements, which methods should be used to identify chemicals of highest health importance, and how researchers should aggregate multiple contaminants measured in an individual. To date, there has been little published on methods to assess risk implications of body burdens of individual chemicals or of multiple chemicals cumulatively.

# Public Education & Advocacy

"Everyone has the right to clean, organic food. That is a human right." - Tara, study participant, Baltimore



[www.OrganicForAll.org](http://www.OrganicForAll.org)

## WHY IT MATTERS



### Your Health

Decades of data shows that



### Farmers, Farmworkers and Rural Communities



### Pollinators and the Environment

[www.OrganicForAll.org](http://www.OrganicForAll.org)

# Social Media Video



**~310,000 views**

Without captions: <https://www.youtube.com/watch?v=J8nrfy1jgCQ&feature=youtu.be>

With captions: <https://youtu.be/fnQGLJCQBgY>

# Policy Advocacy



## Opinion: Eliminating the Pesticides Inside Us

Devon Payne-Sturges March 5, 2019

[A bill has been introduced in the Maryland General Assembly to ban chlorpyrifos in our state.](#) Several other states are also moving in this direction.

Policymakers should closely review this study – and all of the evidence on chlorpyrifos – and act in the public interest to ban this dangerous chemical.

# THANK YOU!

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[@KendraCKlein](https://www.instagram.com/KendraCKlein)

