



presented by **MELINA PACKER AND SUE CHIANG**

Oakland, California / April 30, 2019



**A non-profit organization dedicated to protecting public health from exposures to toxic chemicals.**

***The Center for Environmental Health works with large purchasers to utilize their buying power to incentivize the production of environmentally preferable products***

# WHAT IS GLYPHOSATE?

The most widely used pesticide on the planet,  
also the main ingredient in “Roundup.”

# WHY IS GLYPHOSATE OF CONCERN?

- Classified in 2015 as “probably carcinogenic to humans” by the leading scientific authority, the International Agency for Research on Cancer, which is part of the World Health Organization
- Disrupts human hormones in ways that can cause reproductive and metabolic health problems, as well as cancers
- Low doses may be as harmful as high doses, because infants’ and children’s developing bodies, as well as pregnant women, are more susceptible to toxins



Estimated Agricultural Use for Glyphosate , 2014 (Preliminary)  
EPest-High

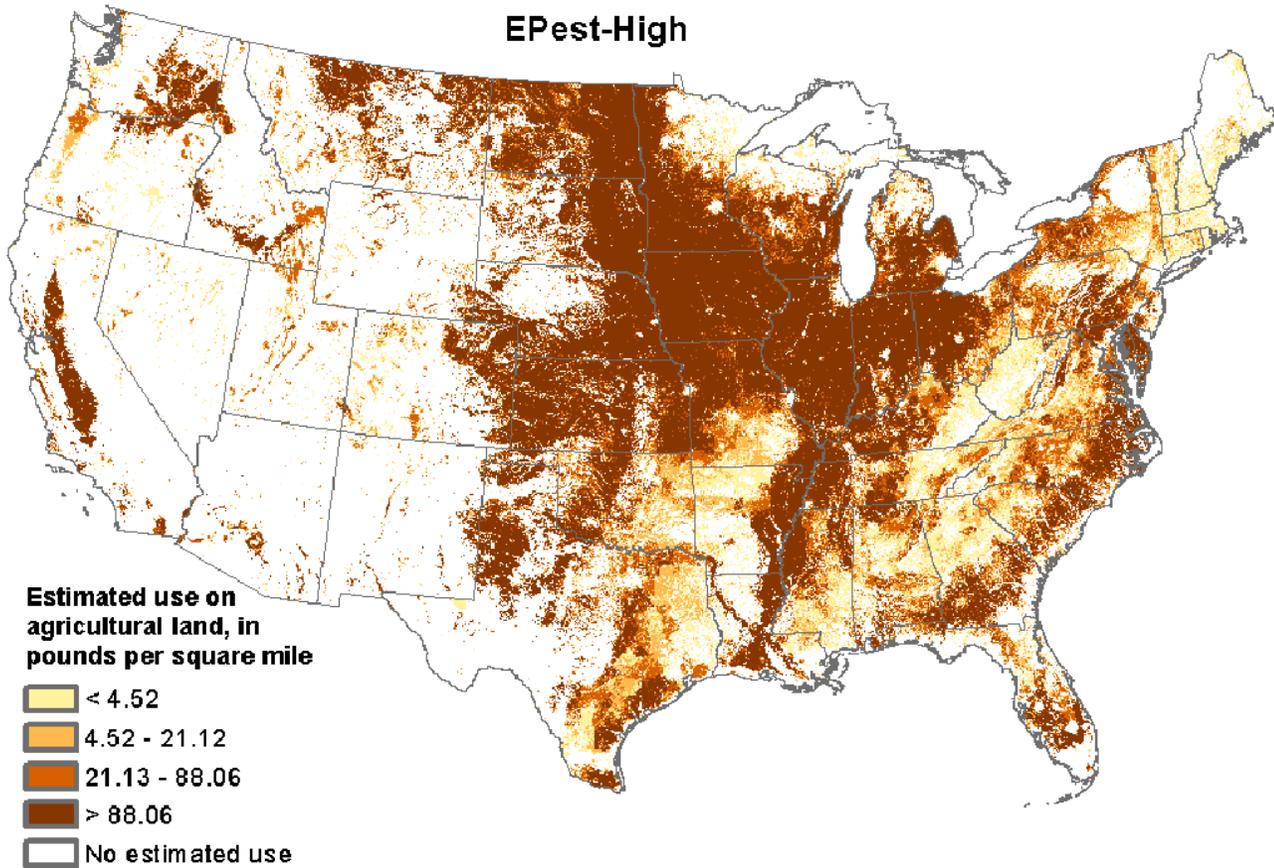


Figure 1.4. Map of estimated agricultural use for glyphosate in 2014 from USGS  
([http://water.usgs.gov/nawqa/pnsp/usage/maps/show\\_map.php?year=2014&map=GLYPHOSATE&hilo=H](http://water.usgs.gov/nawqa/pnsp/usage/maps/show_map.php?year=2014&map=GLYPHOSATE&hilo=H))

# GLYPHOSATE IS IN ALL OF US

Because this pesticide is sprayed so extensively, everybody is exposed, whether through the work they do or the food they eat.

**Infants and children are especially vulnerable** to

glyphosate's harmful health effects because their bodies are still developing.



# WHAT DID CEH DO?

CEH tested over 20 oat-based breakfast foods, selected for their popularity based on our survey of U.S. K-12 schools.

We focused on oat-based foods because growers spray glyphosate on oats much later than other cereal grains, to dry out the crop for easier harvesting.



## WHAT CEH FOUND

Unsafe levels of glyphosate were detected in all non-organic oat-based breakfast products tested, including Cheerios and Quaker Oats.

**Only certified organic cereals tested “glyphosate-free”.**

Remember that low exposures do not equal safe levels.

<https://www.ceh.org/glyphosate-school-cereals/>



# WHAT CAN SCHOOLS DO?

- Serve organic whenever possible
- Join purchasing collectives to lower costs
- Contact suppliers and urge them to offer organic alternatives at affordable price points
- Inquire with CEH about possible testing of your oat-based foods.



## Participate in Product Testing!

- CEH's results did not detect glyphosate residues in the organic foods tested
- We are collecting samples of oats, oat-based cereals (cold and hot), and bars served in schools
- Please contact [sue@ceh.org](mailto:sue@ceh.org) if you would like to have your school's cereal tested.



THANK YOU. Questions?



Sue Chiang,  
Pollution Prevention Director  
[sue@ceh.org](mailto:sue@ceh.org) Office: 510.655.3900 x311



# ORGANIC FOR ALL

April 30, 2019

Kendra Klein, PhD  
Senior Staff Scientist  
Friends of the Earth



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

Carly Hyland <sup>a</sup>, Asa Bradman <sup>a</sup>, Roy Gerona <sup>b</sup>, Sharyle Patton <sup>c</sup>, Igor Zakharevich <sup>b</sup>, Robert B. Gunier <sup>a</sup>, Kendra Klein <sup>d</sup>  

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

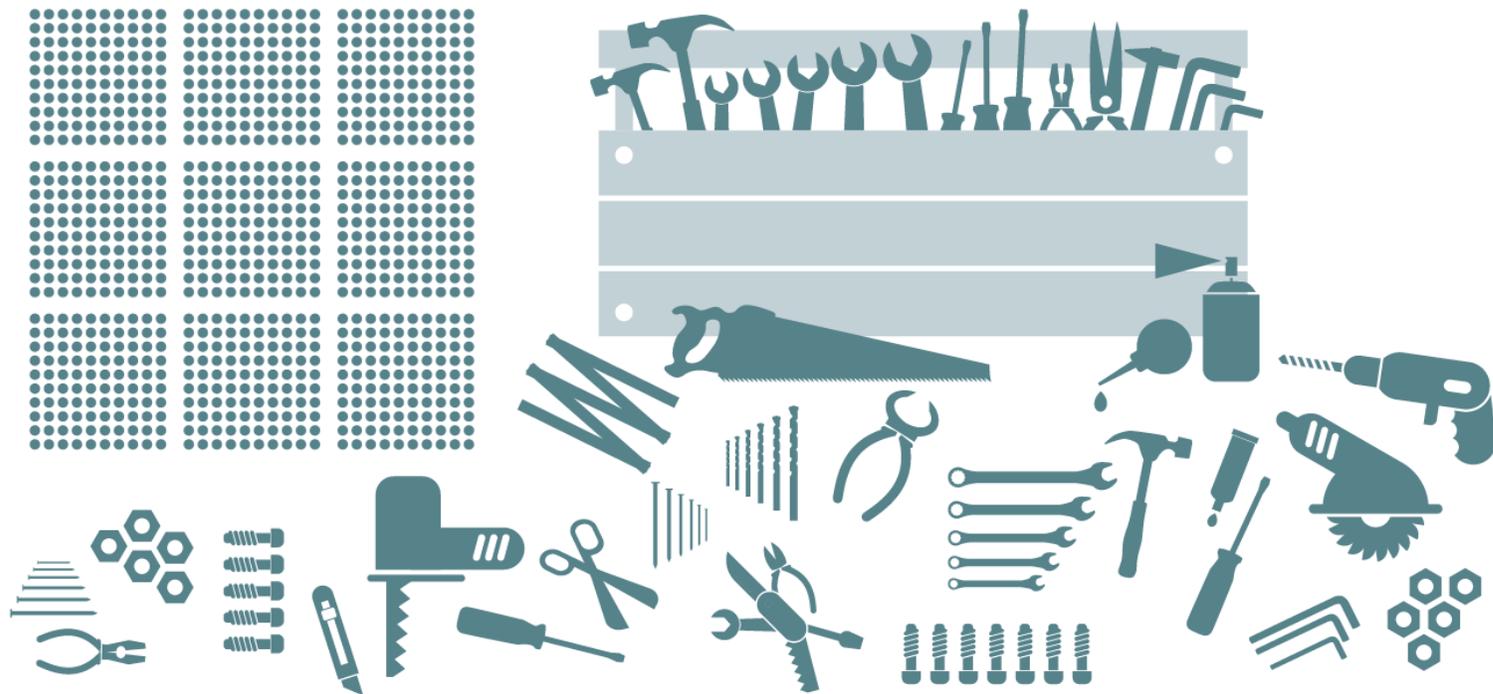
## How do the synthetic pest control products allowed in organic farming compare to the pesticides allowed in conventional farming?

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

## Four families

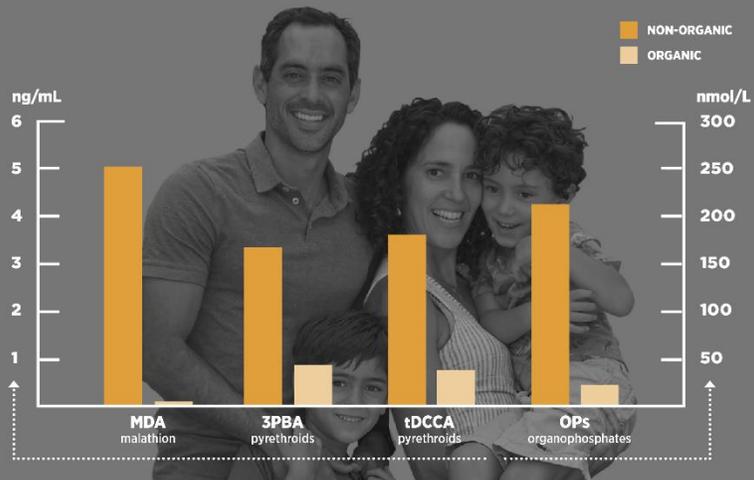


## Six days on an organic diet

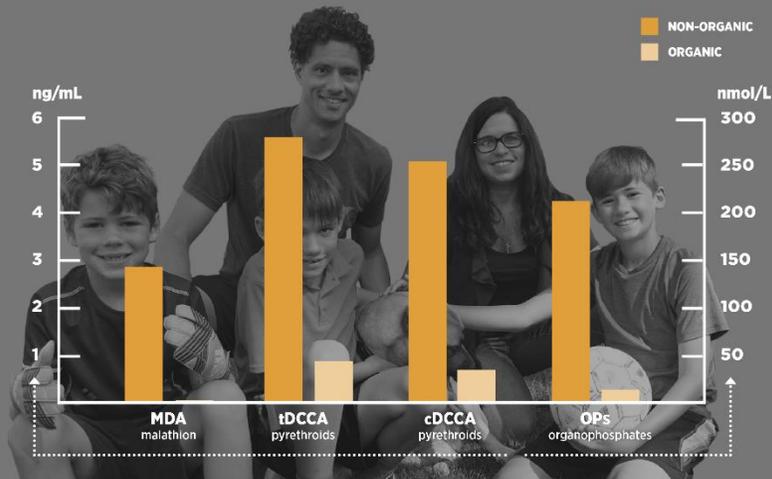
3	4	5	6	7	8	9
Six days conventional diet						
10	11	12	13	14	15	16
Six days organic diet						

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>DETP</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	

# Top four pesticide decreases after one week of organic diet



OAKLAND, CA



MINNEAPOLIS, MN

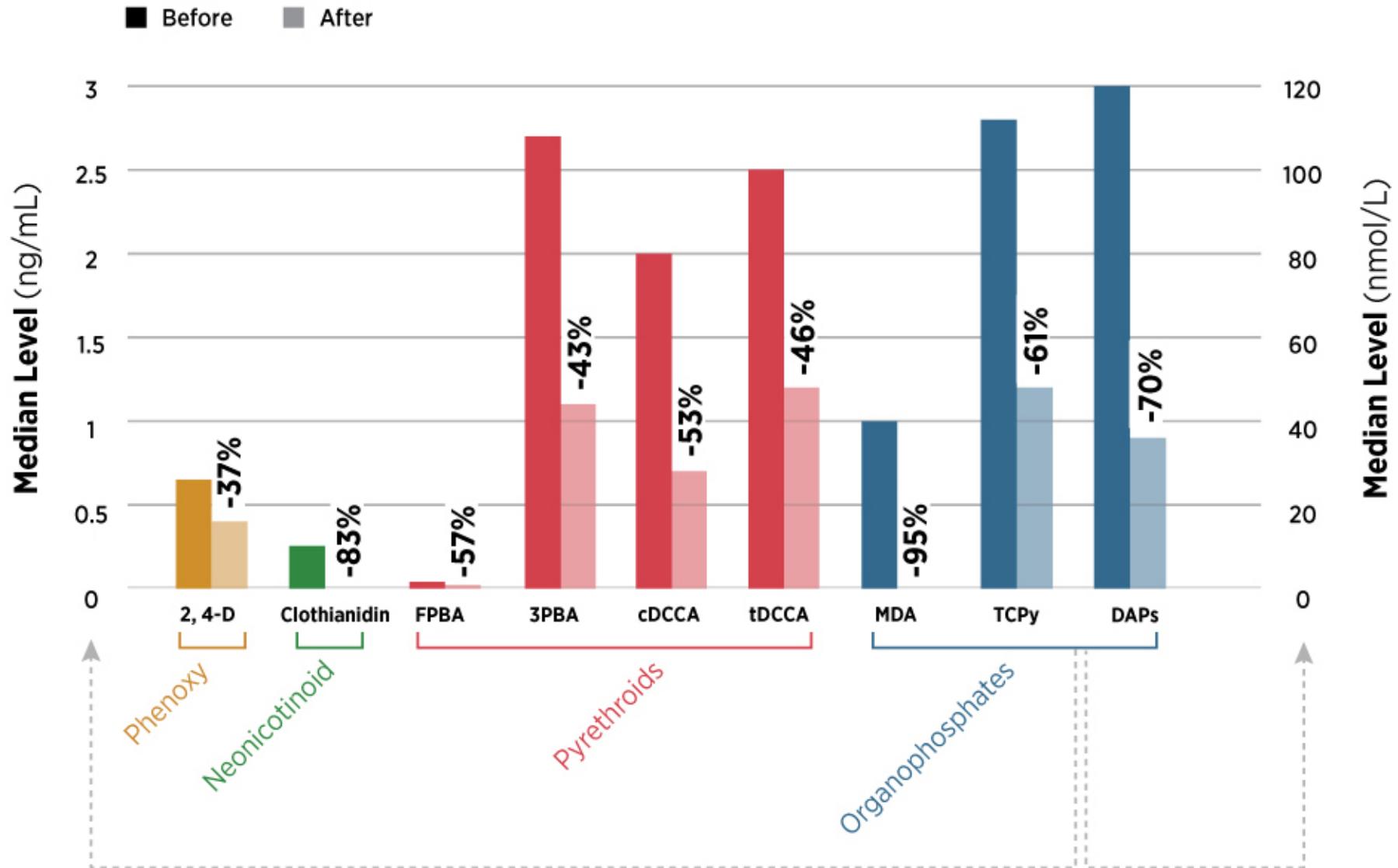


BALTIMORE, MD



ATLANTA, GA

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



# Social Media Video

Over 330,000 views so far – please share!



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

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

## ***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.

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



[MEET THE FAMILIES](#)

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

## WHY IT MATTERS



**Your Health**



**Farmers, Farmworkers and Rural Communities**



**Pollinators and the Environment**

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

THE SACRAMENTO BEE

## I've been a farmworker all my life. Here's why you should buy organic food

BY RUDY ARREDONDO

MARCH 10, 2019 12:01 AM, UPDATED MARCH 07, 2019 12:36 PM



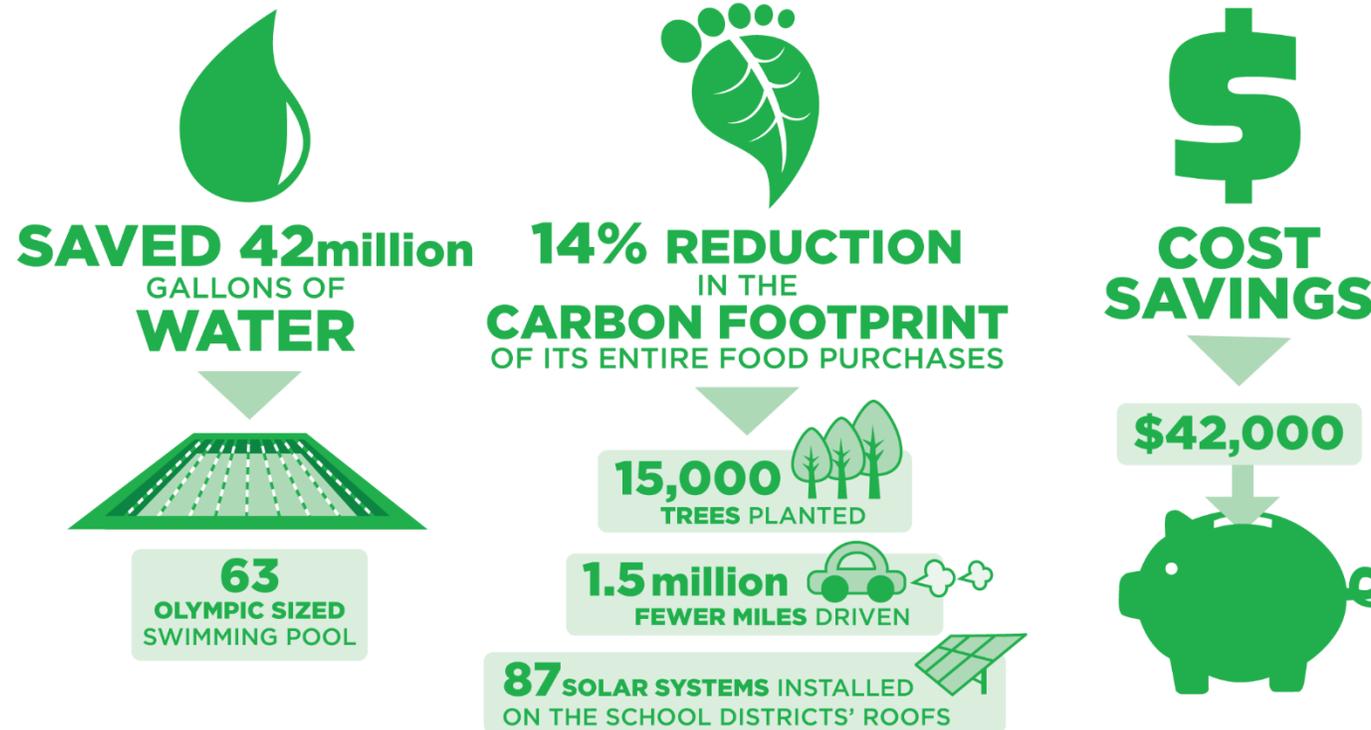
This new study is a powerful reminder that we must – and can – create a healthier food system for all of us. Choosing organic food reduces pesticide exposures in our own bodies and protects the health and well-being of the people who make our food possible: the farmworkers and farmers of America.

To help afford more organic food in schools. . .

# Increase climate-friendly plant-based options

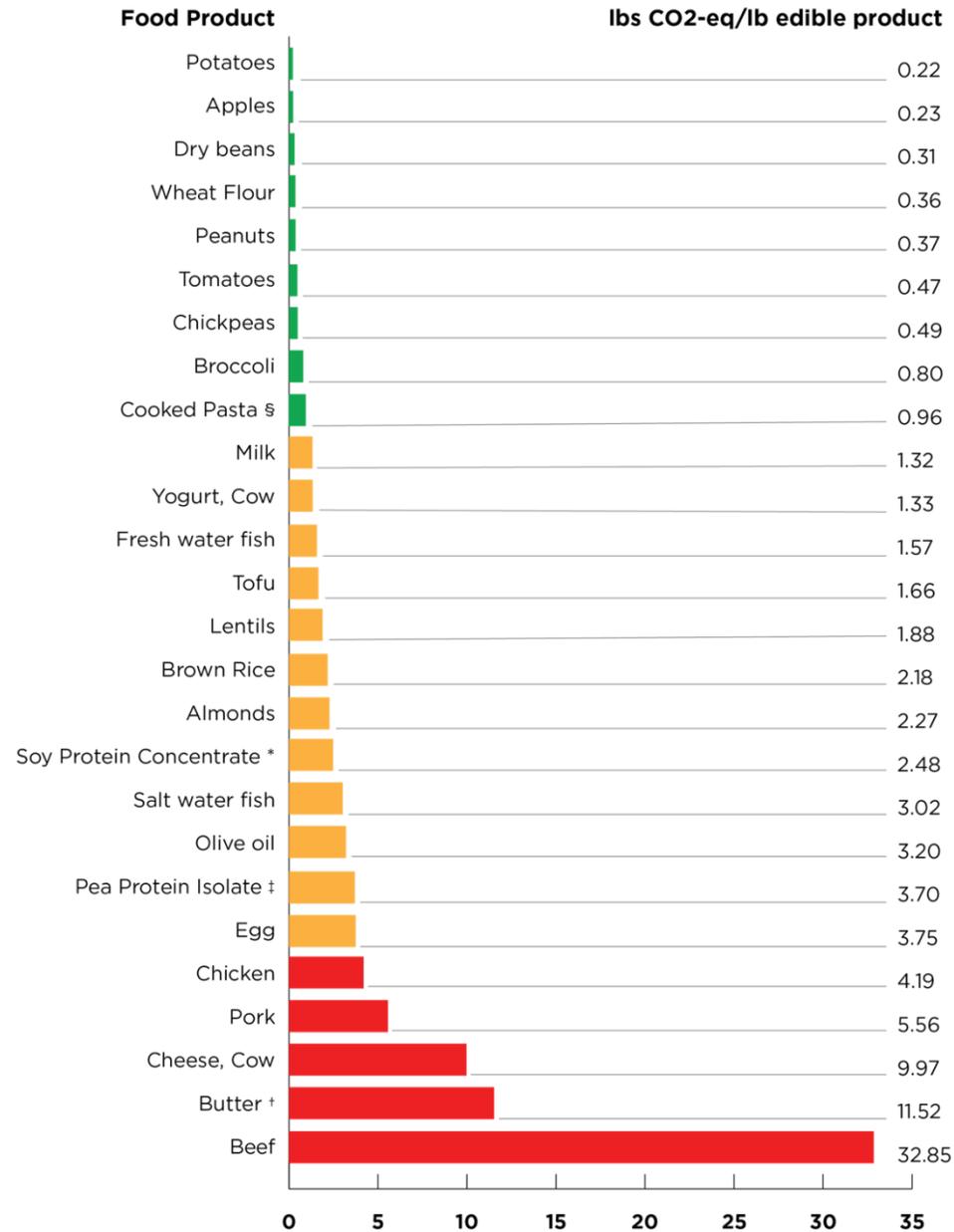
## FOOD SHIFTS MATTER

Over 2 years, Oakland Unified School District reshaped its menu with fewer animal foods and more protein-rich legumes and vegetables. This shift generated considerable **water** and **climate benefits**, and **cost savings**:



Results of Oakland Unified Pilot Study

# Carbon Footprint of Select Foods: Not all Protein is Created Equal



Source: Friends of the Earth, Scaling Up  
Climate-Friendly School Food



Shrinking the Carbon and Water Footprint of School Food:

# A RECIPE FOR COMBATING CLIMATE CHANGE

*A pilot analysis of Oakland Unified School District's Food Programs*

BY KARI HAMERSCHLAG AND JULIAN KRAUS-POLK

FEBRUARY 2017



## Scaling Up Healthy, Climate-Friendly School Food

STRATEGIES FOR SUCCESS



# Making Change: Policy Action

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- D.C. City Council passed first law in the country requiring vegetarian meal options at school lunch and breakfast every day plus at the request of a parent, and also formally adopts the Good Food Purchasing Program in D.C. Public Schools.
- California legislation introduced that would give state reimbursements to schools that serve plant-based foods and provide grant funding for staff training.
- California legislation introduced to fund a pilot that would help schools purchase more California-produced organic food by offering up to 15 cents in additional reimbursement per meal for qualifying schools.
- Good Food Purchasing Policy includes a meat reduction component
  - Adopted: San Francisco, Oakland, Chicago, Los Angeles, Cincinnati
  - On the way: Baltimore, Philadelphia, Austin, New York

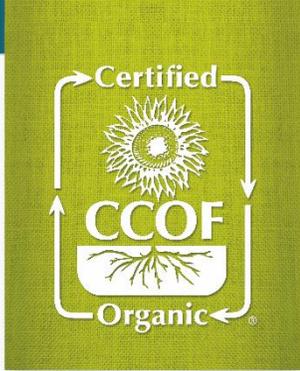
# THANK YOU!

Kendra Klein, PhD, Senior Staff Scientist, Friends of the Earth

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





# Roadmap to an Organic California

Can organic agriculture support long-term health  
for all California students?

# California Certified Organic Farmers (CCOF)



# Roadmap to an Organic California

## Part 1: Scientific benefits of organic

- Demonstrates that organic is **more than a system of food production**; it is a practical, evidence-based approach to improving **long-term health & prosperity**.

## Part 2: Policies to expand organic in CA

- Organic is the **fastest growing sector** of the U.S. food market, yet organic farmland is only **4% of California's agricultural land** (1% nationally).
- In progress: a menu of broadly-supported, bi-partisan policy recommendations to **increase organic farmland from 4% to 10% of California's agricultural land by 2030**.

# What are the benefits of increasing California's organic acreage?

## Economic Benefits

- Creating jobs
- Stimulating local economies
- Reducing poverty rates
- Supporting the next generation of American farmers

## Environmental Benefits

- Mitigating climate change
- Protecting and enhancing soil quality
- Protecting water quality and conserving water resources
- Supporting biodiversity and protecting pollinators

## Social Benefits

- Protecting public health
- Highly nutritious food
- A secure and sustainable food supply
- Better living and working conditions for farmworkers

# Why organic?

- Is organic food better for us?  
*Children's health & nutrition*
- Is organic food production sustainable?  
*Children's access to clean water, air, soil*
- Can organic feed a growing population?  
*Sufficient food for all children*



# Is organic food better for us?

## Highly Nutritious

- Organic fruits and vegetables are highly nutritious
- Organic meat and dairy have healthier fatty acid profiles
- Free from harmful pesticides
  - Crops:
    - Non-Organic: 900
    - Organic: 25 (conditional use)
  - Livestock drugs:
    - Non-organic: 550 +
    - Organic: 22 (conditional use)

## Minimally Processed

- Organic foods are minimally processed, without artificial ingredients or synthetic preservatives
- Aids and additives allowed in food processing
  - Non-organic: 3,000
  - Organic: 100

# Can organic feed a growing world population?

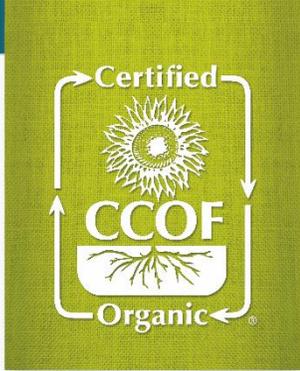
- Organic practices produce competitive crop yields
- On research trials, organic yields often surpass conventional yields



# Can organic agriculture feed future generations sustainably?

*Organic producers are federally required to maintain or improve natural resources on certified organic land*

- Reduces soil erosion and builds soil fertility
- Reduces water contamination and conserves water
- Protects pollinators and increases biodiversity
- Increases farm resiliency to climate change



# Thank you!

*Roadmap to an Organic California: Benefits Report* is available for free download at:

[www.ccof.org/roadmap](http://www.ccof.org/roadmap)

Laetitia Benador

Lbenador@ccof.org --- 831-423-2263



# The Future Organic Farmer Grant Fund

Dedicated to Advancing Organic Agriculture for a  
Healthy World

# Our Goal

- **Incentivize Study & Careers in Organic Agriculture**
  - Leverage Existing Agricultural Resources
  - Expand Public Knowledge
  - Incentivize Conventional Agricultural Institutions to Include Organic
  - Build Community & Expand Networks

# Who We Fund

- Only grant in the United States that exclusively supports organic education
- Direct financial assistance
  - K-8 teachers
  - Middle & high school students
  - Higher education students
- Focus on Underserved Communities

# Organic Education in the Classroom



# K-8 Grant Eligibility

- Certified K-8 teachers in the United States
- Submit a project proposal with an itemized budget for the 2020-21 school year

# How to Apply

- Application Due May 6<sup>th</sup> 2019!
- To Apply Visit: <https://www.ccof.org/ccof-foundation/future-organic-farmer-grant-fund>
- Contact: [jstevenson@ccof.org](mailto:jstevenson@ccof.org)

# CA AB958 (Organic-to-school pilot)

- First-ever pilot program to offer schools grant funding to purchase CA-produced organic food.
- Priority: serve low-income students, agricultural communities, offer universal free school meals, or participate in USDA's unprocessed fruit & vegetable pilot.
- **Support letters due today** – contact: Allison Johnson, NRDC [aljohnson@nrdc.org](mailto:aljohnson@nrdc.org) 415-875-6183



# K-12 Webinar on Single-Use Foodware

- **Wednesday, May 15<sup>th</sup> at 11 am - noon PST (2 – 3 pm EST)**

**Toxic Chemicals in Single-Use Food Service Ware: K-12 Schools' efforts towards more sustainable alternatives**

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**Date: Wednesday, May 15th  
11-12 PM PST/2-3 PM EST**

## **Presenters include:**

- **Sue Chiang**, Pollution Prevention Director, Center for Environmental Health
- **Julie DesChamps**, Waste Reduction Coordinator, Greenwich Public Schools Green Schools (CT)
- **Nancy Larson**, Manager, Facilities, Maintenance & Community Use, Bellevue School District (WA)





# Questions?