



The  
Organic  
Center

ANNUAL REPORT 2014



# Science

The Organic Center has been growing its project portfolio, which currently focuses on seven projects highlighting emerging issues in the fields of environmental health, human health, and applied studies.

## The effects of organic farming practices on nitrogen pollution

The Center is working with Professor James Galloway's lab at the University of Virginia to investigate the effects of different farming systems on nitrogen pollution. Nitrogen pollution is a problem, because it can lead to eutrophication of aquatic environments and "Dead Zones" in the coastal ocean. It also contributes to climate change, acid rain, smog, biodiversity loss, and more. This project focuses on how farming practices can have an impact on the amount of reactive nitrogen released into the environment. In 2015, the Center plans to incorporate this information into a calculator so that people can easily see how much of a difference eating organic makes on their nitrogen footprints.



## Soil health on organic farms

The Organic Center is collaborating with Principal Research Scientist Elham Ghabbour and Professor Geoffrey Davies of the National Soil Project (NSP) at Northeastern University to examine some of the benefits organic agriculture may have on soil health. Specifically, this project will quantify the amount of sequestered carbon in hundreds of organic farm topsoil samples for comparison with corresponding conventional samples to determine differences in levels of humic acids (HA), fulvic acids (FA), and humin (HU) in the soils. The Center has already collected over 250 samples, with the goal of collecting 400 samples by the end of 2015. To encourage soil samples, the NSP is offering free soil analyses to all farmers who send in soil samples. For more information, see the Center's Soil Health webpage.



## Organic solutions to citrus greening

Citrus greening disease, or Huanglongbing, threatens the citrus industry on a massive scale. It has devastated millions of acres of citrus crops throughout the United States and abroad, ravaging countries in Asia, Africa, and South America. The highly destructive disease can spread quickly, and once a tree is infected, it cannot be cured. To address this issue, The Organic Center has launched a multi-year research project in collaboration with farmers, industry members, organic certifiers, and University of Florida entomologists to find holistic organic solutions to controlling citrus greening organically. This project will determine the efficacy of labeled organic pesticides for controlling the Asian citrus psyllid, develop protocols for organic growers struggling with citrus greening, and examine naturally occurring organic trees resistant to citrus greening that can be bred to create non-GMO citrus greening-resistant varieties of citrus.



## Health effects of dietary pesticide exposure



This collaborative project of The Center and Professor Lu of Harvard University will examine the health effects associated with dietary pesticide exposure through the lens of metabolomics, the study of chemical processes that involve metabolites. This research is critically needed, because while research studies are increasingly finding pesticides negatively affect human health, public awareness of these findings is low because there are few papers that look at exposure on the dietary level. This project will be directly applicable to consumers by examining levels and frequencies of exposure that are the most common for the general public. In addition to our research, we will communicate our findings with the public to ensure understanding and increase awareness around the issue of pesticide risks.

## Methods for protecting organic agriculture from inadvertent pesticide residue contamination



Pesticide avoidance is one of the main motivations for why people purchase organic products. Several studies have shown that organic products contain residues less frequently than conventional products, and when residues are present, they tend to be at much lower levels. Many of these studies are out of date, however, and need to be re-examined to reinforce the benefits of organic. This study will not only take a new look at the data, but it will also look at methods for improving organic production by determining the most common areas in the supply chain where inadvertent, low-level contamination of organic food occurs, and identifying methods and strategies to prevent contamination.

## Decreasing arsenic uptake in organic rice systems

The Center has partnered with the U.S. Department of Agriculture's (USDA's) Agricultural Research Service (ARS) to conduct targeted research on the factors affecting the presence of arsenic in organically grown rice. ARS scientists are testing stored samples of



organic rice grown under controlled organic conditions at USDA research facilities, and examining the factors that directly impact the rate of arsenic accumulation in rice grown organically—varietal selection, flooding and organic compliant fertilizers. The goal is to offer future strategies to the organic sector to minimize such accumulation.

### Organic fire blight prevention project

The Organic Center has completed a project providing critically needed information on how to prevent fire blight from decimating apple and pear orchards without the use of antibiotics. Fire blight is a serious problem for apple and pear growers in the U.S. Unlike some fruit pathogens, fire blight doesn't just damage or destroy that season's fruit – it can kill the entire tree. It is caused by the bacteria *Erwinia amylovora*, and is easily spread among trees and orchards. With growers now spending up to \$20,000 per acre to establish an orchard, the risk of severe tree injury or loss from fire blight needs to be controlled. This Critical Issue Report on controlling fire blight in organic orchards is currently available for growers and industry members, and has been downloaded by almost 900 people, in addition to being distributed via hard copy publication to over 500 growers.



### 2015 DIETARY GUIDELINES



The Organic Center has stayed on top of the developing Dietary Guidelines for Americans. For the first time, the Dietary Guidelines will include recommendations on food sustainability and safety. Since organic systems are a perfect example of a sustainable food system, the Organic

Center submitted comments supporting the science showing the sustainability of organic production methods. The Center also mobilized several of its Science Advisory Board members to submit individual comments, adding research voices in support of organic to the public comments on food system sustainability.

### STUDY SUMMARIES

The Organic Center is your trusted go-to source for information about the most current research on organic issues. As soon as new scientific studies come out, we publish non-technical summaries of them with links to the original papers. In 2014, we published 83 summaries of research studies of interest to the organic community.

### SCIENCE ADVISORY BOARD

The Organic Center has grown its Science Advisory Board this year to include new experts in the field. The Science Advisory Board augments The Center's internal scientific expertise and acts as an outside evaluator voice on issues that arise in the organic field. It serves as a support system for internal scientific management, and provides oversight on the progress of The Center's scientific initiatives. The 33 members include scientists from academic institutions such as Harvard University, the University of California—Berkeley, Cornell University, the University of Michigan, Tufts University, the University of New Hampshire, the University of Maine, and the University of Wisconsin, as well as Newcastle University in the United Kingdom.

“Exposure to pesticides can affect human health in ways that we don't fully understand yet.”

— Professor Lu, Harvard University



## Science Advisory Board

**Catherine Badgley**  
*University of Michigan*

**Alex Lu**  
*Harvard University*

**Chuck Benbrook**  
*Washington State University*

**Bruce Maxwell**  
*Montana State University*

**Jeffrey Blumberg**  
*Tufts University*

**Charles Mohler**  
*Cornell University*

**Asa Bradman**  
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**Joji Muramoto**  
*University of California, Santa Cruz*

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*University of Newcastle*

# Communication

The Organic Center website continues to drive high traffic to our pages, catering to industry members, researchers, and the public. The website maintains a scientific focus while making information more accessible to the public. Some of our most popular website features include:



**“The Latest”** On the home page, viewers can easily see all site updates, including recent scientific article summaries, interviews with scientists, and new recipes. This section is updated almost daily with all our most recent information!



**“Who We Are”** In the “Who We Are” section, the public can read bios of all our Science Advisory members, our Board of Trustees, and our Director of Science Programs. This section also lists the Center’s vision, mission, and goals.



**“Organic Recipes”** Our “Organic Recipes” page provides monthly instructions on preparing delicious organic dishes, as well as informative blurbs about the scientific background of the ingredients.



**“Featured Scientist”** The Organic Center conducts monthly interviews with scientists doing work of interest to the organic community. These interviews are published in our “Featured Scientist” section, and cover cutting-edge research and projects currently being undertaken by world-renown scientists.



**“Hot Science”** Our “Hot Science” section is updated multiple times a week, and covers all recently published research on organic topics. We publish non-technical, short descriptions of studies on organic issues as soon as they are released.

For the second year in a row, The Organic Center has tripled our web traffic. This year we had a 309% increase as compared to 2013. People love our user-friendly content that gets updated on a daily basis.

“Organic agriculture has the potential to contribute quite substantially to the global food supply, while reducing the detrimental environmental impacts of conventional agriculture.”

–Professor Badgley, University of Michigan

## SOCIAL MEDIA PRESENCE



In 2014, our social media and communications presence have continued to increase. We share popular articles about the science behind organic on Facebook and Tweet meetings and events of interest to the organic public. We also publish a monthly newsletter, *The Organic Scoop*, which has been gaining traction in the organic community. Our Facebook “likes” have increased by 276%, our Twitter following has increased by 54%, and our newsletter gets sent out to 25% more people than in 2013.

The Organic Center also published an infographic about the health benefits of choosing organic. The infographic was downloaded from our website over 400 times, reached over 36,000 people on Facebook, and was featured in such outlets as *Food Manufacturing*.

The Center also engaged in interactive social media opportunities, such as co-hosting a Twitter party with the Rodale Institute as part of the Organic Trade Association’s Organic-Palooza. The Twitter party focused on using science to mythbust fallacies about organic food and farming.

## MEDIA ENGAGEMENT EVENTS

The Organic Center joined the Organic Trade Association on several media engagement events in 2014. For example, we took our experiential media tour to the West Coast for a culinary tour through the science supporting the benefits of organic with reporters, bloggers, and other media representatives. The Center also participated in a media engagement event in Baltimore during Expo East, and a media breakfast in Washington, D.C., which was attended by with reporters from media outlets including *AP*, *Bloomberg*, *USA Today/Des Moines Register*, *NPR*, *Político*, *CQ Roll Call*, *Bureau of National Affairs*, *Hagstrom Report*, *Inside Ag*, *Food Safety News*, *Kiplinger Ag Newsletter*, and *Environment & Energy Publishing*.

## Organic Food Healthier for you and your family

3 reasons to choose organic

### 1. Nutrition

Organic milk has **62%** more healthy omega-3 fatty acids than conventional milk



Organic crops have higher cancer-fighting antioxidant levels:

flavonones	69%	antho-cyanines	51%	flavonols	50%	stilbenes	28%	flavones	26%	phenolic acids	19%
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### 2. Toxic Metals

Organic crops have **48%** lower levels of the toxic metal cadmium than conventional crops

48 Cadmium Cd 112.411

### 3. Pesticides

Pesticides are found **4 times** more frequently in conventional crops than organic crops



Brought to you by: **The Organic Center**  
[www.organic-center.org](http://www.organic-center.org)

Sources  
Benbrook et. al. 2013. Organic production enhances milk nutritional quality by shifting fatty acid composition. PLOS ONE.  
Baranski et. al. 2014. Higher antioxidant & lower cadmium concentrations & lower incidence of pesticide residues in organically grown crops. British Journal of Nutrition.



## RESPONSES TO THE MEDIA



The Organic Center is the leading voice when it comes to the science behind organic food and farming. As such, we bust myths and misinformation spread through the media about organic issues. This year we wrote several responses to media articles misrepresenting the science supporting organic, including a piece in *Forbes* magazine titled “Why Organic Isn’t Sustainable,” the *Washington Post* article “Five myths about organic food,” the Bloomberg View article “Organic Isn’t Clean and It Isn’t Toxin-Free,” the *Wall Street Journal* article “Organic Farming Is Not Sustainable,” *The Washington Post* article “Is organic better for your health,” the *Western Farm Press* article “Organic is not the sustainable food of the Future,” the *British Journal of Cancer* article “Organic food consumption and the incidence of cancer in a large prospective study of women in the United Kingdom,” and the *Slate* article “Organic Shmorganic”. The Center also provided an analysis of the *Consumer Reports* publication looking at arsenic levels in rice and other grains.

## MEDIA FEATURES



The Organic Center was featured heavily in the media in 2014. Several on-line, print, blog, and radio reporters interviewed Organic Center experts on scientific topics and published or broadcast pieces featuring the Center. Media outlets also picked up press releases pushed out by the Center about emerging issues, events, and research findings. The Center was featured in over 1,503 articles on a wide variety of subjects from the importance on non-toxic controls for citrus greening disease to reasons why consumers should choose organic cranberries for their Thanksgiving sauces.

## YOUTH ENGAGEMENT



The Organic Center stressed youth engagement in 2014 by partnering with Teens Turning Green to support their 2014 Project Green Challenge. Project Green Challenge is a month-long event that engages high school and college students in environmentally themed challenges, with the goal of educating students and mobilizing change to sustain a healthy and just planet through individual, campus and large-scale action. The Organic Center worked with Teens Turning Green to develop challenges centered on the benefits of organic food and farming, focusing on how organic promotes environmental sustainability, human health, and cultural well-being.

The Center also participated in events and panels at universities, such as a round-table workshop at the University of Virginia on methods for comparing nutrient runoff between agricultural systems, and an Earth Day Panel at Georgetown University aimed at increasing student engagement in environmental activities.

## CONGRESSIONAL BRIEFING



The Organic Center briefed Congress this year, covering emerging science on organic issues and organic food and farming research needs. The briefing included details about the recent nutritional study led by Newcastle University as well as research concerning citrus greening.

## IFOAM WORLD CONGRESS



The Organic Center participated in the International Federation of Organic Agriculture Movements (IFOAM) Organic World Congress this year in Istanbul, Turkey. The Organic Center was invited to present on several topics, including farming system effects on nitrogen pollution, and organic methods for controlling citrus greening. In addition to the congress, the Center participated in a pre-conference session hosted by the Technology Innovation Platform of IFOAM (TIPI) focused on research needs around the world.



*“The preliminary findings from our important research support the benefits of organic food and farming for the health of humans and the environment.”*

*– Dr. Jessica Shade  
Director of Science Programs at  
The Organic Center*

## INDUSTRY PANELS



The Organic Center hosted a wide variety of workshops and panels aimed at connecting industry members with science supporting organic food and farming. For example, at the Organic Trade Association’s Policy Conference, the Center held a panel covering organic research priorities and funding structures for organic scientific studies. The Center also held panels at the All Things Organic Conference at Expo East, looking at organic’s role in pollinator and human health and climate change mitigation.

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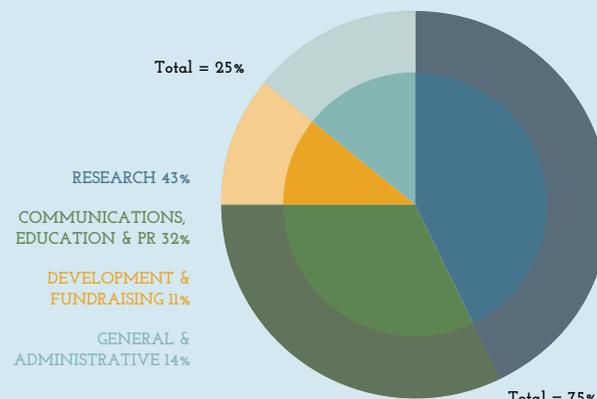
## Finance

This has been a successful year financially for The Organic Center. We sold 420 tickets to our benefit dinner in March, and had a total of 125 donors.

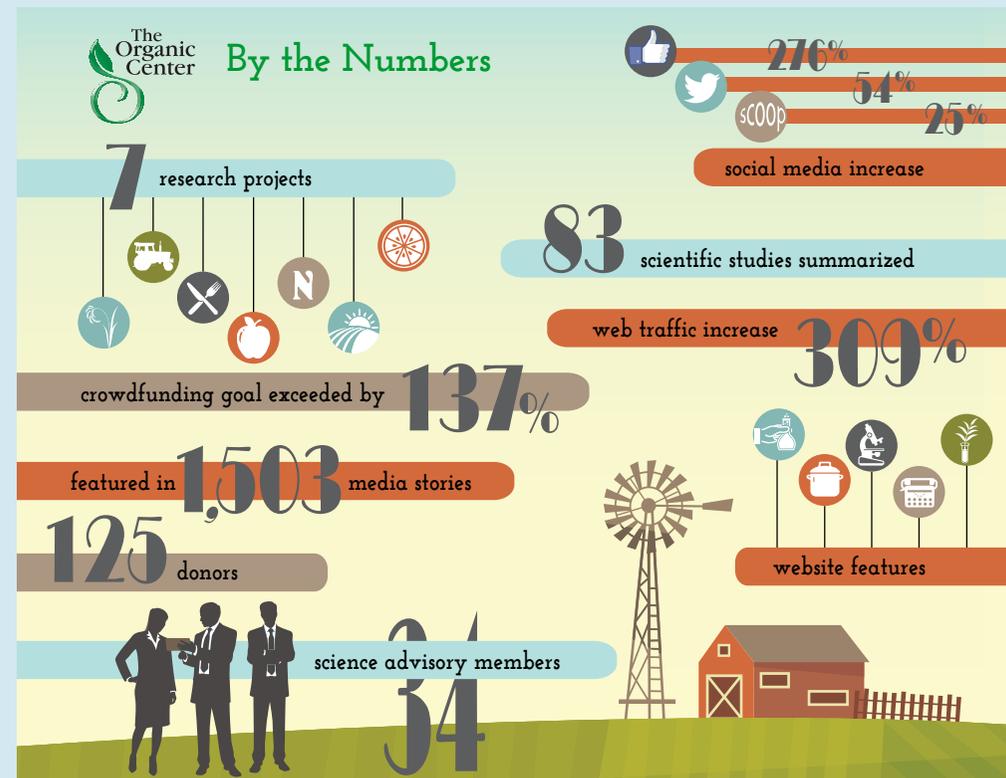
### CROWDFUNDING

The Organic Center held its first crowdfunding campaign this year, seeking funding for research on organic solutions to citrus greening. The campaign was a success, reaching 137% of its fundraising goal.

2014 ORGANIC CENTER EXPENSE BREAKDOWN\*



\*Unaudited



Established in 2002 and based in Washington, D.C., The Organic Center is a non-profit organization that is a trusted source of information for scientific research about organic food and farming. We cover up-to-date studies on sustainable agriculture and health, and collaborate with academic and governmental institutions to fill gaps in our knowledge. As an independent non-profit 501(c)(3) research and education organization operating under the administrative auspices of the Organic Trade Association, The Center envisions improved health for the Earth and its inhabitants through the conversion of agriculture to organic methods.

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Hall of the States  
444 North Capitol St. NW  
Suite 445A  
Washington, DC 20001  
USA

[organic-center.org](http://organic-center.org)