



The  
Organic  
Center

ANNUAL REPORT 2015

Established in 2002, The Organic Center 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. The Center envisions improved health for the earth and its inhabitants through the conversion of agriculture to organic methods.

## IT'S ALL ABOUT THE SCIENCE BEHIND ORGANIC

The Organic Center continues to grow its project portfolio, which currently focuses on 12 projects highlighting emerging issues in the fields of environmental health, human health, and applied studies. Visit [Organic-Center.org](http://Organic-Center.org) for the latest updates and results from The Center's work.



### Investigating 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 new reactive nitrogen introduced into the environment and particularly how organic agriculture can be part of the solution.

### Researching the benefits of organic farming on soil health

The Organic Center is collaborating with the National Soil Project (NSP) at Northeastern University to examine some of the benefits organic agriculture may have on soil health. Specifically, this project quantifies the amount of sequestered carbon in hundreds of organic farm topsoil samples for comparison with corresponding conventional samples to determine differences in levels of the components that make up organic matter. The Center has already collected over 400 samples, with the goal of collecting 600 samples by the end of 2016. To encourage soil samples, NSP is offering free soil analyses to all farmers who send in soil samples.



### Finding organic solutions to citrus greening

Citrus greening disease 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. The first phase of the research looking at the efficacy of organic pesticides was recently completed. One of the organic materials—Mycotrol—significantly suppressed psyllid populations. This means that organic growers have resources in their tool bag to combat this disease.



### Examining the 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. 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.



### Taking a closer look at pesticide, hormone and antibiotic presence in milk

This project looks at the extent to which hormones, antibiotics and pesticides used in milk production can be detected in retail conventional milk, as compared to organic milk. Specifically, cow milk will be tested from seven regions in the U.S. for three different growth hormones, eight different pesticides, and five groups of antibiotic types.



### Identifying methods for protecting organic from inadvertent pesticide contamination

Pesticide avoidance is one of the main motivations 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 also 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 tested samples of organic rice grown under controlled organic conditions at USDA research facilities, and are 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.



### Protecting organic orchards from fire blight



The Organic Center 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 U.S. apple and pear growers. Unlike some fruit pathogens, fire blight doesn't just damage or destroy that season's fruit — it can kill the entire tree. 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 project was completed in 2014, and The Center has since given several workshops at grower meetings and presented the findings at several national conferences.



### Measuring on-farm biodiversity for producers

This project looks at on-farm biodiversity using a simple, straightforward calculator that farmers can use. One of the unique traits of this calculator is that it not only provides farmers with suggestions for how to improve their biodiversity based on individualized metrics, it can also be used to make growers aware of the cost-savings for farms through the ecological services provided from increased biodiversity — translating a monetary value to environmental benefits. The Center is hosting the calculator along with a user guide for organic producers and additional information about the science behind biodiversity on organic farms on its website.

### Supporting pollinator health through organic practices

The Organic Center in 2015 released an in-depth report documenting the benefits of organic on pollinator populations. The publication reviews specific cases of pesticide impacts on pollinator health, and discusses the lesser-known benefits of organic farms, such as more diverse habitat for pollinators and an increase in food sources.

### Preventing the risk of soil pathogens

The Organic Center is collaborating with researchers at USDA, the University of California, Davis, Woods End Laboratories, the University of Maine, and the University of Minnesota to further the study of the use of animal-based manure and compost in organic agricultural practices to prevent the risk of soil pathogens. Throughout 2016, we will be holding public meetings and collecting information to help ensure that the unique realities of organic farmers are considered in future policy decision-making.

The Organic Center made big strides getting science into the hands of policymakers in 2015. In addition to continued meetings with the U.S. Food and Drug Administration (FDA), the Center along with OTA participated in conversations with White House staff regarding the pollinator strategy that the Administration published in May 2015. The Center encouraged the White House to include organic methods to improve pollinator health, citing evidence from The Organic Center's pollinator report.

“When we fight for organic food, it connects us to every living creature on the planet, from birds to frogs and pollinators—all those harmed by toxic pesticides”

—Anna Lappé, author and educator



### Creating sustainable strategies for IPM in Southern organic rice

This is a collaborative project among researchers at Texas A&M University's AgriLife Research & Extension Center, Texas A&M Department of Soil and Crop Sciences, USDA's ARS Dale Bumpers National Rice Research Center, University of Arkansas Rice Research and Extension Center, University of Arkansas at Pine Bluff Department of Agriculture, and The Organic Center. It employs a multi-stakeholder research team to develop a multi-disciplinary approach to developing Integrated Pest Management strategies for organic rice production in the Southern United States.

## COMMUNICATING THE BENEFITS OF ORGANIC

The Organic Center website continues to drive high traffic to our pages, catering to industry members, researchers, and consumers. The website, updated daily, maintains a scientific focus while making information more accessible to the public. The Organic Center also conducts monthly interviews with world-renown scientists doing cutting-edge research, and publishes organic recipes that include interesting facts about the science behind the ingredients.

In addition to a robust and interactive social media presence on Facebook and Twitter, The Organic Center is known for its high-quality monthly e-newsletter, *The Organic Scoop*. In 2015, The Center improved the focus of this publication for specific audiences, offering consumer-specific and industry-specific versions of the newsletter. The consumer newsletter focuses on cutting-edge scientific discoveries, new recipes, scientist interviews, and blog posts. The industry newsletter includes scientific research, but also touches on organizational updates, industry events, and media engagement. These efforts have paid off with a 172% increase in newsletter subscribers.



### The leading voice when it comes to the science behind organic

The Organic Center was featured heavily in the media in 2015. Numerous on-line, print, blog, and radio reporters interviewed The Center experts on scientific topics and published or broadcast pieces featuring our work. The Organic Center contributed to the book *World Hunger: 10 Myths*, written by best-selling authors Frances Moore Lappé and Joseph Collins, and was featured in over 1,200 articles about organic.

In addition to positive media engagement and proactive story placements, The Center acts fast to counter misinformation. In 2015, we wrote several fact-based responses to media articles misrepresenting the science supporting organic. These included the *Forbes* articles "The Lower Productivity Of Organic Farming" and "Why Organic Isn't Sustainable," *The Guardian* article "Organic farms don't have the tiny carbon footprint they like to tout," the *National Review* article "How Taxing Organic Products Could Solve California's Water Shortage," and *The Wall Street Journal* articles "Should Companies Be Required to Label Genetically Modified Foods?" and "Can Organic Food Feed the World?"

### We go where the organic community goes

The Organic Center hosted a variety of workshops and panels aimed at connecting industry members with science supporting organic food and farming. At the All Things Organic Conference during Expo East, The Center held a panel highlighting 2015 as the Year of the Soil. The Organic Center also spoke at Expo West about the most recent research supporting the benefits of organic. At the Organic Trade Association's Policy Conference, The Center held a workshop discussing research priorities with participants from the Organic Farming Research Foundation, the U.S. Department of Agriculture's National Institute of Food and Agriculture, and Texas A&M University.



The Organic Center is your go-to source for the most current health, environmental, and agronomic research issues that impact food, farming, and sustainability. As soon as new scientific studies come out, we publish non-technical summaries with links to the original research papers. In 2015, we published 87 summaries of research studies to help inform the diverse community of stakeholders working to advance the organic movement.

"The Organic Center participated with me in the International Society for Organic Farming Research organic research symposium and expo in South Korea. Together, we helped educate researchers from around the world about organic research priorities, projects and findings in North America, and contributed to the scientific agenda for the next IFOAM World Congress."

—Jim Riddle, The Ceres Trust

# Science Advisory Board

The Organic Center continues to grow its Science Advisory Board 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 insight into the development of The Center's scientific initiatives. At this year's annual Science Advisory Board meeting, the members provided valuable information on current research needs and upcoming scientific projects of importance to the organic community.

**Catherine Badgley**  
University of Michigan

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Benbrook Consulting

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Tufts University

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**Bruce Maxwell**  
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**Charles Mohler**  
Cornell University

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

**James R. Myers**  
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**Girish Panicker**  
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**Alex Racelis**  
University of Texas, Pan-American

**Chris Reberg-Horton**  
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**Jim Riddle**  
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**Erin Silva**  
University of Wisconsin

**Riki Sorge**  
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**Marla Spivak**  
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**Mark Williams**  
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University of Massachusetts, Amherst

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## Staff

The Organic Center is an independent non-profit 501(c)(3) research and education organization with two full-time Ph.D staff scientists. The Center operates under the administrative auspices of the Organic Trade Association (OTA) and takes advantage of a fully functional administrative, communications, and policy staff.

**Dr. Jessica Shade**  
Director of Science Programs

**Dr. Tracy Misiewicz**  
Science Project Specialist

## Looking Ahead



### Among the projects to watch:

- Research further studying the use of animal-based manure and compost in organic agricultural practices to best prevent the risk of soil pathogens.
- A research collaboration to quantify chemicals in conventional dairy milk and the extent to which consumers can avoid these exposures by choosing organic.
- An environmental health project focusing on how farming practices can have an impact on the amount of reactive nitrogen released into the environment.
- A research collaboration on the net benefits of organic food and farming, focusing on climate change and human health.
- Research on methods used in organic livestock production that provide simple and effective means to combat the rise of antibiotic-resistant bacteria and protect the health of consumers.



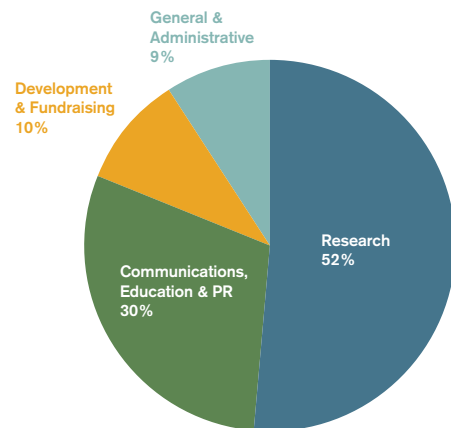
**ORGANIC  
CONFLUENCES**

A Summit to Turn  
Environmental Evidence  
into Policy Practice

### Don't miss the first-ever Organic Confluences Summit

A one-day event in conjunction with Organic Week in D.C. bringing together scientific experts, farmers, policymakers and organic stakeholders. We will work together to connect the dots between evidence-based research on organic and national conservation programs.

### 2015 Organic Center Expense Breakdown\*



\*Unaudited



Each March, more than 500 supporters gather for The Organic Center's Annual Benefit Dinner in Anaheim, California as part of Natural Products Expo West. It is a celebration of organic: of the benefits to the environment and to our health that organic provides, of the scientists and researchers whose dedicated work advances the organic sector, and of the generous sponsors who make that work possible in the labs, in the fields and in the orchards. In 2015, The Organic Center's sold-out fundraiser raised nearly \$450,000 for the work of our non-profit research and education organization. In addition to the hundreds of enthusiastic supporters on-site, the gala connected with individuals outside the ballroom. Attendees were encouraged to use their cell phones and spread the word about The Center using the hashtag #OrganicBenefit, sharing their favorite moments with their own social networks and significantly expanding the reach of the evening's most important messages.



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