



ORGANIC
FARMING
RESEARCH
FOUNDATION

2020 ANNUAL REPORT



As we look back on 2020, it is hard to believe that a busy conference schedule began and ended with our Organic Agriculture Research Forum in January—one of our last in-person events before the lockdown in March. While the move to all remote work has had its challenges, I am proud of the ways we quickly pivoted our programs and services to ensure we were able to continue to work effectively to foster both the improvement and widespread adoption of organic farming systems. Webinars and other virtual events helped fill the gap, but we missed seeing everyone. I look forward to the day when we can gather again.

Speaking of all things virtual, we introduced a new website in 2020, making it easier to navigate and access our breadth of news, educational content, research findings, and policy work. With the website in place, we amped up our social media with the goal of creating more organic advocates by sharing science-based information on the potential of best organic practices to help mitigate climate change and build resilience in our agricultural systems. We have been honing our research, education, and advocacy work to ensure that maximizing the potential of organic systems to mitigate climate change is more explicitly a part of all of our work.

We also completed an online national survey of organic and transitioning farmers. During the first part of 2021, we'll be conducting 15 virtual focus groups to add qualitative feedback to the survey data for our 2021 National Organic Research Agenda report. As our previous reports have done, the feedback we obtain from farmers and ranchers on their top challenges will help ensure both public and private funding for research is directed to the most relevant topics.

The pandemic has definitely created unique challenges in our food and agricultural systems and the work to create sustainable, healthy, resilient, and equitable food and farming is more important than ever. This year has been particularly challenging for farmers, ranchers, and farmworkers and OFRF has been reflecting on how we can adapt as an organization to best meet their needs. We have used this time to review and reassess our strategic plan to ensure we are doing our best to serve organic producers. This has included a meaningful assessment of how we can expand our efforts to ensure a diverse and equitable food system through increased collaboration with allies and partners to help dismantle the structural racism in our food and farming system.

I am so grateful for my team, our collaborators and supporters, scientists, and especially all the farmers who continue to provide us with healthy food while stewarding our land.

I hope you enjoy this year-end summary.

We couldn't have done it without you!

A handwritten signature of Brise Tencer in black ink, written in a cursive style.

Brise Tencer
Executive Director, OFRF

ADVOCACY



Organic agriculture must be part of the climate solution

In preparation for the first 100 days of the next Administration, future climate bills, and the 2023 Farm Bill, OFRF spent much of 2020 working closely with partner organizations to align on key priorities and strategies, writing public comments and extensive blog posts, strengthening our coalitions, and developing research and policy recommendations. We are advancing our four-part policy platform to ensure that any federal level climate policy includes support for organic farmers and ranchers as critical partners in our climate change mitigation efforts.

With a new administration moving into the White House, it is more important than ever to make organic voices heard. In 2020, OFRF delivered a transition letter to the Biden-Harris Administration with a list of action steps they can take immediately to increase support of organic agriculture at the U.S. Department of Agriculture (USDA).

OFRF encourages the Administration and legislators to ensure sustainable and organic farmers and ranchers have a seat at the table as climate policy discussions continue to develop. We encourage Congress to use the Agriculture Resilience Act (HR 5861) as a roadmap for comprehensive policy proposals that expand and improve existing USDA programs so agriculture can fulfill its climate mitigating potential and be part of the solution.

To enhance organic agriculture's potential to address the climate crisis, Congress needs to:

- Increase funding for research to reduce GHG emissions and enhance carbon sequestration and climate resilience in organic production systems.
- Incentivize climate-friendly farming practices and ensure organic farmers can effectively access federal conservation programs.
- Promote transition to organic agriculture by providing incentives and addressing barriers, while protecting the integrity of the organic label.
- Complete the research cycle by investing in education, Extension, and outreach.

Quick view



[OFRF Research Priorities for Organic Agriculture and Climate Change](#)



[OFRF Organic for Climate Policy Recommendations](#)



[OFRF Letter to Biden Administration/Transition Team](#)

RESEARCH

**355
GRANTS
\$3M+**

OFRF awarded 13 grants in 2020 to help address the top challenges facing organic farmers and ranchers. As a result of OFRF's research, education, and outreach efforts, thousands of farmers have received pertinent research and training information. Results from all OFRF-funded projects are available to access for free in our online database.

CROP BREEDING



Sarah Hargreaves, Ecological Farmers Association of Ontario

Seeding a Culture of Innovation in Organics: Farmer-led breeding of peppers, broccoli and cucumber

This project supports three breeding projects in cooperation with the Ecological Farmers Association of Ontario's Farmer-Led Research Program. All three projects focus on providing best practices to adapt to climate change by breeding varieties that are locally adapted to low-input organic systems for southern Ontario and the U.S. northeast. By supporting farmer-led breeding efforts for organic production, this project also contributes to an emerging but critically under-researched area of vegetable farming.

IMPACT

Three varieties of early ripening, blocky, and flavorful bell peppers: a mass selected population of red peppers, and uniform populations of red and yellow peppers using progeny lines. Breed an open pollinated broccoli that is heat tolerant and adapted to organic systems. Breed an open pollinated seedless English cucumber with excellent flavor and good yield that is adapted to organic greenhouse conditions.

Helen Jensen, Seed Change

Evaluation of selection methods and efficacy in on-farm breeding of organic wheat and oat varieties

Participatory plant breeding (PPB) is internationally recognized as a methodology that works collaboratively with organic farmers to minimize environmental impacts and adapt to climate change. This project will document how farmer-selectors have contributed to genetic improvement for organic production for wheat and oats and share that information with existing and prospective PPB participants across the country.

IMPACT

Improved knowledge of selection practices for all of the stakeholders in the program, as well as improved methodologies and increased adoption of PPB by a broader range of organic farmers.

Carol Deppe, Fertile Valley Seeds

Breeding disease-resistant heirloom-quality tomatoes

The goal of this project is to breed disease-resistant heirloom-quality tomatoes, especially those resistant to late blight and a number of other diseases.

IMPACT

Wide distribution of seeds to allow organic farmers and gardeners to easily develop their own heirloom-quality tomato varieties with resistance to common diseases.

RESEARCH

SOIL HEALTH



Inna Popova, University of Idaho

Advancing Organic Potato Production with Mustard Seed Meal Extract: a multi-pronged tool to control weeds, promote soil health, and improve potato nutrition

The overall goal of this project is to discover effective weed management strategies for organic potato production that promote healthy soils and nutritious potatoes. Utilizing innovative organic agricultural practices that improve soil health, combat weeds, and enhance nutritional quality of staple foods will enable farmers to successfully meet the challenges of feeding a rising global population.

IMPACT

Increased knowledge of the efficacy of mustard seed meal extract (MSME) as a bioherbicide and adoption of MSME by organic and non-organic farmers as a weed management strategy.

Pushpa Soti, University of Texas Rio Grande Valley

Cover Crops for Soil Health: demonstration of on-farm trial

The sub-tropical climate prevailing in the Lower Rio Grande Valley (LRGV) region, a major agricultural region in semi-arid, subtropical Texas, poses significant agronomic challenges to farmers: year-round weed, sand, insect pest and pest pressure must be managed simultaneously while also maintaining soil health. To mitigate these issues, farmers in LRGV have started to show interest in using cover crops, which have been shown to provide multiple agroecosystem services, including protecting soil from water and wind erosion. This project is designed to address farmers' concerns about cover crops by evaluating the potential of various cover crops and their ecosystem services.

IMPACT

Information on cover crop species selection and management to improve the long-term sustainability of organic farms in semi-arid, subtropical regions.

Martin Guerena, National Center for Appropriate Technology

Biosolarization: harnessing the sun and organic matter for weed control

The primary objective of this project is to measure the efficacy of biosolarization (a new innovation in the realm of weed control that includes the use of organic matter in the form of compost, cover crops, manure or other materials such as pomace or nut hulls) on weedy species present on three organic farms in the Sacramento Valley of northern California (Solano and Yolo Counties).

IMPACT

Use biosolarization to achieve equal or better weed control in less time compared to a plot using solarization (clear plastic sheeting on moist soil to thermally terminate a variety of pest species)

RESEARCH

SOIL HEALTH



Mary Barbercheck, The Pennsylvania State University

Conservation of an endophytic insect-pathogenic fungus for plant protection in organic cropping systems

Farmers and agricultural professionals have great interest in exploiting beneficial soil organisms, especially in organic systems with their focus on soil health and reliance on natural cycles to manage plant health and pests. Endophytes are microorganisms that form non-pathogenic symbioses with plants and can confer benefits, including growth promotion and increased plant tolerance to environmental stresses that are predicted to increase with climate change.

IMPACT

Broader understanding of how to promote and conserve the beneficial endemic soil fungus, *Metarhizium robertsii*, as an insect pathogen and endophyte in organic cropping systems. Findings will strengthen the capacity of Extension and other agricultural professionals to serve the information needs of organic growers.

Jed Eberly, Montana State University

Evaluating the effects of seeding rates and inoculant performance on nodulation, weed suppression, and relative yields of different lentil varieties grown in the Northern Great Plains (year two)

Lentils are important for diversifying wheat-based cropping systems and also enhance soil health. These benefits have contributed to the exponential growth in pulse crop acreage in The Northern Great Plains (NGP). However, there are several challenges facing organic lentil production. For instance, lack of approved herbicide for use in organic pulse crop production provides a challenge to weed management. The goals of this project are to evaluate effects of seeding rates on lentil yields and weed competition. The effect of inoculation rates on nodulation and the soil community profile will also be determined.

IMPACT

Improved lentil yields, nutritional quality, and better returns on investments. Ultimately, incorporating lentils into organic cropping systems could enhance soil health and improve the economics of organic operations.

RESEARCH

WEED & PEST MANAGEMENT



Arash Rashed, University of Idaho

Efficacy evaluation of biological control agents against wireworms in organic production

Managing wireworms has been a challenge due to their long-life cycle, subterranean living habitat, and ability to use a wide range of host plants. Although there are a few insecticides available for conventional farming, there is no effective alternative control measure against wireworms in organic production. Recent studies suggest that entomopathogenic nematodes (EPN) and fungi (EPF) may offer protection against wireworms, but their efficacies are influenced by soil type and wireworm species. Focusing on one of the most damaging species in the Pacific Northwest, the sugar beet wireworm *Limonius californicus*, this project will evaluate and compare efficacies of EPF, field-collected and commercial EPNs, and combined EPF/EPN treatments against wireworms in organic vegetable production.

IMPACT

Identification of the most effective entomopathogenic treatment against the sugar beet wireworm and successful establishment of the biocontrol agent in organic farm soil.

Donn Cooper, Georgia Organic Peanut Alliance

A comprehensive approach to control weeds in organic peanut systems in the Southeast

This project will examine the effectiveness of an integrated weed control system in organic peanut production utilizing regular mechanical cultivation and Eugenol, a broad-spectrum herbicide derived from cloves and approved for Certified Organic production in a commercial formulation as Weed Slayer. Data for all weed control activities will be collected throughout the year, and weed populations at each farm will be measured after approximately eight weeks of control and again before harvest.

IMPACT

On-farm tested information on best agronomic practices and economic considerations of weed control methods in organic peanut systems.

RESEARCH

ORGANIC FERTILIZERS

Kate Scow, Russell Ranch Agricultural Sustainability Institute, University of California, Davis

Evaluating costs and benefits of organic-approved liquid injectable fertilizers to improve nutrient uptake and yields in tomato

While research on cover cropping and compost application has surged in the past decade, organic growers are still struggling to maintain sufficient levels of available nitrogen (N) in vegetable cropping systems. A number of new soluble injectable OMRI-approved fertilizer products are now available but have not been independently evaluated, leaving growers uncertain about efficacy. This project will use plots managed organically for 26 years as part of a long term cropping systems trial at the UC Davis Russell Ranch facility to compare N uptake, fruit yields, and profitability of three representative types of organic liquid fertilizers (fish emulsion, compost tea, and microbial/amino acid injectables) via fertigation in organic tomatoes.

IMPACT

Determine nutrient uptake and yield benefits of three organic-approved liquid fertilizers, and evaluate their effect on soil nutrient cycling. Provide a cost-benefit analysis of each type of fertilizer based on cost of products, yield effects, and organic premiums.

FARMER MENTORSHIP

Sarah Brown, Oregon Tilth

Best Practices for Virtual Peer-to-Peer Farmer Learning

Virtual peer learning programs that connect learners off-site are increasingly common in a variety of fields and disciplines. Unlike traditional distance learning such as online courses and instructional webinars, these programs are explicitly designed to use web technology for the reciprocal sharing of knowledge, ideas, and experience among practitioners. This project will explore how to adapt and develop effective virtual peer learning models in the organic and sustainable agriculture sector.

IMPACT

Increase access to peer learning to help more farmers start and succeed in organic farming.

RESEARCH

ORGANIC SEED DEVELOPMENT

Lee-Ann Hill, Rocky Mountain Seed Alliance
20 to 20, in 2020

This project looks beyond the marketability of heritage grains to explore their impact on soil health, climate adaptivity, weed pressure, and insect pressure through farmer-driven, participatory research. Research data collected from this project will be published in the Heritage Grain Trials Handbook, freely distributed online, and disseminated to grain trialists and interested growers to increase and enhance knowledge about these unique varieties.

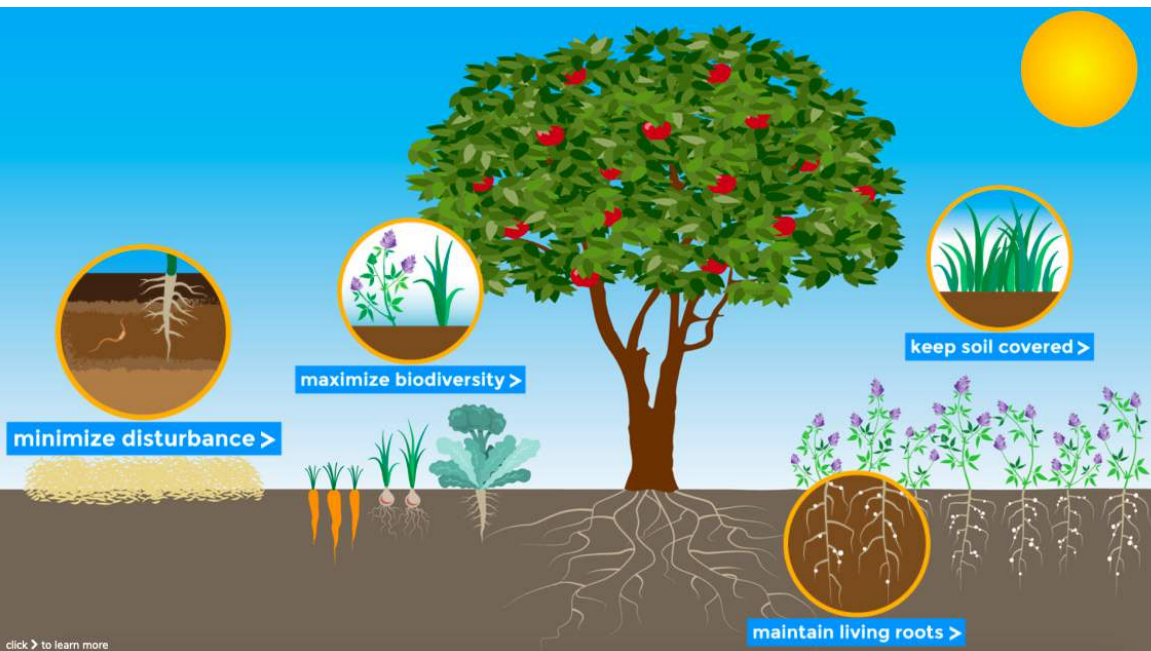
IMPACT

Increased availability of 20 unique heritage grain seed varieties to a minimum of 20 pounds each in 2020.

All OFRF research results are shared freely
in our online database.

 <https://ofrf.org/research/research-grant-database/>

ORGANIC FOR CLIMATE



A TOOLKIT FOR CONSUMERS, ADVOCATES, AND POLICYMAKERS

In April, we introduced a new digital toolkit on our website to inspire, educate, and inform people on how best organic practices help mitigate climate change and build resilience—leading to healthy people, ecosystems, and economies.

Our goal is to encourage more consumers to purchase organic food and increase demand so that together we can expand organic acres to:

- *Capture and store more carbon in the soil for longer.*
- *Release fewer greenhouse gases.*
- *Help farmers and ranchers increase resilience to rising temperatures and intensified droughts and rain events that make it more challenging to grow crops and raise livestock.*

We also launched a new social media campaign, A Path to Resilience, with the hashtag #OrganicforClimate. It features a series of posts across social media presenting farmer stories, educational content, and compelling data points. The campaign has been seen by a large number of people across all our channels, but most importantly, the audience has engaged with our content.

Quick view: <https://ofrf.org/organicforclimate/>



Generated more than 12K new followers to our social media accounts



Engaged 15,175 people to like, share, and comment



Directed 2,049 new people to our website



Reached over 1.8M people across Twitter, Facebook, LinkedIn and Instagram

EDUCATION



New Training Program Offers Organic Basics for Beginning Farmers

OFRF completed a free beginning farmer training program for beginning farmers in August. While it was developed for California specialty crop farmers, the content is based on foundational principles that are relevant to all organic farmers and our hope is that growers across the U.S. find it to be a useful resource. The self-guided nature of the training program allows you to move through the readings and resources, visual and written content, and demonstration videos at your own pace.



14700+
VIEWS

The online training program includes six learning modules:

- 1. Soil health**
- 2. Weed management**
- 3. Irrigation and water management**
- 4. Insect and mite pest management**
- 5. Disease management**
- 6. Business management and marketing**

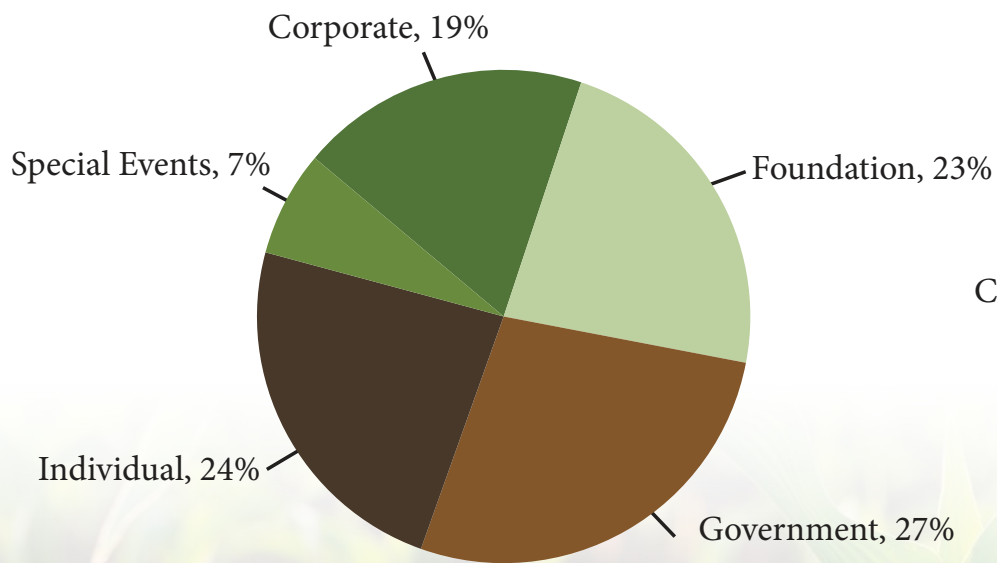
This open educational resource is a joint effort between OFRF, the University of California Sustainable Agriculture Research and Education Program (UC SAREP), and California Polytechnic State University in San Luis Obispo, with funding from the California Department of Food and Agriculture.

Quick view

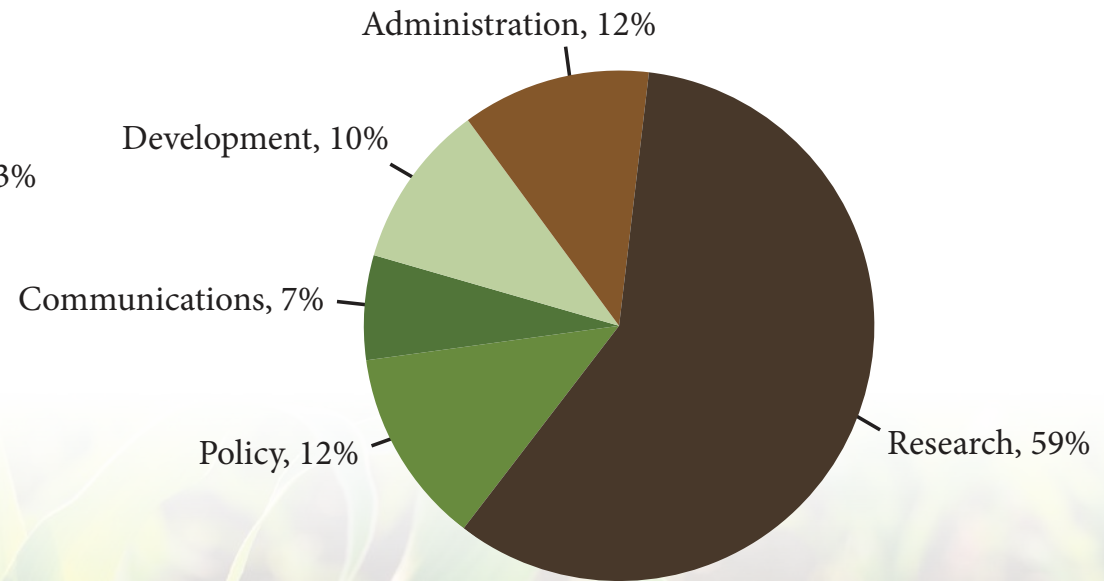


<https://ofrf.org/programs/education/>

FINANCIALS



2020 Total Revenue



2020 Total Expenses

Thank you for your support!

\$50,000+

California Department
of Food and Agriculture
Specialty Crop Block
Grant Research
General Mills
General Mills Foundation
Jane Kobayashi
National Co-op Grocers
United States
Department of
Agriculture National
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Agriculture
United States Department
of Agriculture Risk
Management Agency

\$25,000+

Agua Fund
Clif Family Foundation
Globetrotter Foundation
Marisla Foundation
Patagonia Works
Whole Foods Market

\$15,000+

Ceres Trust
CROPP Cooperative/
Organic Valley Family
of Farms
Lundberg Family Farms
Nature's Path Foods
Oliver Bock
The Ida and Robert
Gordon Family
Foundation

\$5,000+

Danone
Dole Fresh Fruit Company
Driscoll's
Forrest C. & Frances H.
Lattner Foundation
Foundation for
Sustainability and
Innovation
Gaia Fund
Iroquois Valley Farmland
REIT
KeHE Distributors
Marrone Bio Innovations

New Hope Network
Ogee
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International, Inc.
Stonyfield Organic
The Lawrence
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The Nell Newman
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UNFI Foundation

\$1,000+

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Frey Vineyards, LTD
Frontier Co-Op
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Ginsburg
The Goodman Family
Grain Place Foods
Heath and Lejeune
Katrina Heinze
Marisa Hormel
Dustin James
Kamut
KORA Organics
Melissa's
Kyra and David Robinov
Roland Pesch and Kathy
Roskopf
Daniela Roveda
Timothy Schultz
Spottswode Estate
Vineyard & Winery
Straus Family Creamery
Godfrey Tencer
True Organic Products
Uncle Matt's Organic, Inc.
Warren and Amy Weber
Alice Young

\$500+

Albert's Organics, Inc.
Azure Standard
Bonterra Organic
Vineyards
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Joan Sarnat and David
Hoffman
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Laurette Lipson
Dave Martinelli
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Doug OBrien
The Porter Family
Victoria Rosenfield
San Francisco
Foundation
Smart Chicken
Mary Spadaro
Deborah Stinner
Tierra Farms
Jeff Vinson

\$250+

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