

# 2019 Annual Report



Student Organic Farm  
**MICHIGAN STATE UNIVERSITY**

*Cultivating knowledge and capacity in sustainable  
agriculture for students, farmers, and educators.*



# 2019 Annual Report

## Table of Contents

<b>Thank You</b>	1
<b>A Letter from the Managers</b>	4
2019 by the Numbers	
<b>Where Our Food Goes</b>	7
2019 Sales Breakdown	
Community Supported Agriculture	
Farm Stand	
Off-Campus Wholesale	
MSU Culinary Services	
<b>Organic Farmer Training Program</b>	11
Participant & Alumna Profiles	
Study-A-Farm	
OFTP Graduate Survey	
<b>Farmer Field School</b>	17
<b>Undergraduate Engagement</b>	18
Student Crew	
Student Projects	
Service Learning	
Multicultural Apprenticeship Program	
Tours	
<b>Research Collaborations, Involvement and Support</b>	23



# Thank you!

---

## Staff

- Katie Brandt, Educational Programs Manager
- Tom Cary, Administrative Assistant
- Sarah Geurkink, Farm Manager
- Kate Heflick Tosto, Greenhouse Manager
- Daniel Seggebruch, Production Lead and Special Projects Manager

## 2019 Undergraduate Crew

<sup>G</sup> graduated in 2019

<sup>S</sup> summer crew

- Cameron Andrews <sup>G</sup>
- David Chickering <sup>G</sup>
- Anthony Cornacchia <sup>S</sup>
- Breanna Craig
- Lexi Dalecke <sup>S</sup>
- Aryeh Davidson
- Jaime Davidson
- Reilly Ford <sup>S</sup>
- Lauren Hauler
- Corrine Johnston <sup>G</sup>
- Abby Kuplicki
- Eryn Lippet
- Anna McGuffie
- Samantha Mckecknie
- Juan Perez
- Freedom Shelley
- Righteous Tipton
- Lily Wallace
- Andrew Younker <sup>S</sup>
- Najya Zaman

## 2019 OFTP participants

<sup>H</sup> for graduates with honors

- Heidi Bombrisk <sup>H</sup>
- Richard Camp
- Carole Caplan <sup>H</sup>
- Bonnie Cheyne
- Abby Chudnovsky
- William Coughlin <sup>H</sup>
- Heather Fuson <sup>H</sup>

- Mary Goryca
- Sharon Hicks
- Kirstin Hoffman <sup>H</sup>
- Pete Imlay
- Cindy Kern
- Theresa Moyer
- Sarah Pelcher
- Mikayla Rowden
- Devan Spence

## In Kind

- 4-H Children's Garden
- Alice Parr, LVT
- Brainard Lab
- Genesee County Conservation District
- Ingham County Conservation District
- Michigan Pollinator Initiative
- MSU Center for Regional Food Systems
- MSU Entomology Department
- MSU Extension - Genesee County
- MSU Extension - Washtenaw County
- MSU Horticulture Department
- MSU Infrastructure Planning & Facilities
- MSU Residential Initiative on the Study of the Environment (RISE)
- MSU Sustainability
- The New Center
- USDA Farm Service Agency
- USDA Sustainable Agriculture Research & Education (SARE)

## Donations

- Mike Adsit
- Patricia Baldwin
- Dan Brainard
- Katie Brandt
- Arthur Cameron
- W.J. Coughlin
- Rhonda Crackel
- Matthew Diekman
- Daniel DiMaggio
- Carolyn Dulai



---

### **Donations, continued**

- Elizabeth Floyd
- Bin Gao
- Jae Gerhart
- Venceslaus Gore
- Eric Hanson
- Susan Harvey
- Russel Honderd
- Eleanor Ibarra
- William Jaquinde
- Frances Kuplicki
- Laura Liebler
- Cynthia Lousbury
- Nathan Maas
- Ellen Moje
- Sherry Ochsner
- Stephanie O'Donnel
- Julie Robinson
- Michael Rodriguez
- Ann Swan
- Trillium Foundation

### **Partnerships**

- Allen Neighborhood Center
- Brainard Lab
- Department of Biosystems and Agricultural Engineering
- Department of Community Sustainability
- Department of Horticulture
- Hadish Lab
- Horticulture Teaching and Research Center
- Michigan Pollinator Initiative
- MSU Center for Community Engaged Learning
- MSU Center for Regional Food Systems
- MSU Extension
- MSU Residential and Hospitality Services
- MSU Residential Initiative on the Study of the Environment (RISE)
- Szendrei Lab
- Szucs Lab
- University Farms

### **Teaching, Research, Education and Extension (TREE) Committee**

- William Baird (chair), Department of Horticulture
- Daniel Brainard, associate professor, Department of Horticulture
- Zachary Hayden, assistant professor, Department of Horticulture
- One additional seat will be filled in 2020

### **Advisory Group**

\* new members in 2020

- Jude Barry\*, Assistant Director, Center for Regional Food Systems
- Breanna Craig, first year student, Landscape and Nursery Management
- Julie Cotton\*, Program Coordinator, Instructor, and Advisor for SAFS, Department of Plant, Soil, and Microbial Sciences
- Lisa Farley, senior purchasing agent, Residential and Hospitality Services
- Matt Grieshop\*, Associate Professor, Entomology
- Abigail Harper\*, MSU Extension Community Food Systems Educator
- Rich Pirog, Director, MSU Center for Regional Food Systems
- Brad Rowe (chair), Professor, Department of Horticulture
- Lily Wallace, Undergraduate Student (graduating Spring 2020)
- Ben Werling\*, Extension Educator, Extension Agriculture and Agribusiness
- Student Organic Farm staff







# A letter from the managers

2019 marked our 20th year as the MSU Student Organic Farm. On a production farm, each new year is a fresh start and an exciting time to make plans, develop and strengthen systems, and bring more people into our community. We've learned that it is also very valuable to look back, highlight the previous year's successes, and reflect on how deep our roots go at Michigan State University.

Twenty years ago, there were no courses at MSU dedicated specifically to organic and sustainable production methods. Seeking to change that, a group of inspired students, staff, and faculty came together to discuss ideas for the development of a teaching farm on campus. Two years later, a topics class on "What is Organic?" was convened, and our first two high tunnels were built at the Horticulture Teaching and Research Center.

Two decades later, we celebrate the success of these students, staff and faculty, and of those who have worked at the SOF since its founding in 1999. Students and farmers now have a wealth of learning resources and skill-building opportunities in organic agriculture on MSU's campus: The MSU Student Organic Farm employs and trains undergraduate student crew members, offers the Organic Farmer Training Program for beginning farmers, and facilitates farming workshops throughout the state. MSU also offers several courses covering topics in sustainable agriculture, as well as undergraduate & graduate specializations in sustainable agriculture and food systems. In Spring 2020, Katie Brandt (our Educational Programs Manager) is teaching an undergraduate course in organic farming.

On the production front, farming at SOF continues to become more efficient. With the guidance of the Brainard lab, we continue to hone our skills in planning for and executing successful weed management and mechanical cultivation. We also saw the benefits of infrastructure investments in drainage tile and updated irrigation systems; this year we were less limited by flooded fields and drought, keeping our schedule on track and production humming. Finally, we increased accessibility of our CSA to the MSU community, offering half and full shares, as well as a second pick up location on campus year-round. We hope these adjustments will move the needle toward our goal to reach more MSU students, staff, and faculty.

We have enjoyed strengthening many of our partnerships with other units at MSU throughout the year as well. The SOF has been working closely to collaborate with MSU Extension in 2019 to increase resource sharing between MSU's satellite farms. Collaboration with University Farms, RISE, Conservation Districts, the Michigan Pollinator Initiative, and others have created mutual support and opened the door for future successful projects. The Student Organic Farm has also been a host for research by the Brainard, Szendrei, and Szucs labs, among others.

Here's to our 20th year, and the next twenty to come!

## The SOF Staff

Katie Brandt, Sarah Geurkink, Kate Heflick Tosto, and Daniel Seggebruch



# 2019 by the Numbers

**700 people  
toured the  
farm**

**20 student  
crew  
members**

**\$184,148  
total sales**

**Over 5,000  
hours of  
learning time**

**170 MSU  
student  
volunteers**

**\$2.8 million of  
funded/pending  
grants using  
Student Organic  
Farm land/  
certification**

\$6800 was  
allocated to SOF

**258 CSA  
memberships**

**16 Organic Farmer  
Training Program  
graduates**

80% of OFTP graduate  
survey respondents  
are farming

**\$26,404**  
in sales to  
MSU dining

up from \$21,154 in 2018

**600 pounds of  
food donated  
to our campus  
food bank**

**Over 200  
unique plant  
varieties  
grown**

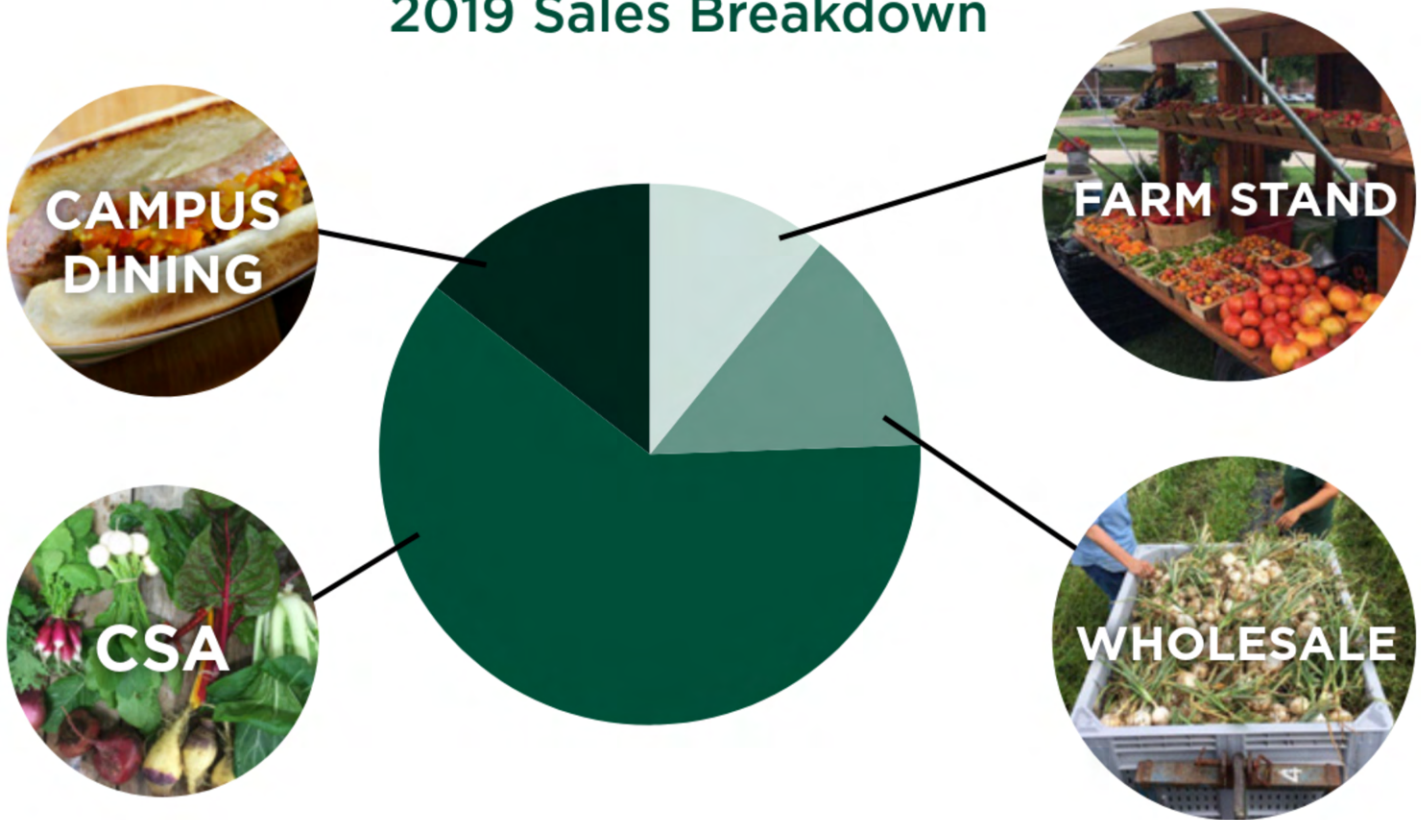
Our production fields are the basis for all activities at the Student Organic Farm.



While the primary purpose of our working farm is ultimately to cultivate new organic farmers and provide transformative experiences for MSU students, the food we grow also touches our community in a profound way. In every season, the Student Organic Farm is making strong connections between the food in your kitchens and where it is grown.

# Where Our Food Goes

## 2019 Sales Breakdown



## Farm Stand

Every year from May through September, the SOF operates a market style farm stand on campus, with the goal of bringing fresh, local, organic produce to MSU and the surrounding community. This model puts students in charge of the market stand, giving them first-hand experience with direct-to-customer sales, and a deeper understanding of local food and farming systems.

## Off-Campus Wholesale

Argus Farm Stop  
Drought  
Allen Neighborhood Center Veggie Box  
Bløm Meadworks  
Earthworks Harvest Gathering  
Ford Motor Company  
The Feral Field



# Community Supported Agriculture

Our Community Supported Agriculture (CSA) program has long been the bread and butter of our farming model. This structure of direct-to-consumer marketing is popular among small-scale farms not only because it benefits the cash-flow in the tightest months of the year for a farm, but because it is one of the most community-oriented models.

The SOF was the first Michigan farm to provide CSA year-round back in 2003. Since then, we have continued to grow our membership, especially within the MSU campus community.



Support the farm by joining today!  
Visit [www.msuorganicfarm.org/csa](http://www.msuorganicfarm.org/csa).

Our CSA members pay at the beginning of each season for a membership that gets them a weekly share of vegetables from our farm. This upfront payment allows us as a farm to be able to purchase the supplies needed to produce these vegetables. Members receive a variety of produce each week, which exposes them to new vegetables they may not otherwise experience cooking with. We keep records to ensure our members get a greater value than what they pay at the start of the season. On the farm's end, we can curate weekly shares based on what is in abundance any given week.

**There is no better way to eat seasonally and locally at MSU than through our CSA!**



# CSA Member Profile

## Kathy Sansone Murphy



Very loyal CSA Member Kathleen Sansone-Murphy has her own roots in the Michigan State University soil. With a Bachelor of Arts, a Master's degree, and a Bachelor of Science all earned on the East Lansing campus, Kathleen's blood runs decidedly green.

After several years of being a customer at the Farm Stand outside the MSU Auditorium, Kathleen learned about the opportunity of becoming a CSA member and jumped at the chance to be put on a waiting list. She and her husband, Rod, were overjoyed when they were able, not long afterward, to become official members.

In her years of being a CSA member, Kathleen has attended the fall fundraising dinner in the fields, has enjoyed taking her grandchildren out for the U-Pick opportunities, and has often shared her marvelous fresh produce with friends, family, and local charities. She loves interacting with the students, has tried several of the recipes sent out in the newsletter, and enjoys having access to fresh fruits, flowers, jars of honey, locally produced eggs, and jars of brined sauerkraut-kimchi.

Her favorite item? While that is such a difficult choice to make, Kathleen claims nothing can beat the winter spinach grown through hoop farming in Michigan's frozen months. "The plants have to fight so hard to survive," one of the student farmers has told her, "they just end up being spectacular."

Kathleen has but one word of advice for those investigating a CSA membership: Come support a sustainable way of farming that allows people in the community to feast on local produce all year round!

# MSU Culinary Services



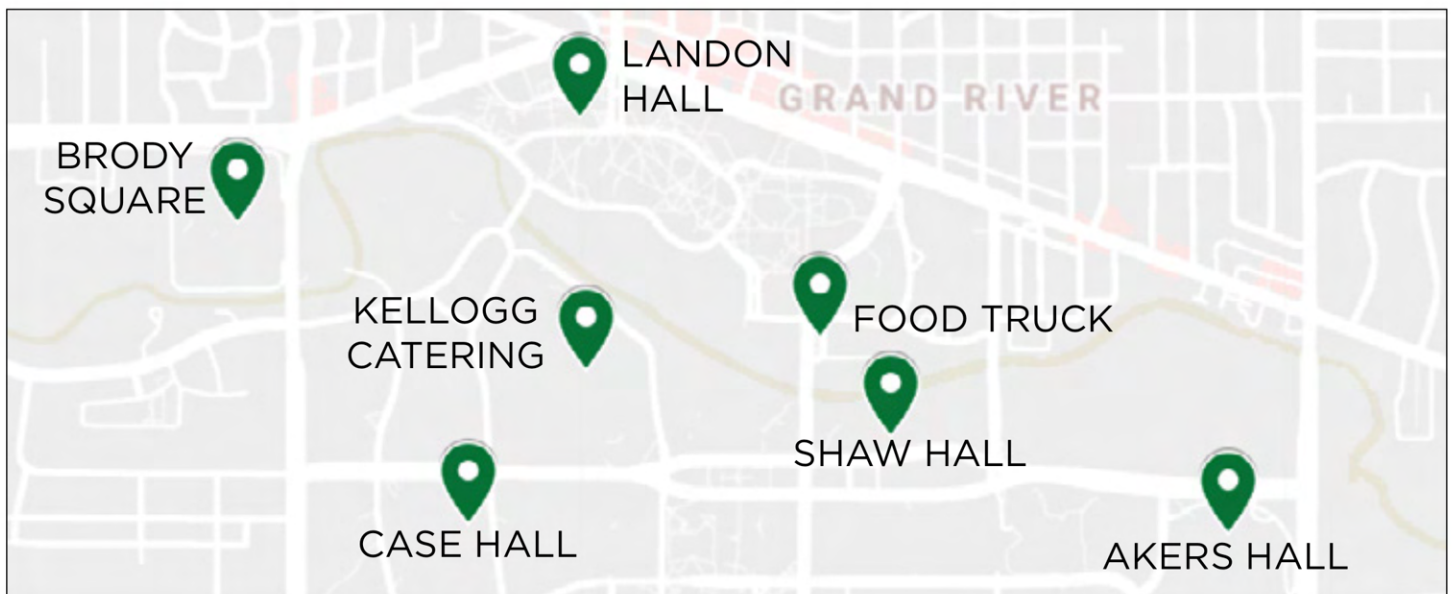
For almost two decades, MSU Culinary Services have been important supporters of the Student Organic Farm. Through weekly purchases of produce, **MSU chefs show a real and meaningful commitment to undergraduate learning and beginning farmer education.** Each winter, the

managers of Culinary Services meet with our farm manager to tweak and improve our collaborative systems for ordering, delivery, and custom food production.

We are optimistic about the trajectory we are on with Culinary Services and **look forward to providing the MSU community with more food than ever in 2020.**

---

## Find our food on campus







# Organic Farmer Training Program

Nineteen amazing farmers had the opportunity to learn from the SOF staff, farmers around the state, and each other as part of the 2019 Organic Farming Training Program (OFTP) cohort. Sixteen of these wrote Farm Business Plans and graduated with a certificate. They visited over two dozen farms, and self-published a guide to Plant Stress, Weeds, Pests & Diseases in Michigan. This group was very engaged and had a higher number of landowners than in the past; seven owned a farm at the outset of the program and three more purchased land during the program.



# 2019 Participant Profiles

**Bill Coughlin** is the owner of Twin Manor Farm.



"This is an extraordinary program. It's as good or better than much more expensive intensive training, such as the Stanford Executive Program. I built and managed my first hoophouse and made my first sales to a local restaurant during the 2019 OFTP. Then, I went to that restaurant for lunch, and the photo of the specials tells the story (e.g., "Bill's Farm Skillet"). What an uplifting moment! This would not have been possible but for your program, and I am grateful that you made this possible for me."

**Heidi Bombrisk** is the Program Coordinator at Food Zoo & Kids Helping Kids at Gleaners of SE Michigan and the owner of Family Roots Farm.

"The Organic Farmer Training Program has not only helped me hone my farming practices, it has advanced my tools and skills as an outdoor educator for youth-based garden learning opportunities. Our children's garden grows beautiful produce and has created a positive environment for families to reconnect with food, health and the earth. There is nothing more powerful than the wonder and joy of a child who harvests and snacks on produce that they tended to and cared for. For 2020, I have received funding to start my own farm, Family Roots, which will supply kid-friendly produce to preschools and daycare centers to improve nutrition during early childhood when brain development is at its peak."



**Cindy Kern** is the co-owner of Cardinal Farms.



"Without the 2019 cohort, Rich and I would definitely not be starting production on our farm in 2020. I needed the foundation in so many essentials of small-scale market farming and I received those through OFTP. The combination of hands-on learning at the SOF farm and opportunities to visit and interact with dozens of Michigan farmers is a priceless opportunity that will pay dividends in your farming from the first season to the last. Doing it together with a cohort only helps to intensify the learning and experiences."





## OFTP Alumna Profile



### Carol Bontekoe

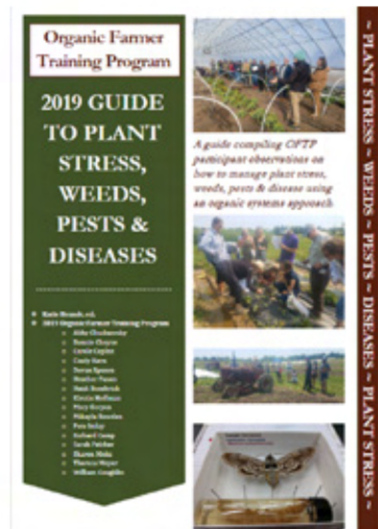
Farmer, Benzonia, MI

Carol's farm works with survivors of intimate partner violence and specializes in cut flowers, garlic, and mushrooms.

"OFTP was great. It helped set me up for starting my own farm. I come from a conventional dairy farm and small scale organic farming is so different that OFTP provided me with the basic knowledge I needed to feel confident in going this route with my farming."

## 2019 Guide to Plant Stress, Weeds, Pests & Diseases

Organic Farmer Training Program participants self-published a 60-page document of observations on how to manage plant stress, weeds, pests & disease using an organic systems approach. If you're interested in viewing the guide, contact Katie Brandt at [brandtk7@msu.edu](mailto:brandtk7@msu.edu).





# OFTP Graduate Survey

A 2019 survey showed that **80% of OFTP graduates who responded are farming full- or part-time and 60% of those own their own farm.**

Graduates are raising vegetables, fruit, livestock, mushrooms, medicinal herbs, nursery stock and native plants, as well as producing value-added products. Graduates are working in the food system as teachers, health care providers, schoolyard gardeners, journalists, farmers market managers, chefs, produce managers and several have earned graduate degrees in related fields.

OFTP graduates are working or volunteering for MSU Extension, Keep Growing Detroit, Slow Food, Michigan Flower Growers' Cooperative, Taste the Local Difference, Allegheny Food Connection, Pierce Cedar Creek Institute, community colleges and numerous other important organizations. Many are also donating to food banks. While the majority of respondents are farming in Michigan, seven other states were represented, as shown in the map to the right.



OFTP graduates shared that the program helped them gain farming skills, business acumen, confidence and connections to a network of farmers and food system advocates.

**“Without the OFTP I would have never started farming.”** - Bill Bass, 2011 OFTP graduate

“The OFTP enriched my life in so many ways. I am a registered nurse. Because health is so much more than pharmaceuticals, **I’ve been able to discuss more about the importance of diet and food diversity** with patients. I’ve written up a project for a master’s program incorporating a healing garden project for those convicted and struggling with opioid dependency. It’s opened my eyes to others who are working in the field to manage behavioral health in a holistic way.”

- Dawn Stave, 2012 OFTP graduate

**“The knowledge gained and connections made have been invaluable.** Without the knowledge gleaned from the OFTP I wouldn’t have been able to start my own farm venture or relate as well to the farmers my current professional role serves.”

- Kelly Wilson, 2015 OFTP graduate

**“Before OFTP I had a vision, but when I left I had a plan.”**

- Heather Fuson, 2019 OFTP graduate

# Study-A-Farm

This year, OFTP students visited more than 30 organic and sustainable farms. They saw different farm enterprises, from indoor mushroom cultivation systems to vegetables, fruit, livestock, medicinal herbs and cut flowers. They also visited many farms with an educational focus, addressing the needs of youth, urban communities, beginning farmers and international farmers.

On these Study-A-Farm tours, OFTP participants have the unique experience of seeing many farms' approach to wash-pack design, livestock fencing, marketing, labor and other systems. The farmers have been so welcoming and frank – sharing their hard-earned lessons and even sharing their financials to assist beginning farmers. Thank you to all the farmers who shared their farms, experience and best ideas for beginning farmers.



## Where did we go this year?

\* indicates farms with SOF ties

### June 3: Detroit

The Mushroom Factory, Earthworks, Keep Growing Detroit\*, Gleaners Garden & Food Zoo\*, D-Town, Drew School

### June 22, 23, & 24: Traverse City

Theresa Moyer's farmsite\*, Bear Creek Organics, Spirit of Walloon Farm\*, Providence Farm, Heather Fuson's farmsite\*, Buckwheat's Market Garden\*, 9 Bean Row Farm, Green Bird Cellars, Birch Point Farm\*, Loma Farm, GrowBenzie/New Dawn Fields\*, May Farm, John Kahler's farmsite\*

### July 1: Weeds & Cultivation Workshop at Green Wagon Farm

### July 22: Lansing

BeeWise Farm, Riddle Elementary School Garden\*, Owosso Organics, Titus Farm, Two Sparrows Farm

### August 5: Ann Arbor

Black Locust Gardens\*, Tilian Farm\*, Green Things Farm, Tantre Farm

### August 19: Grand Rapids

Thomas Rasch & Sons Orchard, New City Farm, Green Wagon Farm, Crane Dance Farm

### September 16: Southwest Michigan

Green Gardens Farm, Cinzori Farm, Tiller's International, Kellogg Biological Station

### Visits to MSU Campus

4-H Children's Garden, Bailey Greenhouse & Urban Farm, Beal Gardens



# OFTP Farmsite Visits

In 2019, we added optional trips to each participants' farmsite. This allowed everyone the opportunity to have input on their farmland, infrastructure and systems at a site they own, on a farm they manage or where they work. Katie was able to visit all but 2 participants' farmsites and other participants joined for many of these visits as well.

## OFTP Guest Speakers

\* indicates association with SOF or OFTP graduates

Eric Rasch\*  
Danielle Brugnone\*  
Dr. Eric Hanson  
Dr. Todd Einhorn  
Eric Kampe  
Adam Montri\*  
Micah Hutchison  
Colleen Matts  
Aliza Ghaffari\*  
Caleb Tacoma

Dr. Zsafia Szendrei  
Ben Werling  
Caitlyn Schneider  
Whitney & Dan Belprez  
Sarah Longstreth  
Rich Kern  
Joannée DeBruhl\*  
Dave Hemker  
Melvin Parsons\*



**2019 OFTP Graduation.** Back row: Bill Coughlin, Rich Camp, Theresa Moyer, Bonnie Cheyne, Pete Imlay, Heather Fuson, Sarah Pelcher, Heidi Bombrisk, Mikayla Rowden, Daniel Seggebruch. Front row: Katie Brandt, Kirstin Hoffman, Sharon Hicks. Not shown due to slippery winter roads: Abby Chudnovsky, Carole Caplan, Cindy Kern, Devan Spence, Mary Goryca.





# Farmer Field School

## *Workshops on Farms, Taught by Farmers*

In 2019, we paired OFTP and Farmer Field School for 3 events: The Weeds & Cultivation workshop in partnership with the Brainard Lab and the Study-A-Farm trips to Lansing & Grand Rapids.

It was a great way to market the OFTP, connect OFTP participants with other aspiring & beginning farmers and best use our planning time & resources to meet the needs of multiple projects. We plan to continue this collaboration for 2020 and the foreseeable future!

## 2019 Workshops

**March 7:** Scaling Up to Wholesale: Marketing & Production at Genessee County MSU Extension

**May 16:** Forcing Bulbs, Flowers & Branches for Early Spring Sales at Forget Me Not Farms

**July 1:** Weeds & Cultivation for Lean Farm Production at Green Wagon Farm

**July 22:** Lansing Farm Tours (5 farms)

**August 19:** Grand Rapids Farm Tours (4 farms)

**October 1:** DIY Greens Dryer & Bubbler at MSU Student Organic Farm

**December 10:** Farmer Brain Trust at MSU Student Organic Farm

**December 10:** Food Security Roundtable at MSU Student Organic Farm





## Undergraduate Engagement

From the beginning, the aim of the Student Organic Farm was to provide **a place where students could volunteer, work, visit, and make lasting contributions** to the development of the land and farm.

Undergraduate students come to the SOF from dozens of disciplines, bringing wonderfully diverse perspectives to the farm and taking their farming experiences and greater understanding of the food system back to their various fields of study. **The SOF is a Living Learning Laboratory** where they can experiment with and see in action the ideas and concepts they are learning about in the classroom.

Whether they become farmers or chefs, doctors or lawyers, business owners or teachers, **students engaged at the Student Organic Farm gain confidence and build career skills that last a lifetime.**



# Student Crew

The undergraduate students on our crew are the heart and soul of the Student Organic Farm.

Being a crew member at the farm gives students a practical and immersive farm education. In the summer, crew members take turns managing different aspects of production each month. During fall and spring semesters, new crew members learn from veterans, and all crew members teach volunteers and service learners how to do a variety of farm tasks as the seasons change. From seeding, planting and pruning, to cultivating, harvesting and marketing, crew members learn all aspects of production on a diversified organic vegetable farm.

The Student Organic Farm employed 20 undergraduate crew members in 2019. Sixteen students worked part time during the spring and fall semesters, and four were full time during the summer.

## What do students have to say?

“Working on the farm has given me **a more holistic perspective on the delicate balance it takes to properly manage natural resources and land**. It taught me to take food more seriously and work on my relationships with other farmers.”

- Andrew Younker, senior, Environmental Studies & Sustainability

“The SOF was **full of learning opportunities** to successfully run a farm, and I was always happy to learn more everyday I worked there.”

- Lily Wallace, senior, Horticulture Science

“Working at the farm has taught me a lot about the ins and outs of food production and has created new interests for me, as well as **sharpening my problem solving skills**. I found out that I enjoy smaller scale production and like seeing the start to finish procedures. When I graduate, I plan to open my own greenhouse business.”

- Breanna Craig, freshman, Landscape and Nursery Management



Lexi Dalecke  
harvests chard

## Undergraduate Crew Profile



### David Chickering, graduated May 2019, Biosystems and Agricultural Engineering

David Chickering completed a Bachelor of Science degree in Biosystems Engineering with a concentration in Ecosystems Engineering in 2019 and is also a graduate of the 2013 Organic Farmer Training Program (OFTP). After graduating in 2019 David joined the Chippewa, Luce, Mackinac Conservation District as the Conservation Technical Assistance Initiative Engineer. He holds his experience in the OFTP as a watershed moment in his life and forever established a drive to be surrounded by the conservation conscious. The community of individuals that are involved with the MSU Student Organic Farm were instrumental in his decision to re-enroll at MSU as an undergraduate and also can claim some responsibility for his success as a student. David feels he was truly able to live the land grant college education experience at the original land grant college.

# Student Projects

## Cold Hardy Greens

BE 487: Biosystems Design Project

*Jamison Midgley, Carly Drobny, Kody Carpenter and David Chickering*

Biosystems Engineering students designed and implemented an internal row cover system to maximize efficiency and minimize labor intensity of utilizing the cover. The internal cover provides an extra layer of protection against low night-time temperatures during the winter, allowing for year-round production at the SOF. The new cover can be extended and retracted by one person and the materials will be able to sustain the winter without breakage or tears.



## Antibiotic Resistance and Bacteria in Organic & Conventional Lettuce

LB 145: Biology II: Cellular and Molecular Biology

*Phelan Wolf, Emily Simonis, Paige Gkekas, Kevin Ely*

Biology students collected and tested produce samples to investigate the difference in antibiotic resistance between organically grown romaine lettuce and conventionally grown romaine lettuce. The project culminated in a research paper titled, "Antibiotic Resistance and Types of Bacteria Found on Organic and Inorganic *Lactuca sativa* L. var. *Longifolia*."

## CSA Market Viability Project

CSS 424: Sustainable Agriculture and Food Systems: Integration and Synthesis (capstone course)

*Leah Fabian, Lauren Heberling, Loren King, Alex Warshal*

Students studying Sustainable Agriculture and Food Systems conducted research on CSA models, marketing and consumer behavior to inform the Student Organic Farm's future marketing efforts and surveyed current members to inform operational practices. The overall goal of the project was to develop strategies for increasing CSA membership and retention rates. Three of the four students came from a more traditional farming background and all four felt that this project changed their perspective on the opportunities of small-scale and organic farms. This project served as the capstone experience for the Sustainable Agriculture and Food Systems minor.

## Soil Testing

IBIO 355L: Ecology Lab

*Loren King, Elina Ulmer, Krysta Vanluven, Alex Urlaub*

Students tested soil from the Edible Forest Garden, a SOF hoophouse, and a conventional farm for macroinvertebrates with a goal of measuring macroinvertebrate biodiversity using a biodiversity index. While they were unsuccessful in collecting any specimens, they were struck by the differences in soil between the conventional, organic, and edible forest garden locations they tested in. Through this project, they learned about the many factors that impact soil composition and below-ground species diversity.





## Service Learning

In 2019, the SOF continued our partnership with The MSU Center for Community Engaged Learning, hosting approximately 170 MSU student volunteers from 9 courses and 4 student organizations at MSU. The Student Organic Farm was even highlighted by CCEL as a community partner in a presentation at the 2019 MSU Spring Conference on Teaching, Learning, and Student Success titled “Develop your Tool Box for Creating Course-Based Community Engaged Learning Opportunities.”

### Service learning & volunteering:

- ISS 315: Global Diversity and Interdependence (5 service learning students)
- HNF 440: Foodservice Operations (56 service learning students)
- ISE 301: Science for Elementary Schools (3 service learning students)
- 12 service learning students through the following courses:
  - » HDFS 270: Introduction to Human Development and Family Studies
  - » SSC 199: Community Engagement: Act Locally, Think Globally
  - » TE 250: Human Diversity, Power, and Opportunity in Social Institutions
  - » UGS101H: Make an Impact: A Hands-On Approach to Addressing Inequity in our Community
  - » ISS 220: Time, Space, and Change in Human Society
  - » ISS 310: People and Environment
  - » ISS 215: Social Differentiation and Inequality
- Spartan Sierra Club (25 volunteers)
- CSUS Volunteer event (5 volunteers)
- Student Horticulture Association volunteer group (40 volunteers)
- Pi Sigma Epsilon (30 volunteers)
- Pam Reynolds
- Rhana Dyme
- JB McCombs





## Multicultural Apprenticeship Program

The Multicultural Apprenticeship Program (MAP) is a four-week summer experience sponsored by the College of Agriculture and Natural Resources (CANR) at MSU. MAP is designed to give high school students the opportunity to experience college life and to explore the many exciting educational and career opportunities in the agricultural and food sciences, natural resources and related fields.

Through MAP, the SOF hosted **Taylor Blaise**, a high school senior from Atlanta, GA, for a third summer on the farm. Taylor worked alongside our crew, learning hands-on production skills and gaining practical experience in diversified organic vegetable farming. We are so grateful to have had Taylor on our team these last few years!



# Student Organic Farm Tours

Over 700 people toured SOF in 2019! These included farm tours with over 300 MSU students.

We often have undergraduate crew members lead the tours and it has proven to be a valuable learning experience for them. Here's what students have to say:

"Leading tours has helped me not only to feel confident in my understanding of **the Student Organic Farm's importance to the MSU community** but also to realize the resources that I can provide to my peers. It is an exciting opportunity to share stories, information, and experiences related to farming that most students do not get to center in their learning, **refocusing perspectives towards farmers** in a world which increasingly tries to homogenize our voices."

- Jaime Davidson, Horticulture major and Arabic minor

"I love giving tours because it's one of the best ways I can share what we do at the farm with other people in the community. It's a great way to **help people make the connection between organic farming as an idea to the actual practice of farming**. Giving tours helps me to be more comfortable speaking to large groups and answering questions about SOF and farming in general. I love telling people all about my job here."

- Abby Kuplicki, Arts and Humanities (RCAH) and Food Science

## Courses that included a tour of the MSU Student Organic Farm:

- Lyman Briggs 492, "Senior Seminar" focused on health and environmental impacts of food with Ryan Sweeder
- CSS 123, Introduction to Sustainable Agriculture and Food Systems with Julie Cotton
- CSS 124, Introduction to Sustainable Agriculture and Food Systems with Julie Cotton
- HRT 203, Principles of Horticulture with Kristin Getter
- HRT 341, Vegetable Production and Management with Dan Brainard
- HRT 251, Organic Farming Principles & Practices, East Lansing & Traverse City cohorts
- CSUS 200, Introduction to Sustainability with Mike Hamm
- ISS 220, Time, Space & Change in Human Society with Gabe Ording
- MSU Multicultural Apprenticeship Program with Shedra Rakestraw

## Community groups that toured the farm:

- Lansing Community College, Environmental Science course
- MSU Sustainability and Big 10 Partners
- 3 Free Public tours - June, July & August
- Kansas State University Urban Ag Study Tour
- Hoophouse Field Day with Conservation District
- Mid-Michigan Farmer Meetup
- Lansing Catholic High School
- Lansing St. Vincent Children's Home
- Eastern Market Food & Health Fellows
- MIFFS/MIFMA African Fellows
- Peckham Farms/Capital Area Michigan Works!
- 4H World Food Prize
- Tamarack Camp's Farber Farm





# Research Collaborations, Involvement, and Support

**Max Helmberger, Greishop Lab:** collected soil samples to look for microplastic pollution on differently-managed soils on and around the farm.

**Patrick Stillson, Szendrei Lab:** collected leafhopper for aster yellows transmission research.

**Nathan Haan, Landis Lab:** collected ants from the SOF to learn about their interactions with monarch butterflies; completed a pilot project testing if the chemicals excreted from the gaster of the winter ant, *Prenolepis imparis*, affect the development success of monarch eggs.

**Jennifer Zavalnitskaya, Szendrei Lab:** collected and observed asparagus beetles to investigate the relationship between asparagus beetles and how their surrounding landscape composition impacts their population, as well as to locate their preferred overwintering habitat and assess survival rate.

**Zsafia Szendrei:** collected leafminers for a systematics project at NC State University.



# Grants that include collaboration with SOF

## **Improving vine crop pollination through sustainable squash bee management**

Appenfeller, L., Szendrei Lab. Sustainable Agriculture Research & Education (SARE).  
Invited for a full proposal ~\$250,000.

## **Soil health evaluation in long-term cropping systems trials**

Brainard, D.C. 2019. Soil Health Institute. \$2500.

## **Short and long-term management strategies for the invasive swede midge in organic brassica production**

Chen, Y., Szendrei, Z., Hallett, R. Organic Agriculture Research and Extension Initiative (OREI). Not funded.

## **Integrating advanced cultural and mechanical strategies for improved weed management in organic vegetables**

Gallandt, E. (Univ. Maine) and D.C. Brainard. 2018-2022. USDA-NIFA. OREI Program. \$1,900,000 total; \$694,492 (Brainard).

- Supports an on-farm intern at SOF who will help evaluate new mechanical cultivation tools; farmer-to-farmer workshop on organic weed management strategies; and research trials evaluating various weed management strategies in organic vegetable cropping systems.

## **Soil health for intensive production: Understanding and addressing key constraints for vegetable systems on sandy soils**

Hayden, Z.D., L. Tiemann, E. Bunting, and D.C. Brainard. 2019-2022. USDA-NIFA. \$468,495 (MSU) \$54,821 (Brainard).

## **In-row weed cultivation strategies for Midwest vegetable growers**

Priddy, D. and D.C. Brainard. 2019-2021. USDA NCR-SARE-Graduate Student Award. \$10,738.

## **Farmer-Designed Systems to Reduce Tillage on Organic Vegetable Farms**

Rangarajan, A. (Cornell University), D.C. Brainard, Z. Szendrei, Z. Hayden et al. 2014-19. USDA-NIFA. OREI Program.

- Supports studies on the impacts of cover crops and tillage on biological control of pests in cabbage (Zsafia Szendrei and Margie Lund); and evaluation of the long-term impacts of strip tillage and compost on soil health, weeds and crop productivity (Dan Brainard and Zack Hayden).

## **Michigan Farmer Networks: Linking Beginning and Experienced Farmers to Forge Resiliency**

Silveri, J., Villa Gomez, F., Brandt, K., Morrone, V., Martinez, R., Siles, M. \$599,959. Not funded.

## **Appropriate-Scale Mechanization for Sustainable Intensification (ASMC) at University of Illinois, Urbana-Champaign**

Srivastava, Ajit. 2015-2020. Grant funded by the USAID Sustainable Intensification Innovation Lab (SIIL) at Kansas State University.



**Integrated management strategies to reduce asparagus beetles during harvest**

Szendrei, Z., Werling, B. 2019-2021. MSU- Project GREEN. \$80,000.

**Lab to farm: Integrating organic cucurbit science and production in the Midwest**

Szendrei, Z., D.C. Brainard, M. Hausbeck, Z. Hayden et al. 2016-19. USDA-NIFA. OREI Program.

- Supports a wide range of research on production of organic cucurbit crops including pest management in zucchini and winter squash.

**Improving IPM in cole crops in Michigan**

Szendrei, Z., Werling, B., Phillips, B., Schuh, M. Integrated Pest Information Platform for Extension and Education (iPiPE), Crop-Pest Program, Cooperative Agricultural Project (CAP). \$39,401 (1st year funding), \$38,872 (2nd year funding), 2018-2020.

**Aster Yellows Detection in Leafhoppers to Provide Management Solutions to Michigan Vegetable Growers**

Szendrei, Z. Malmstrom, C. USDA – SCBG- MDARD, 2018. \$40,000.

**Investigating the overwintering biology of asparagus fields in Michigan's agroecosystems and implementing integrated pest management (IPM) to better control asparagus beetles**

Zavalnitskaya, J. Project GREEN.



# Mechanical Cultivation Research at SOF

Among the research projects supported by the SOF this past year was a project evaluating mechanical cultivation tools. This work is being done in partnership with Dan Brainard (Horticulture Department) under a USDA Organic Research and Extension Initiative (OREI) grant.

As part of this grant, the SOF's Katie Brandt organized a farmer-to-farmer workshop at Green Wagon Farm, discussing various strategies for managing weeds, and demonstrating several cultivation tools. In addition, the SOF's Daniel Seggebruch and Sarah Geurkink worked with graduate student Daniel Priddy to conduct a field trial evaluating the impacts of mechanical cultivation tools on weeds in red beets using various combinations of finger weeders, torsion weeders, basket weeders and knives (see photo below). This project will continue for the next 3 years as we work together to improve understanding of best management practices to reduce costs of weeding on organic farms.







## Related Presentations

### **Identification of leafhopper vectors of aster yellows phytoplasma**

Stillson, P.T. & Szendrei, Z. November 2019. Entomological Society of America, annual meeting.

### **Beneficial insects for vegetables**

Szendrei, Z. February 2019. Midwest Organic and Sustainable Education Service, Organic Farming Conference. La Crosse, WI.

### **Integrated pest management**

Szendrei, Z. July 2019. Organic Farmer Training Program. MSU Student Organic Farm.

### **Mechanical cultivation and cover crops for weed control in carrots**

Brainard, D.C. and S.H. Tilton. December 2019. Carrot Session. Great Lakes Fruit, Vegetable, and Farm Market Expo. Grand Rapids, MI.

### **Smart weed management for organic production**

Brainard, D.C. and D. Priddy. December 2019. Beginning Organic Farmer Session. Great Lakes Fruit, Vegetable, and Farm Market Expo. Grand Rapids, MI.

### **Stacked in-row cultivation tools for weed management in vegetables**

Brainard, D.C. and S.H. Tilton. February 2019. Vegetable Weed Management Session. Ontario Fruit and Vegetable Conference. Niagara Falls, Ontario, Canada.

## Graduate Students with SOF Collaboration

Logan Appenfeller, Szendrei Lab  
Max Helmberger, MS, Grieshop Lab  
Daniel Priddy, MS, Brainard Lab  
Patrick Stillson, Szendrei Lab  
Jennifer Zavalnitskaya, Szendrei Lab





## Related Reports and Publications

Blesh, J., E. VanDusen and D.C. Brainard. 2019. Managing ecosystem services with cover crop mixtures on organic farms. *Agronomy Journal* 111: 826-840.

Brainard, D.C. 2019. Successful stale seed bedding aids organics. MSUE Vegetable Notes. *Veg Growers News* 53: 28.

Jarrett B. J. M., J. Pote, E. Talamas, L. Gut and M. Szűcs. 2019. The discovery of *Trissolcus japonicus* (Hymenoptera: Scelionidae) in Michigan. *The Great Lakes Entomologist*. 52:6-11.

Lowry, C.J. and D.C. Brainard. 2019. Organic farmer perceptions of reduced tillage: A Michigan farmer survey. *Renewable Agriculture and Food Systems* 34: 103-115.

Lowry, C.J. and D.C. Brainard. 2019. Strip-intercropping of rye-vetch mixtures: Effects on weed growth and competition in strip-tilled sweet corn. *Weed Science* 67: 114-125.

Lund, M, D.C. Brainard and Z. Szendrei. 2019. Cue hierarchy for host plant selection in *Pieris rapae* (Lepidoptera: Pieridae). *Entomologia Experimentalis et Applicata* 167: 330-340.

Lund, M, D.C. Brainard and Z. Szendrei. 2019. Cue hierarchy for host plant selection in *Pieris rapae* (Lepidoptera: Pieridae). *Entomologia Experimentalis et Applicata*. (in press)

Srivastava, Ajit K., et. al. 2019. The Solar-powered Drip Irrigation Project in Burkina Faso. Paper No. 1901941. *2019 ASABE Annual International Meeting*. Boston, MA.





## Other Collaborations

### University of Wisconsin Seed to Kitchen Collaborative

The Student Organic Farm grew out several lettuce varieties in collaboration with the University of Wisconsin Seed to Kitchen Collaborative, a program that connects plant breeders focused on organic systems to Midwest farmers and chefs, to create delicious, well-adapted vegetable varieties for local organic production. This collaboration presents a unique opportunity to focus on vegetable variety characteristics important to local food systems, such as flavor, fresh-market quality and agronomic performance on smaller-scale diversified farms.

### Big Green Transplants

Big Green is national nonprofit building a healthier future for kids by introducing them to real food through a nationwide network of Learning Gardens and food literacy programs. In 2019 we supplied transplants to 145 Chicago Public School Learning Gardens through our longstanding partnership with Big Green.

### University of Michigan Campus Farm

Undergraduate crew and staff visited the University of Michigan Campus farm for a tour of the farm and Matthei Botanical Gardens, though a thunderstorm cut the volunteering part of the trip short! In trade, the students and staff of the UM Campus farm visited SOF for a tour and a chance to weed our celery. This exchange was a great opportunity for students and staff to learn about the differences in each of the universities' farm programs.

### Michigan Department of Corrections/Women's Huron Valley Correctional Facility

SOF Staff were invited to guest speak at Vocational Horticulture, an innovative horticulture training program at the only women's prison in Michigan. Participants have a farmers' market for prison staff in the summer and also grow year-round in a greenhouse and hoophouse.

### Ford Motor Company

SOF staff met with Ford to provide insight into installing 3 hoopouses at their world headquarters. We also provided food grown at the SOF for an event with Chef Zee from Ford. Thanks to OFTP participant/Ford retiree Bill Coughlin for making this connection!



# SOF Staff Outreach

## 2019

Katie Brandt

“Study-A-Farm: Visit Twenty Michigan Farms in an Hour” at Northern Michigan Small Farms Conference and Women’s Huron Valley Correctional Facility

“Getting to Know your Market” at Michigan Family Farms Conference

Kate Heflick

“Winter Scheduling for Hoophouse Production” at Great Lakes Fruit & Vegetable EXPO

## 2020 (to-date)

Daniel Seggebruch

“Growing Hoophouse Ginger in Zone 5b” at Northern Michigan Small Farms Conference

Katie Brandt

“Crop Rotation Design for Vegetable Growers” at Northern Michigan Small Farms Conference: and MFFC 2020

Sarah Geurkink

“Hoophouse Season Extension and Year-Round CSA at Women’s Huron Valley Correctional Facility







A photograph of several watermelons in a black plastic crate. One watermelon in the foreground is sliced open, revealing a bright yellow-orange flesh and dark seeds. The watermelons have a green rind with dark green stripes. The background is a wooden surface.

## VISIT

3291 College Rd.  
Holt, MI 48842

## EMAIL

[msufarm@msu.edu](mailto:msufarm@msu.edu)

## LEARN MORE

[studentorganicfarm.msu.edu](http://studentorganicfarm.msu.edu)

## FOLLOW

Facebook: [@MSUSOF](https://www.facebook.com/MSUSOF)

Instagram: [@msu\\_studentorganicfarm](https://www.instagram.com/msu_studentorganicfarm)