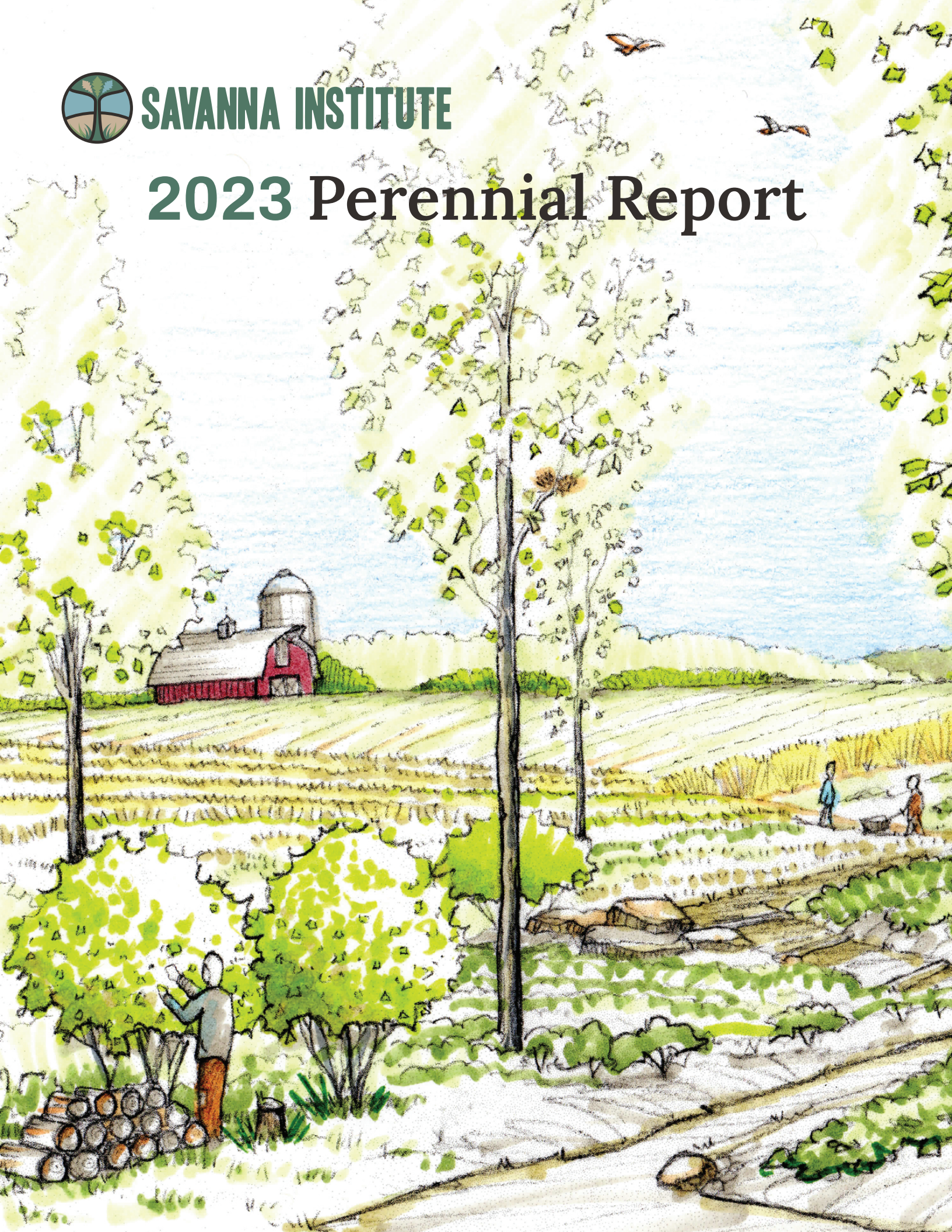




**SAVANNA INSTITUTE**

# 2023 Perennial Report







EST. 2013

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Inspired by the oak savannas native to the region, the Savanna Institute supports the growth of more diverse, perennial farming in the Upper Mississippi and Great Lakes watersheds. We work to create opportunities for farmers to diversify their incomes and landscapes, raise healthy food, and make their local communities more resilient.



Welcomed 275 guests to our Spring Green Campus Open House in 2023 for farm tours, food tastings, and community-building activities.



“Over the past 10 years, I’ve watched the Savanna Institute grow and develop an international presence in agroforestry while remaining focused on regional and local solutions, so I know I’m making a good investment in an organization that will be around for a while.”

Cathe Capel

Longtime donor and landholder partner  
on Hudson Demonstration Farm  
Urbana, Illinois

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Aerial shot of a windbreak along a field edge at 4-H Memorial Camp  
Demonstration Farm in Monticello, IL. PHOTO: Canopy





Hillside Pastures at Savanna Institute's  
Campus in Spring Green, WI.

# Letter from Leadership



Keefe Keeley and Public Relations Manager Jacob Grace  
film a video on Valley Farm at our Spring Green Campus.

Future generations will look back at this time to see the seeds we have passed on and the trees we have planted as archives of our love, to use the phrase Ross Gay offered us at the 2023 Perennial Farm Gathering.

These days, thinking in terms of generations can be pretty sobering. For 10,000 years—the span of human civilization—atmospheric carbon dioxide held steady below 280 parts per million (ppm). When I was born, we had already gone up 62 ppm, from 280 to 342 ppm.

In 2023, we hit a new record: 424 ppm. That's another 82 ppm more, in just my lifetime. We're in a time of accelerating change. How are we responding to that change?

In these reflections, the Savanna Institute community gives me hope of responses that will be meaningful to future generations. There are real climate solutions here. A 2023 study in the academic journal *Nature Climate Change* made the case that agroforestry may represent the single most climate impactful change that we globally can make in agriculture. North America is one of the key places where that impact is taking root, with lots of room to grow.

Why is agroforestry such a powerful climate solution? Trees are really good at photosynthesizing! And when they do, trees pull carbon out of the atmosphere. Trees turn atmospheric carbon into sugars in sap and fruit and seeds, they hold on to carbon as cellulose in wood, and they pump carbon into the soil.

Farmers have such awesome powers as stewards of photosynthesis. Agroforestry is a toolkit to wield this power to make our farms more productive and resilient and beautiful. And when farms have more trees, the whole world is better off.

There are, however, barriers to reaching that better world. Our amazingly skilled and dedicated staff have zeroed in on these barriers, and we are working to overcome them through partnerships, with cutting-

edge research, with on-farm demonstration of new crops and techniques, with boots on the ground on farms across the landscape, and with momentum supplied by our visionary supporters.

In this Perennial Report, I'm delighted to share what the Savanna Institute and our partners are doing to hasten this better world through agroforestry. Trees on farms contribute to more productive crop and livestock enterprises, more resilient livelihoods in vibrant rural communities, improved soil and water quality, more homes for wildlife, and a transformation of agriculture into a powerful climate solution.

Read on for more about how we've worked to overcome barriers and scale-up agroforestry in 2023:

- Addressed the lack of region-specific demonstrations by adding new demonstration farms to our network
- Grew the number of people trained in agroforestry technical assistance to address the shortage of technical support for farmers
- Invested in breeding for perennial crops that have been neglected by crop research and development for a century
- Built community with neighbors at in-person and online events throughout the year
- Grew a coalition of perennial and agroforestry organizations to accelerate collaboration for the climate

Together, we are on a tree-lined path to healing the land and climate. This is part of the broader path we all seek for present and future generations: inspiring peace and justice and shared prosperity. Thanks for your part in planting archives of our love along this path and moving us forward, together.

With gratitude,  
Keefe Keeley  
Executive Director  
Savanna Institute



# Meet Our Team

Rebecca Hegner, *Chair* Synergy Circle  
Will Babler, *Vice Chair* Atten Babler Risk Management  
Mary Burke, *Treasurer* Building Brave  
Kathy Dice, *Secretary* Red Fern Farm  
Dick McFarlane McFarlane Manufacturing Company  
Ela Kakde WEDC Regional Economic Development  
Patrick Worms World Agroforestry Centre

## BOARD OF DIRECTORS

“The Savanna Institute has grown phenomenally the last couple of years, and it seems to be a really well-oiled, well-organized, collective machine. It’s a lot of people wanting to move forward, bringing new ideas to the table, and finding the means to do that work together.”

Margaret Krome  
Longtime donor, member of the Savanna Institute Advisory Council, and Policy Director for the Michael Fields Agricultural Institute

### OUR STAFF

Adam D'Angelo  
Breeding Operations Manager

Barbara Decré, PhD  
Assistant Director of Agroforestry Adoption

Bill Davison  
Value Chain Development Manager

Brandi Brandes  
Director of Administration

Caleb Langworthy  
Technical Service Provider - MN

Dave Hopey  
Field Operations Manager

David Bruce  
Director of Agroforestry Adoption

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Assistant Director of Partnerships

Eliza Greenman  
Germplasm Specialist

Erik Hagan  
Spring Green Campus Farm Director

Erika Paschold  
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Spring Green Campus Engagement Manager

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Apprenticeship Program Manager

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Grazing Technical Service Provider - WI

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Director of Demonstration Farm & On-Farm Education

Kate Wersan, PhD  
Senior Director of Mission and Impact

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Operations Manager

Kathleen Rhoades, PhD  
Tree Crop Breeder

Keefe Keeley, PhD  
Executive Director

Kevin Wolz, PhD  
Lead Scientist & CEO of Canopy

Kitt Healy  
Coalition Consultant

Lily Hislop, PhD  
Tree Crop Breeder

Lucas Gully  
Field Crew

Matt Wilson  
Technical Service Program Manager

Meg Weidenhof  
Field Crew Lead

Meredith Stamberger  
Technical Service Provider - IA

MJ Oviatt  
Illinois Agroforestry Educator

Monika Shea, PhD  
Landscape Ecologist

Nate Lawrence, PhD  
Ecosystem Scientist

PJ Connolly  
Business Analyst

Rai Mathis  
Executive Coordinator

Raina Kuptz  
Website Manager

Renee Gasch  
Assistant Director of Communications

Sam Purnell  
Administrative Assistant

Scott Brainard, PhD  
Tree Crop Breeder

Sven Pihl  
Technical Service Provider - IL

Tonia Andreina  
Technical Service Provider - IL

Tyra Payer  
Communications Specialist

Xinyuan Shi  
Technical Service Provider - IN

Zack Loken  
Imagery Analyst

### ADVISORY COUNCIL

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Senior Ecologist, Founder, & Chairman, Applied Ecological Services, Inc. – WI

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Davenport Policy – DC

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TJ Callahan  
Owner, Farmhouse Taverns – IL

Casey Dahl  
Farmer, Feral Farm (Jefferson, WI) – WI

DD Danforth Burlin  
Founder, Sustainable and Local Food Investment Group – IL

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Midwest Regional Manager, MadAg – WI

Syovata (Vata) Edari  
Chocolatier & Lawyer, Cocovaa – WI

Narimah (Nimi) Ehr  
Senior Analyst, Micron Technologies – WI

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Research Agronomist/Agroecologist, U.S. Dairy Forage Research Center – WI

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Attorney, Pines Bach LLP – WI

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Owner, White Oak Savanna Events Farm and Sanctuary; Principal, G&R Public Law & Strategies – WI

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Owner, Interlace Agroforestry LLC; Director, Interlace Commons Inc.

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Professor of Environmental Science and Biology, Madison College, WI

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Associate Dean for Research, University of Missouri College of Agriculture, Food and Natural Resources – MO

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Sustainable Ag Outreach Specialist – WI

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Director, Green Lands Blue Waters – MN

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Senior Fellow, Aldo Leopold Foundation – WI

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Co-Founder, Iroquois Valley Farmland REIT – IL

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W.K. Kellogg Chair in Southwest Borderlands Food and Water Security, University of Arizona – AZ

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Associate Professor in Forages and Grazing, University of Wisconsin-Madison – WI

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Food Advocate and Chef (former), Founder, L'Etoile – WI

Lindsay Rebhan  
Partner & Designer, Ecological Design – MN

George Reistad  
Food Policy Coordinator, City of Madison – WI

Abby Rose  
Podcaster, Farmerama – UK

Ricardo Salvador, PhD  
Director, Food & Environment Program, Union of Concerned Scientists – MD

Kathy Schmitt  
Bureau Chief, Wisconsin Farm Center, WI Department of Agriculture – WI (retired)

Eric Toensmeier  
Author, The Carbon Farming Solution – NY

Severine von Tscharner Fleming  
Founder and Director, The Greenhorns & Agrarian Trust – NY

Tom Wahl  
Farmer, Red Fern Farm – IA

Richard Omar Warner  
Past Director, Green Lands Blue Waters – WI

Sarah Wentzel-Fischer  
Executive Director, Quivira Coalition – NM

Sandra Williams, PhD  
Professor, Northeastern Illinois University; Partner, Fields Restored Farm – IL

Wendy Yang, PhD  
Professor of Plant Biology, University of Illinois at Urbana-Champaign – IL

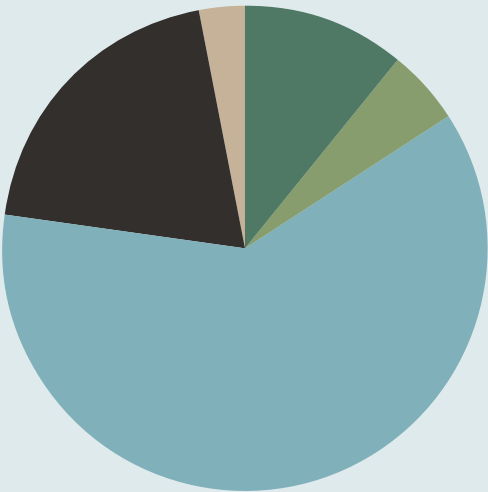
Gary Zimmer  
Founder, Midwestern BioAg – WI



# 2023 Financials

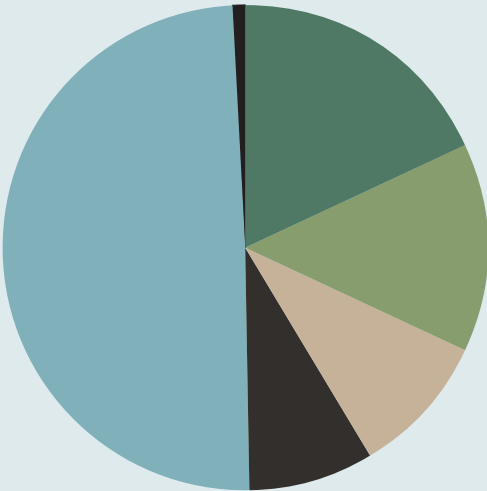
REVENUE		2023 \$
Donations and Gifts		658,943
Programs		290,741
Foundation Grants		3,664,142
Government Grants		1,185,442
Other Income		172,304
TOTAL		\$5,971,573

## Revenue



EXPENSES		2023 \$
Spring Green Campus		996,566
Agroforestry Adoption		759,566
Education / Outreach		514,359
Operations		457,212
Staff		2,709,305
Fundraising		40,947
TOTAL		\$ 5,477,955

## Expenses



More information including 990 IRS filings is available on our website and by request. Contact Finance Director Fany Bortolin with any questions at [fany@savannainstitute.org](mailto:fany@savannainstitute.org).

# Thank You for Planting Seeds of Change

## LEAD SUPPORTERS

Anonymous	Globetrotter Foundation	Natural Resources Defense Council	USDA North Central Sustainable Agriculture Research and Education
Caerus Foundation	Grantham Foundation	Patagonia	USDA National Institute of Food and Agriculture
Clif Bar Family Foundation	Great Lakes Protection Fund	Regenerative Agriculture Foundation (RAF)	USDA Agricultural Marketing Service
Daybreak Fund / Fund for Lake Michigan (FFLM)	IL Department of Agriculture	Salesforce	Volgeneau Climate Initiative
Edwards Mother Earth Foundation	Lumpkin Family Foundation	Single Step Foundation	Walton Family Foundation
Environmental Protection Agency	Maine Community Foundation	Stranahan Foundation	WI Department of Agriculture
Foundation for Food and Agricultural Research (FFAR)	Mary Burke	University of Illinois iRAI	
	Matthew Zell Family Foundation	USDA Natural Resources Conservation Service	

## Seeds Planted in 2023

Hundreds of individuals support our work with monthly donations, gifts of stock, donor advised fund grants, planned gifts and annual gifts. By giving to our general fund, these supporters enable us to quickly adapt to changes in the farming and funding landscapes while planning for the future.



### Administration and Leadership

To build wider understanding of agroforestry's benefits for farms and society, we gave over 40 presentations. To build our capacity to advance the development and adoption of agroforestry, we welcomed 20 new staff to the team.



### Agroforestry Coalition

To scale-up collaboration and opportunities for the perennial farming community, we built a coalition of 200 members representing 70 organizations from across the US and sectors that can unlock the potential of agroforestry.



### Communications

To keep our community engaged with compelling and informative content, we published our 200th video on YouTube, garnering over 200,000 total views on the channel. We published our 38th episode of the Perennial AF podcast, which has attracted 29,000 total downloads.



### Education

To address the shortage of agroforestry technical assistance available to landholders, we partnered with an inter-regional collaboration of organizations to train 225 natural resource professionals in agroforestry technical assistance and launched a new set of online courses for natural resource professionals.



### Events and Engagement

To show agroforestry in action and grow the community of people practicing perennial agriculture, we welcomed 1200 people to 36 events at our 8 demonstration farms and at partner farms in Illinois, Iowa, and Wisconsin.



### Technical Service Program

To serve even more farmers and institutional landholders with agroforestry technical assistance, we expanded our Technical Service Program in Illinois and Wisconsin to four more states: Indiana, Iowa, Minnesota, and Michigan.



### Tree Crop Improvement

With the support of the Grantham and Zell foundations, we launched a tree crop breeding program to improve 7 perennial crops for hardiness and profitability to help set farmers up for success with the best crop genetics and draw even more people to plant trees on farms.



Farm Director Erik Hagan leads a tour of North Farm on the Spring Green Campus.

We invite you to join this growing community of supporters with a donation today. Give at [SavannaInstitute.org/GivePerennially](https://SavannaInstitute.org/GivePerennially) or email [giving@savannainstitute.org](mailto:giving@savannainstitute.org)



## Perennial Farm Gathering

Events are where our community comes together to exchange lessons learned and forge collaborations built on a shared vision for diversified food and farming systems that include trees. Nowhere is that more true than our Perennial Farm Gathering, Savanna Institute's signature event of the year, now in its twelfth consecutive year.

2023 Keynote Speaker  
Robin Wall Kimmerer,  
PhD



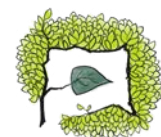
The Perennial Farm Gathering was held virtually in 2023 for 600 registrants from the Midwest, across the country, and even globally. Author and scientist Robin Wall Kimmerer delivered the keynote address, "The Fortress, the River and the Garden." Dr. Kimmerer is a decorated professor and enrolled member of the Citizen Potawatomi Nation. Her books *Braiding Sweetgrass: Indigenous Wisdom and Scientific Knowledge* and the *Teachings of Plants* has earned her worldwide acclaim. She is also the founder and director of the Center for Native Peoples and the Environment, whose mission is to create programs which draw on the wisdom of both Indigenous and scientific knowledge for our shared goals of sustainability.

Joining as a keynote presenter was poet and orchardist Ross Gay, who delivered his talk: "Cultivating Sustainable Joy." Dr. Gay is an award-winning author and creative writing professor, publishing four books of poetry—*Against Which*; *Bringing the Shovel Down*; *Be Holding*, and *Catalog of Unabashed Gratitude*—and three collections of essays—*The Book of Delights*, *Inciting Joy*, and *The Book of (More) Delights*. He is a founding board member of the Bloomington Community Orchard, a non-profit, free-fruit-for-all food justice and joy project.



2023 Keynote Speaker  
Ross Gay, PhD

In 2024, the Savanna Institute is answering the call from our community to reconvene the event in-person after four years of meeting virtually. We will host the 2024 Perennial Farm Gathering from Sunday, October 6th to Tuesday, October 8th at Monona Terrace in Madison, Wisconsin. Free tours at our farm campus in Spring Green will be offered on Saturday, October 5th. Don't miss this opportunity for deep connection with the perennial agriculture community.



In 2023, the Perennial Farm Gathering brought together 600 people, 60 presenters, and 20 sponsors online over three days of community-building for perennial agriculture. Find the recordings published on [YouTube.com/SavannaInstitute](https://YouTube.com/SavannaInstitute).



### PFG2024 Keynote Speaker

Oglala Lakota Chef Sean Sherman,  
founder of The Sioux Chef

Chef Sean Sherman will deliver his keynote address "The (R)evolution of Indigenous Foodways" at our 2024 Perennial Farm Gathering on Monday, October 7th at Monona Terrace in Madison. From growing up on Pine Ridge to an epiphany on a beach in Mexico, Chef Sean Sherman shares his journey of discovering, reviving, and reimagining Native cuisine. His goal is to make Indigenous foods more accessible to as many communities as possible through the non-profit North American Traditional Indigenous Food Systems (NĀTIFS) and its Indigenous Food Lab, a professional Indigenous kitchen and training Center. In 2021, he opened Minnesota's first full service Indigenous restaurant, Owamni by The Sioux Chef, which received the James Beard Award for Best New Restaurant in America for 2022. In 2023, he was named one of TIME Magazine's 100 Most Influential People. Find tickets to the event on sale at [savannainstitute.org/pfg2024](https://savannainstitute.org/pfg2024).

PHOTO: Bill Phelps



"I think we have really succeeded in what we want to do, which is have an enjoyable life doing something that we love, still providing an output to the world, so to speak, but never getting bored."

Darren Bender-Beauregard  
Co-owner of Brambleberry Farm

## Apprenticeship Program: Meet Brambleberry Farm

Espri and Darren Bender-Beauregard never intended to start a nursery. They planned to start out as an annual vegetable operation and move into selling fruits, nuts, and berries. Along the way, they taught themselves how to propagate because of the expense to buy grafted fruit trees every year.

Soon they discovered an untapped demand for locally grown, regionally adapted fruit, nut, and berry plants. Other nurseries in southern Indiana sold ornamentals, and it didn't make sense for Brambleberry to jump into a competitive market. So they tried tree crops, and had a huge response to the nursery. Plus, they found great joy in collecting all types of plants.

Espri and Darren use agroforestry on their farm primarily for growing trees, shrubs, and herbaceous plants for nursery propagation. They try all types of plant species and varieties to see how well they grow in their climate and soils. In addition to the income from nursery sales, the trees offer beneficial shade for livestock and fruit and nuts for the family to eat. Agroforestry allows Brambleberry Farm to provide a much more diverse habitat and generate ecosystem services for the land, and generate income.

Like on any farm, there's always more to do at Brambleberry. But Espri and Darren have been intentional about setting work boundaries. Both artisans, they make time to incorporate creative art or homestead projects in their varied schedules. Darren has a forge and carves out every Friday for

blacksmithing. Espri does woodworking seasonally with wood from southern Indiana's beautiful hardwood forests. Being creative is important for them to feel whole and happy.

For years, Brambleberry has had a small apprentice program of their own, and Espri and Darren put a lot of work into educating people as part of their farm mission. But sometimes, it's hard to take time away from work to do the educational programming they want to do. Participating as mentors in Savanna Institute's Apprenticeship Program allows them to spend time more intentionally on education and gives the next generation of farmers and land stewards the mentorship needed to get started in agroforestry.



Paired 25 apprentices with 17 mentor farmers in our Apprenticeship Program in 2023 to create opportunities for beginning farmers to gain hands-on experience in agroforestry.



★  
SAVANNA INSTITUTE  
OFFICES

Illinois Office  
Champaign, IL

Administration  
Madison, WI

Spring Green  
Campus  
Spring Green, WI

★  
SAVANNA INSTITUTE  
DEMONSTRATION FARMS

4-H Memorial Camp  
Monticello, IL

Fields Restored,  
Oregon, IL

Hudson Farm  
Urbana, IL

Silverwood  
Edgerton, WI

Spring Green Campus  
Spring Green, WI

★  
APPRENTICESHIP FARMS

Hawkeye Buffalo and Cattle  
Fredericksburg, IA

Humble Hands Harvest  
Decorah, IA

Joia Food Farms  
Charles City, IA

Brambleberry Farm  
Paoli, IN

Merry Lea Sustainable Farm  
Goshen College  
Wolf Lake, IN

Nightfall Farm  
Crothersville, IN

Prairie Birthday Farm  
Kearney, MO

North Shore Agroecology Center  
Finland, MN

Organic Compound  
Faribault, MN

Route 9 Cooperative  
Carrollton, OH

Branches and Berries  
Wauzeka, WI

Canopy Farm Management  
Spring Green, WI

Green Horizons Farm  
Elk Mound, WI

Lily Springs Farm  
Osceola, WI

Mary Dirty Face Farm  
Menomonie, WI

Spring Green Campus  
Spring Green, WI

★  
PARTNER FARMS

Autumn Mill  
Argenta, IL

Delight Flower Farm  
Champaign, IL

Sola Gratia Farm  
Urbana, IL

Zumwalt Acres  
Sheldon, IL

Red Fern Farm  
Wapello, IA

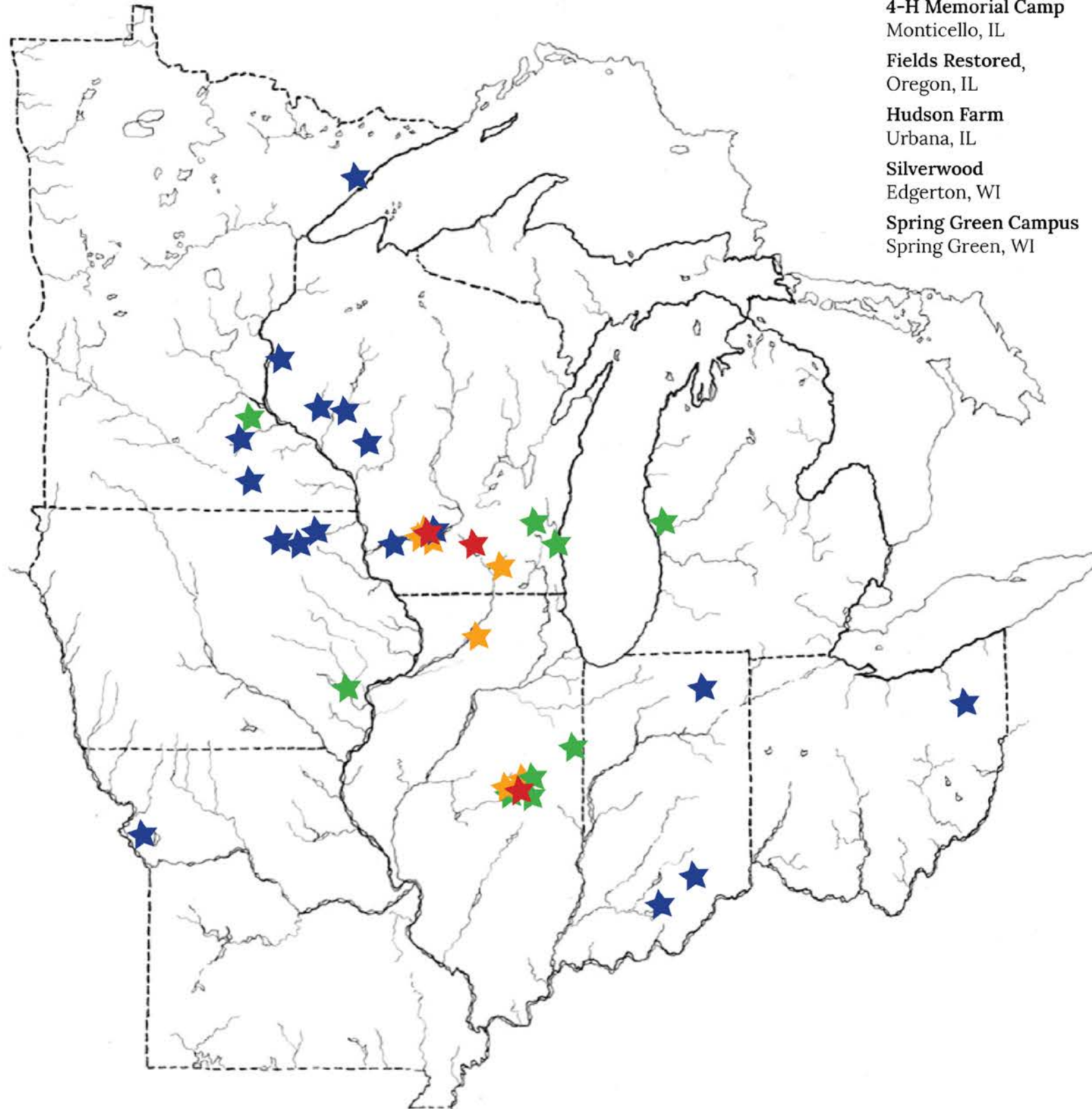
Kropscott Farm  
Environmental Center  
Fremont, MI

Salvatierra Farms  
Northfield, MN

All Seasons Farm  
Cashton, WI

Ozaukee Washington  
Land Trust  
West Bend, WI

Riveredge Nature Center  
Saukville, WI



“The Savanna Institute is really answering the question, ‘What does it actually look like to do farming in cooperation with the ways the world has evolved?’”

Charles “CR” Boardman  
Longtime Donor  
Madison, WI





Technical Assistance Provider Training at Allerton Park in Monticello, IL, made possible by The Nature Conservancy.

## In-person Workshops and Online Courses

### Trainings for Technical Assistance Providers



A significant bottleneck to expanding agroforestry in the US is insufficient technical assistance to support adoption of agroforestry practices. The shortage of technical assistance providers means farmers and landholders have less access to the help they need to plan, design, or apply for cost-share applications with USDA programs. In comparison to conventional agriculture, which has hundreds of technical assistance providers, agroforestry technical assistance is in short supply. The Savanna Institute and an inter-regional

collaboration of partners are working together to train a new generation of professionals equipped with the agroforestry fundamentals and social competencies needed to grow the number of people stewarding trees on farms. In 2023, we collaborated to offer a series of online courses, in-person workshops and field days, and facilitated online cohorts to build capacity among natural resource professionals able to assist with agroforestry implementation.

#### Climate-Smart Agriculture: STEM Teacher Training

This course introduces high school and middle school educators to strategies for integrating climate-smart agriculture lessons and projects into STEM classrooms, including the science of agroforestry, a nature-based climate solution. Developed with funding support from North Central Sustainable Agriculture Research and Education (SARE).

#### Agroforestry for Conservation Courses

This collection of courses designed for ag and conservation professionals reviews the economic and conservation benefits of integrating trees into farm systems so they can better assist landowners in adopting agroforestry. Soil health, water quality management, climate solutions, and social justice are all covered in this collection of courses developed with funding support from SARE.

#### Agroforestry Trainings for Natural Resource Professionals

This agroforestry training program is custom-designed for professionals who work with land managers. The goal: to help expand knowledge of agroforestry by natural resource professionals so they can better serve their clients and the community. Developed with Appalachian Sustainable Development and Interlace Commons with funding from the Edwards Mother Earth Foundation.



Launched LearnAgroforestry.com with 7 online courses that were completed 108 times by professionals looking to increase their technical understanding of agroforestry.



As part of our Water Quality Program, Riveredge Nature Center partnered with the Savanna Institute to design and plant silvopasture that improves water quality in the Milwaukee River and Lake Michigan.

## Water Quality Program: Great Lakes Protection

### Connecting to Conservation in Southeast Wisconsin

with Matt Smith, Riveredge Nature Center

Matt Smith is the Research and Conservation Director for Riveredge Nature Center, a partner in Savanna Institute's Water Quality Program. Raised in Missouri, Matt considers the forest his home. Plants are what he loves, and he works to share his appreciation for native plants with the thousands of people who visit Riveredge Nature Center each year.

Some visitors have never seen a real live cow before or been in the Milwaukee River. By creating a comfortable and engaging introduction to the landscape, Matt hopes to inspire people to be more connected to their environment – not just to the plants, but also to how they relate to the function of the native ecosystem near the Milwaukee River.

Most visitors know that when it rains, sediment enters the river. Matt and his colleagues help visitors understand the importance of natural buffers along waterways that act as a filtering source for the Great Lakes region. In 2021, Riveredge Nature Center worked with the Savanna Institute to establish an agroforestry demonstration farm as part of its Water Quality Program, which is supported by the Great Lakes Protection Fund.

“Our primary goal is to make connection. Conservation comes through introducing people in a comfortable way to something so they can get to know it—and then they love it and protect it. That’s how conservation works.”

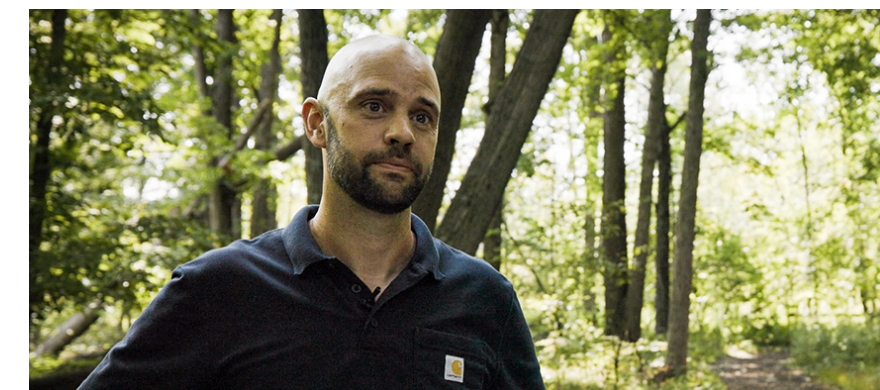
Matt Smith

Research and Conservation Director  
Riveredge Nature Center

Silvopasture was a good fit for the Riveredge project. In the year prior, it had saved about 100 acres — half from development — and some great relationships and farm lease agreements with neighbors. The partnership wanted to improve the native diversity of the landscape in a way that wouldn’t disrupt a tenant farmer. Planting trees in pasture was a good option to meet the needs of everyone on the project.

For Matt, agroforestry represents an opportunity to reframe the landscape for long-term, healthier conditions. It reduces tillage and adds native woody species that are important for insect species that are in decline. About eight species of bumblebees live at Riveredge Nature Center, one of which is endangered. The bees nest in the ground and in woody plants.

Riveredge is a great place for an agroforestry demonstration site. “It’s not in someone’s back 40 where no one goes to see it,” Matt said. “It’s not going to be sold off or developed. It’s not going to exit a contract or get cut down when corn prices go high. Our Demonstration Farm with the Savanna Institute is going to be here for a very long time, connecting people to conservation and to the crops that feed us.”







Illinois Agroforestry Educator MJ Oviatt explains riparian buffers at a Fields Restored Demonstration Farm event in 2023.

## Demonstration Farm: Fields Restored

### Showing Farm-Scale Agroforestry in Action

with Scott and Sandy Williams, Fields Restored

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In 2015, Sandy Williams and her brother Scott worked with the Savanna Institute to transition 20 acres to a perennial cropping system. By intentionally integrating trees with other crops and livestock through the addition of windbreaks and alley cropping, the Williams family created a system that supported both their conservation goals and the goals of their farmer partners, the Rogers family. The windbreak trees keep soil in place, protect crops, and moderate extreme weather, while the alley cropping system produces hay for the Rogers' cattle between fruit and nut plantings for local markets.

After seeing the revitalization of this parcel in just five years, the Williamses are deepening their partnership with the Savanna Institute and transitioning additional farmland to agroforestry – turning Fields Restored into a demonstration, research, and education farm. Since 2020, they've added a silvopasture experiment featuring islands of trees planted directly into pasture for shade, pasture health, and food production. They've also added a riparian forest buffer to stabilize an eroded waterway. The trees and shrubs add restoration, beauty, and profit to the farm, while also capturing nutrients and sediment from adjacent fields before they enter the waterway.

“We made a commitment to adding trees to family farmland out of concern for its long-term sustainability and environmental diversity. Our father instilled in us a lifetime commitment to responsible land stewardship, and we believe it is important that farmers and landowners are encouraged to institute agroforestry practices to protect and preserve the planet for the future.”

**Scott Williams**  
Co-owner of Fields Restored



“Savanna Institute is filling quite a unique niche by bringing very credible scientific and economic evidence to support their advocacy and outreach around agroforestry. To my knowledge there is no other organization that is in this particular space and doing this work so effectively right now.”

**Steve Ventura, PhD**  
Longtime donor and Professor emeritus of Environmental Studies and Soil Science, University of Wisconsin-Madison



## Scaling-up Technical Support for Landholders

To scale up support for perennial farmers, the Savanna Institute has provided agroforestry technical assistance in Wisconsin and Illinois since 2021. In 2023, it expanded from two states to six, adding technical service staff in Indiana, Iowa, Michigan, and Minnesota.

Led by Program Manager Matt Wilson, the team of Technical Service Providers supports farmers and landowners in adding trees and perennial crops to their land. Staff help landholders plan, design, and access funding for adopting agroforestry on their farms. They work one-on-one with farmers, public parks and institutions, community-based

groups, and businesses to define goals, challenges, and opportunities. They walk the land together and develop a design that includes recommendations for crops and tree varieties, spacing, and management practices. When all stakeholders feel good about the plan, Technical Service Providers offer assistance in applications for cost-share programs at NRCS.

Demand for Savanna Institute's Technical Service Program is high, and new funding from USDA's Partnership for Climate-Smart Commodities with partners The Nature Conservancy and Organic Valley means even more resources to incentivize agroforestry adoption.



Worked with 42 landholders in our Technical Service Program and submitted 21 NRCS cost-share applications to provide one-on-one support to farmers who want to plant tree-crop systems.

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## Expanding Agroforestry Project

The Expanding Agroforestry Project is one of 141 projects funded by the USDA's Partnership for Climate-Smart Commodities initiative. In 2023, it issued its first of several calls for applications to the program, which will connect perennial farmers to \$36 million in resources over five years for climate-smart agriculture investments.

The Nature Conservancy, the project lead, is partnering with the Savanna Institute as the regional lead for the Upper Midwest. Other regional leads include Hawai'i 'Ulu Cooperative, Propagate, Tuskegee University, University of Missouri – The Center for Agroforestry, and Virginia Tech University. The group provides region-specific technical assistance and

incentive payments to producers with the goal of transforming 30,000 acres to agroforestry across 30 states.

“Agroforestry is an underutilized tool in our collective efforts to support rural economies while mitigating climate change,” said Audrey Epp Schmidt, agroforestry program manager for The Nature Conservancy's North America Regenerative Agriculture program. “Putting more trees on agricultural lands creates more resilient agricultural systems, and expanding the production of commodities grown in agroforestry systems can help drive new market opportunities to build an increasingly climate-smart food system.”





Developing markets for American elderberry juice, preserves, syrup, wine, and supplements could unlock potential for climate-smart crops.

## Commercialization: Midwest Berries

Elderberry, aronia, black currant, and honeyberry are packed with nutrition. These vitamin-rich berries grow on perennial shrubs that mature relatively quickly compared to other agroforestry crops, which allows farmers to make a quicker return on investment. The Savanna Institute is working to develop processing hubs and marketing campaigns that can help make

Midwest berries a popular ingredient in food, beverages, and health products. Partners for the project include the University of Wisconsin Emerging Crops Coalition, the Midwest Elderberry Coop, Food Finance Institute, and the American Aronia Berry Association, with startup funding support from the USDA Agricultural Marketing Service.

## Tree Crop Improvement Program

Our tree crop breeders are gathering diverse seedling populations for several key agroforestry species. Selected for their potential to diversify farm income and benefit ecosystems, our breeding program is helping make these species hardier and more profitable for farmers.



**Black currant**  
*Ribes nigrum*

Black currants combine great taste and human health attributes. Cold-hardy and shade tolerant, this crop matures relatively quickly and is suitable for machine harvest.



**Elderberry**  
*Sambucus canadensis*

A hardy, native perennial that is easy to propagate. The flowers support pollinators, and the fruits are high in healthy antioxidants.



**Hazelnut**  
*Corylus* spp.

A perennial source of food, oil, and livestock feed that can be machine-harvested. Hazelnuts are a \$7 billion global market set to double in the next decade.



**Chestnut**  
*Castanea mollissima*

Low pest pressures, dependable high yields, strong markets, and ease of maintenance make chestnuts an attractive tree crop.



**Persimmon**  
*Diospyros virginiana*

Nutritionally dense native fruit tree that is easy-to-grow and suitable for a vast geography. Well-suited for silvopasture, and the fruit can be processed as pulp.



**Mulberry**  
*Morus* spp.

Mulberry leaves have a feed value nearly equivalent to alfalfa, and are also drought-tolerant and perennial. The fruit is highly nutritious, loved by both humans and animals.



**Black locust**  
*Robinia pseudoacacia*

This fast-growing tree is used in a variety of ways within agroforestry systems, producing both rot-resistant hardwood timber and nutritious fodder for livestock.



“A lot of the old persimmon cultivars grown in the United States were selections from the Mitchell Persimmon Festival. Persimmons are very much part of the local culture here in southern Indiana. It might be the best place to grow persimmons in the United States.”

Eliza Greenman  
Germplasm Specialist  
Savanna Institute

## Tree Crop Research: Persimmons

### Finding the Best Pudding Pulp at the Mitchell Persimmon Festival in Indiana with Eliza Greenman, Savanna Institute’s Tree Crop Improvement Team

Persimmons thrive in southern Indiana where the Mitchell Persimmon Festival has been held each year since the 1940s in celebration of the native fruit tree. The festival developed as a community gathering to capitalize on the chief value of persimmon at the time — persimmon pudding, offering a \$50 prize to the winner. Several years later, the Indiana Fruit and Nut Growers Association began a fruit contest alongside the pudding contest to identify the best persimmons throughout the region.

The festival became a sorting ground for the most important cultivars of American persimmon — and they are still some of the best today. In 2023, Germplasm Specialist Eliza Greenman and Indiana Technical Service Provider Xinyuan Shi met up at the festival to meet persimmon enthusiasts.

Persimmon trees are one of the crops selected by Savanna Institute’s Tree Crop Improvement Team for its breeding program. Our tree crop breeders are working to expand the persimmon tree’s range northward by selecting for cold hardiness and early fruit ripening. Persimmons are the most nutritionally dense fruit native to North America that can serve as a dual purpose crop for agroforestry systems—as livestock feed in silvopasture systems, harvested for fresh fruit markets, or processed into pulp.

At the Mitchell Persimmon Festival, enthusiasts pride themselves on their persimmon pudding recipes, and become endearingly competitive in the annual persimmon pudding judging contest held at the Mitchell Persimmon Festival. The pudding contest has been the center of the festival since it was founded.

“My grandkids always look forward to it, and their kids look forward to it. And I look forward to

it. I’m 80 years old and I’ve only missed two. It’s a family tradition,” said Alverta Hart, Pudding Contest Chairwoman for the Mitchell Persimmon Festival.

A look at the winners over the years will reveal repeat names, who likely have a special tree where they harvest their persimmons. If the tree produces winning persimmon pulp for the pudding contest, they might just keep it secret from their neighbors.

“This is my 40th year and the only thing I ever got was an honorable mention. I got an orange ribbon and a \$5 check, and I never cashed the check. It’s in a frame with the ribbon hanging on the wall in my home,” said Jan Grissom, a participant in the pudding contest.

Eliza, Savanna Institute’s resident fruit explorer, works to find the best trees with the tastiest and hardiest persimmons in order to collect plant material for our breeding program. In 2023, the team collected 50,000 persimmon seedlings from around the region to establish a persimmon breeding plot at Savanna Institute’s Spring Green Campus.

In 2023, the Savanna Institute received flagship funding from the Grantham Environmental Trust and Matthew Zell Family Foundation to advance breeding for persimmon, black currant, elderberry, mulberry, black locust, chestnut, and hazelnut. The three years of funding will help the Savanna Institute establish its Tree Crop Improvement Program to advance a century of stalled research on tree crop breeding.

Farmers need improved crop varieties to grow profits and increase plantings across the region, and Savanna Institute’s Tree Crop Improvement Team is working to deliver cultivars that are profitable for farmers and well-suited for the climate.

Gathered 50,000 persimmon seedlings and planted 2 acres of black currants and 8 additional acres of chestnuts, for a total of 18 acres in our new research and demonstration plots that tree crop breeders are using to select for key characteristics.





# Tree Crop Research: Chestnuts

## Generations of Chestnuts at Route 9 Cooperative in Ohio

with Greg and Amy Miller, Route 9 Cooperative

Greg Miller's father first planted trees in 1957 on their farm in the eastern Appalachian part of Ohio. They planted offspring from those trees in 1971, and again from those trees in 1991.

Amy Miller, the third generation of chestnut growers in the family, grew up with these trees. She took breaks from the farm, working different jobs, traveling the world, and having her own adventures. But eventually, Amy returned in 2018 to work for the Route 9 Cooperative, which is a local collective of growers that sells chestnut trees, seeds, and culinary nuts to customers throughout the U.S.

A lot has happened in Appalachia in the three generations since the Millers started growing chestnuts. Historically, the region has been home to a very extractive economy. Most of the land was timbered, and coal has been strip-mined here. Now fracking for natural gas is booming.

Chestnut trees, in comparison, are a crop that is regenerative, building soil and biodiversity to help restore a lot of what the extractive economies took away. Chestnut trees allow the Miller family's business to continue to grow and expand generation after generation — as opposed to fossil fuel extractions, which are boom-bust, here and then gone.

The sustainability of chestnut farming is both environmental and economic in nature. The chestnuts first planted on the farm 50 years ago still reliably produce a crop every year for Route 9, in addition to the soil health and biodiversity benefits they offer the land. There aren't many other crops that can boast

that type of longevity and sustainability. Chestnuts are one of the few crops in the US where there is more demand than supply. There's a lot of potential for growth.

In response to chestnut's large growth potential, Savanna Institute is working with Route 9 to develop high-throughput methods for estimating chestnut burr density of individual chestnut trees using drone imagery. These protocols help the Millers rapidly predict the size of their crop each year, which aids in harvest planning and managing sales. This information can also be combined with genotypic data in order to predict which trees in their orchard will make the best parents for the next generation of seedlings.

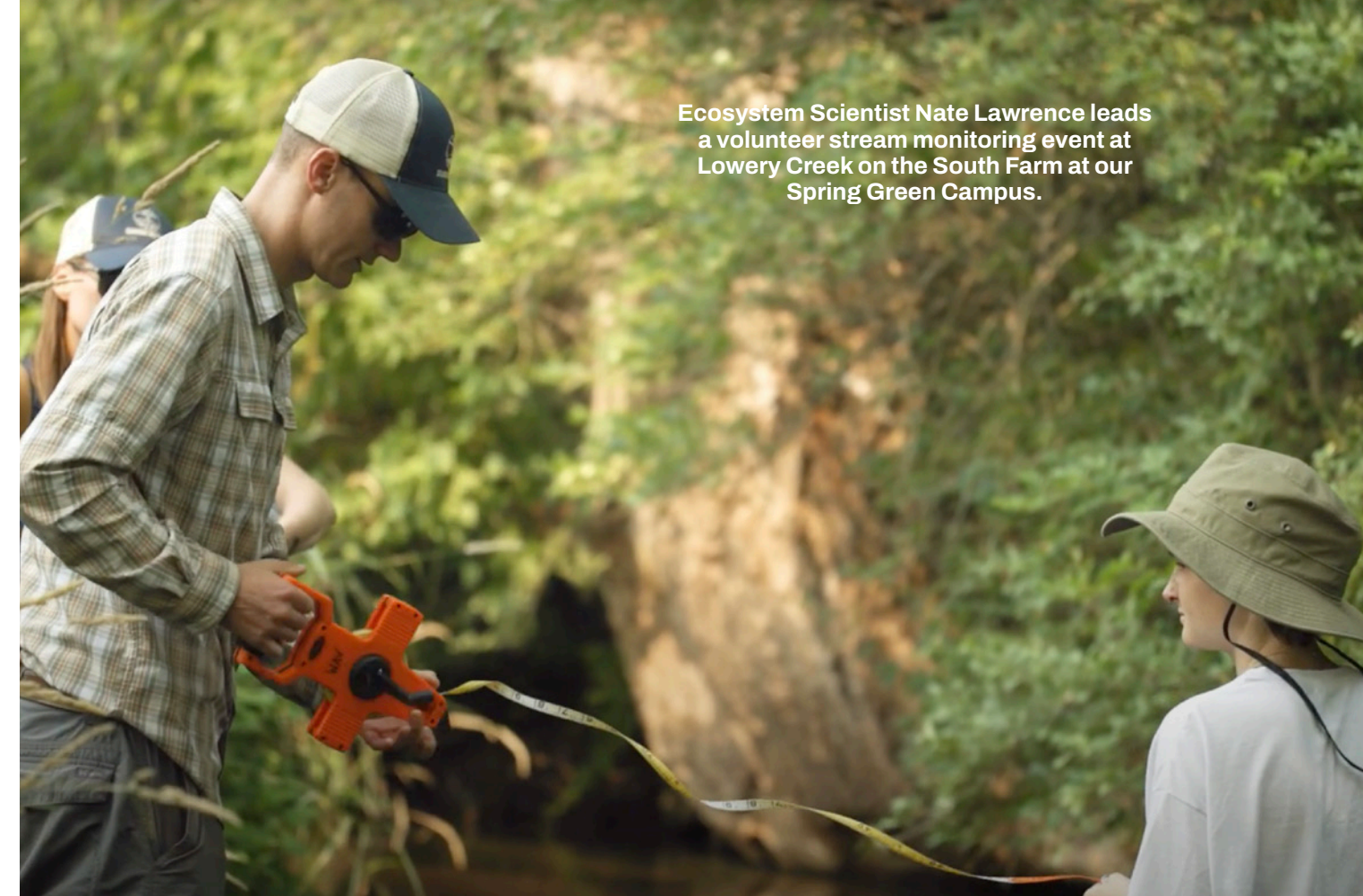
Customers write in to say how much they love the chestnuts from Route 9 growers, and how glad they are to see the work being done for the local ecosystem. It's these intangible benefits that motivate Greg and Amy Miller. They are leaving the land better than they found it, and creating something bigger than any one person or family.

"It's the greatest job in the world to be a chestnut farmer. My dad planted all kinds of trees, and chestnuts just happened to do better than anything else we had. It was a crop that chose me—I didn't choose to grow them."

Greg Miller, PhD  
Route 9 Cooperative



Greg and Amy Miller at Route 9 Cooperative in Ohio organize local chestnut growers to develop value chains and distribute chestnut products nationally.



Ecosystem Scientist Nate Lawrence leads a volunteer stream monitoring event at Lowery Creek on the South Farm at our Spring Green Campus.

## Agroecosystems: Research in Progress

### Monitoring stream health on our farms to support statewide water quality initiatives

Lowery Creek, which runs across our Spring Green Campus, is a breeding home to one of two heritage breed brook trout populations in Wisconsin's Driftless Area. Savanna Institute supports the Lowery Creek Watershed Initiative by monitoring stream health at volunteer monitoring events throughout the summer. The effort is part of a statewide movement to protect water and aquatic life in the region.

### Studying the climate mitigation potential of agroforestry to contribute thought leadership to the field

Ecosystem Scientist Nate Lawrence researches the climate mitigation potential of agroforestry. We work to improve methods of predicting and measuring how much carbon farmers can draw down from the air into wood and soil when they plant trees on farms. Accurate predictions are essential to unlocking investment in

agroforestry as a nature-based climate solution. We also research strategies for assessing and reducing greenhouse gas emissions produced in agroforestry systems. Many farmers and communities want to contribute to climate solutions. We offer the science needed to make investments towards transforming the food system into a climate solution.

### Helping farmers and growers adapt to the changing climate by mapping crop suitability

To help Midwest farmers build climate resilience, we study the relationships between tree species and their environment to help match tree and shrub crops to the landscape. Landscape Ecologist Monika Shea uses crop suitability models to map out where different crops will thrive today and long into the future. This research will help farmers and technical service providers select crops that will be both financially and environmentally sustainable.



Collected 1,000+ soils samples and deployed 200+ lysimeters to measure the ecosystem benefits of agroforestry and guide emerging standards for carbon sequestration.





North Farm is one of four farms that make up our Spring Green Campus in Wisconsin's Driftless Area. The campus serves as an agroforestry research, education, and demonstration hub for the region.

Converted 60 acres of corn fields to agroforestry at our Spring Green Campus – planting a mix of chestnuts, black currants, and native prairie, plus a Kernza® alley cropping demonstration. Established 35 acres of silvopasture to create research and demonstration sites that will educate landholders about regenerative farming for decades to come.



Just below the crest at Hillside Pastures, south of the Wisconsin River, the Elderflower Retreat overlooks a mature silvopasture where partner farm Seven Seeds raises grass-fed organic beef. PHOTO: Rick Graves

## Stewarding a Vision in Spring Green

with Daniel and Linda Marquardt, Savanna Institute donors

When Daniel and Linda Marquardt purchased their first farm in Spring Green in the mid 1990s, the 40-acres of land was not in good shape. “It was heavily eroded—pretty much destroyed,” said Daniel.

At the time, the Marquardts were living in Chicago. Drawn by their love of the Driftless Area landscape, they came to Spring Green on weekends to work on restoring the farmland and stabilizing the soil.

After years of effort to bring the prairie back to the land, the Marquardts decided to sell. “We sold it to someone who wasn’t remotely interested in what we were doing. That was a severe disappointment,” said Daniel.

Originally from central Iowa, Daniel had spent his adolescence working on farms. “From probably 11 years old, I was driving tractors, raking hay—I just loved it.” At that time, most agriculture was small and diversified compared to current standard—milking cows, hogs, sheep, beef, and chickens were all raised on the farm.

Daniel didn’t consider becoming a farmer until later in life. He worked as a structural engineer and Linda organized international symposia at the Chicago Academy of Sciences. But Daniel’s nostalgia for farming and their deep appreciation for the Driftless Area kept him and Linda coming back to Spring Green. They decided to take on an even bigger project, one that would allow them to live out their retirement years on a farm caring for the landscape they loved.

There was no shortage of land that needed to be restored in the area, and the Marquardts purchased another farm near Spring Green in 2011. It had an old schoolhouse on it, which they removed to build a house and a barn. Daniel and Linda retired early to move to Spring Green full-time and manage a small herd of grass-fed beef at Hillside Pastures.

“Just being around the cattle – literally the smell of these cattle – got me. It took me back to my childhood in Iowa when I worked on farms. We really wanted to use cattle to actually improve the environment, and I had read enough to know that it can be done—it has been done,” said Daniel.

He became more involved with the grazing community and joined the Lowery Creek Watershed Initiative to help with stream monitoring. He was introduced to the Savanna Institute at a Perennial Farm Gathering and immediately saw a partner with a shared commitment to the land.

The Marquardts were able to live their retirement dream for several years in Spring Green, but ultimately, life had other plans for them. In 2019, they made the decision to sell Hillside Pastures in order to move closer to family. This time, they wanted to sell to a buyer who would continue their work of long-term land restoration. “We really wanted to find an organization that could actually lay out a 20, 40, 50-year plan.”

They approached the Savanna Institute with a vision: to use the farm for agroforestry education and silvopasture demonstrations, and to turn the house into a gathering space for the community. It took several years, ample conversation and creativity, and, crucially, the generous support of Savanna Institute’s community of donors in Spring Green and beyond. But in the end, the Savanna Institute was able to add Hillside Pastures to the cluster of farms that make up the Spring Green Campus.

The Savanna Institute now partners with a local farmer and NRCS to maintain Hillside Pastures as a silvopasture demonstration farm, and we’ve continued stream monitoring with the Lowery Creek Watershed Initiative. In 2023, under the leadership of Erin Crooks Lynch, the Savanna Institute debuted the Elderflower Retreat at Hillside Pastures, a community space where people can gather to reimagine our relationships with each other and with the land.

The Elderflower Retreat at Hillside Pastures is available to rent for community gatherings or a personal retreat in a bucolic setting. Email [elderflower@savannainstitute.org](mailto:elderflower@savannainstitute.org) to ask about availability.



“If you believe that trees are part of the solution in agriculture, then we’re going to need the equipment, people and expertise to make that happen – we’re going to need a Canopy.”

**Kevin Wolz, PhD**  
Chief Executive Officer  
Canopy Farm Management



## Letter from Canopy Farm Management

As Canopy enters its third year of providing tree planting and management services in the Midwest, the transformative impact of trees and the revitalization of our farms are becoming increasingly apparent. While we are still early in this journey, we already get to witness and savor the sweetness of our first years of labor. Trees are flourishing, emerging from their tubes, and we’ve harvested a variety of small fruits across multiple sites. These early signs fill us with hope and serve as a reminder of the forthcoming abundance that these perennial crops will provide for years to come.

We have now planted over 130,000 trees on 15 sites and provide management services for seven farms. As these numbers grow, we are constantly improving. In the last year, we realized more than a 100% increase in tree planting efficiency; our slowest days in 2023 were faster than our fastest days in 2022! We continue to modify and adjust our fleet of equipment with unique and innovative implements from all over the world. With our team and equipment, we can plant a tree every FOUR seconds. This efficiency enables us to take on larger projects, and we are currently contracted to plant over 160,000 trees this spring with more to follow this fall.

At Canopy, we often tell our customers, “Planting trees is the easy part – keeping them alive is the hard part!” Though trees may be years away from producing yields, every season critically matters. Each decision, from weeding and mowing to soil management, influences the future yield and growth potential of these trees throughout their lifespan. As such, our team is meticulous about recording and tracking the various techniques we leverage in an effort to create the most comprehensive blueprint for agroforestry management in the Midwest.

Beyond our farm services, we continue to expand our nursery business. We now grow over 100,000 trees for sale annually, including chestnut, walnut, pecan, hazelnut, heartnut, persimmon, pawpaw, black currant, and elderberry across bare root plants, potted plants, and plugs. We are dedicated to providing the highest quality tree crop genetics available and are enthusiastic about continually expanding the network of growers interested in planting these crops.

All of these triumphs carried us through the difficult parts of the year. In 2023, we experienced early and severe drought in addition to unsafe air quality and dangerous winds. Though we spent notable field time addressing the resulting on-farm challenges, we were reminded that what we do is all the more important in the wake of a shifting climate. Canopy’s team of agronomists and scientists are among the few in the region with the expertise to navigate these ever-changing conditions on diverse agroecological systems at scale. We hope our efforts will ultimately demonstrate that having a professional, commercial management partner in place can support agroforestry adoption across the region.

Our gratitude extends to this dedicated community of agroforestry supporters, investors, educators, growers, and, of course, the Savanna Institute. Our ongoing partnership has flourished through a multitude of collaborative efforts, spanning genetic trialing to joint field days demonstrating our shared passion for this vital work. Stay tuned for upcoming events on the horizon. We can’t wait to share more exciting developments on our farms with you!

To unearthing new possibilities and second stories,

*Canopy Farm Management*



Partnered with Canopy to plant 12,371 trees and shrubs and 61 species of herbaceous plants to transition Hudson Demonstration Farm from annual crops to an agroforestry system in central Illinois so we can show landholders how to include trees on farms.

Hudson Demonstration Farm, a 120-acre site near Urbana, IL, shows landholders how alley cropping with row crops works at scale. PHOTO: Canopy



### ABOUT CANOPY FARM MANAGEMENT

Launched in 2022 by the Savanna Institute to scale-up farmer support in the region, Canopy Farm Management provides tree planting and management services in the Midwest. Canopy specializes in perennial crops, timber plantings, conservation practices, and integrated agroforestry systems. Combining expert staff, thoughtful design, and a mobile fleet of state-of-the-art farm equipment, Canopy seeks to help farmers and landowners establish and manage profitable, diverse, and resilient agroecological systems. Canopy’s Nursery grows a variety of perennial crops and ships plant material to most states in the US. Learn more at [CanopyFM.com](https://CanopyFM.com).





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Our planet is at risk.  
Together, we can plant the seeds  
for climate stability and economic resilience  
that will transform our food and farm systems.

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or contact Erika Paschold, Development Manager,  
to learn more about supporting our work.

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