



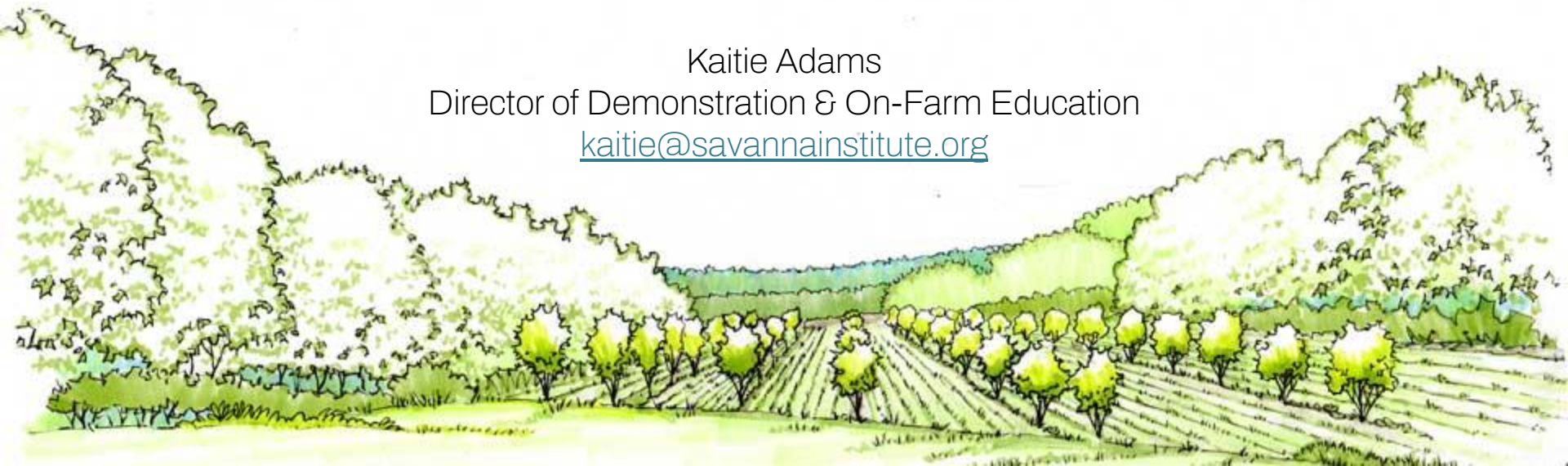
**SAVANNA
INSTITUTE**

Agroforestry in Illinois and beyond

Kaitie Adams

Director of Demonstration & On-Farm Education

kaitie@savannainstitute.org





Inspired by the oak savanna ecosystem native to the region, the Savanna Institute conducts research, education, and outreach to support the growth of diverse, perennial agroecosystems in the upper Midwest.

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Agroforestry

An integrated approach to farming with trees and livestock that produces many benefits for people and the land.



Healthy, local food

Clean air

Provides wildlife habitat

Diversifies farm income

Sustainable communities



Improves livestock comfort

Prevents erosion

Purifies water

Sequesters carbon

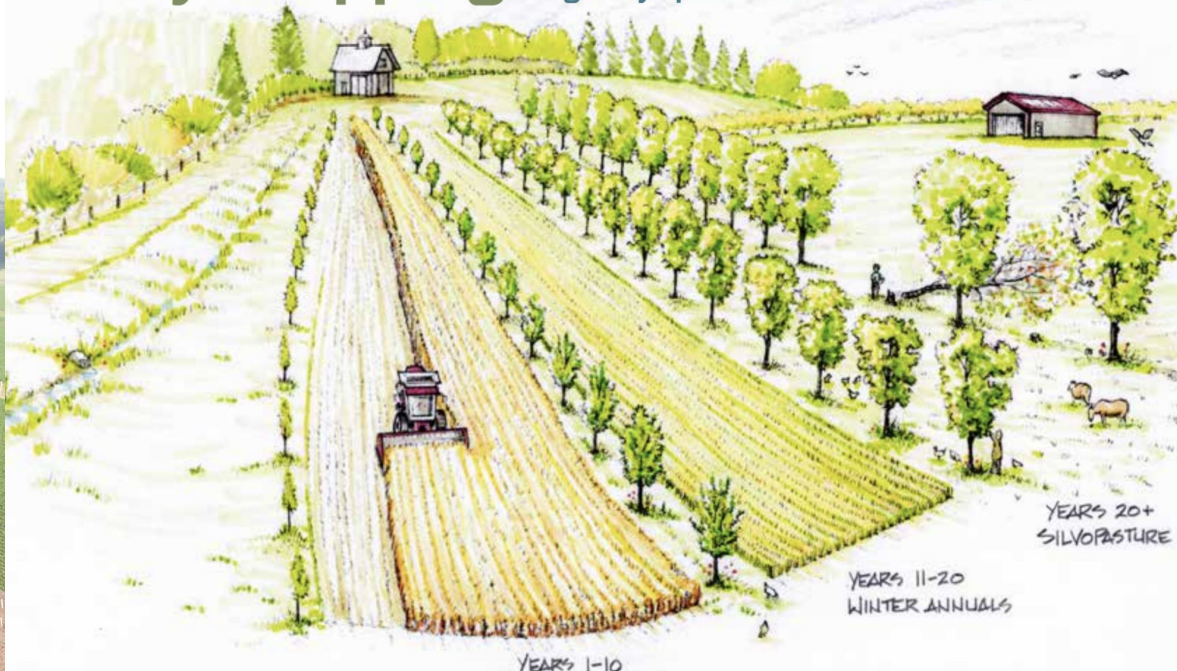
Captures fertilizer and pesticide

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What is agroforestry?

Alley Cropping

The cultivation of crops in the alleys between regularly spaced rows of trees or shrubs.



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What is
agroforestry?

Silvopasture

The intentional integration of trees, pasture, and livestock, managed as a single system.



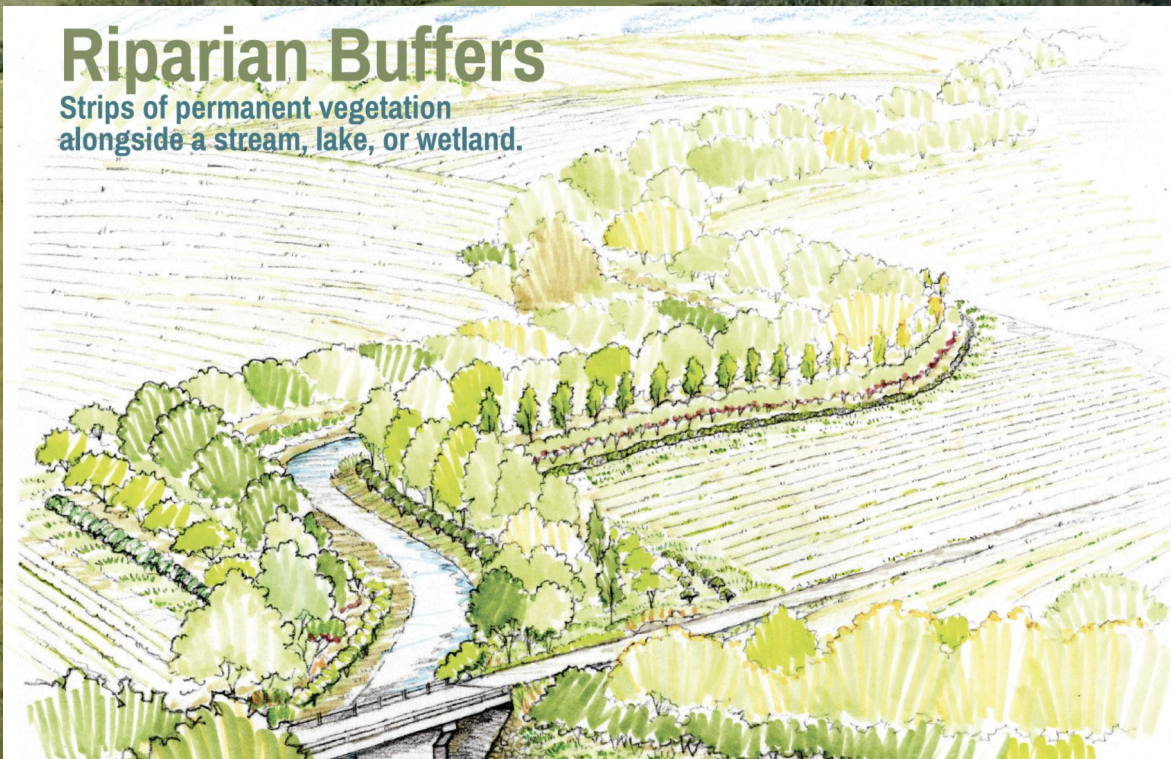
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What is
agroforestry?

Riparian Buffers

Strips of permanent vegetation
alongside a stream, lake, or wetland.



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What is agroforestry?

Windbreaks

Strips of trees and shrubs designed to enhance crop or livestock production while providing conservation benefits.



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What is agroforestry?

Forest Farming

The cultivation of specialty crops under existing forest canopies.



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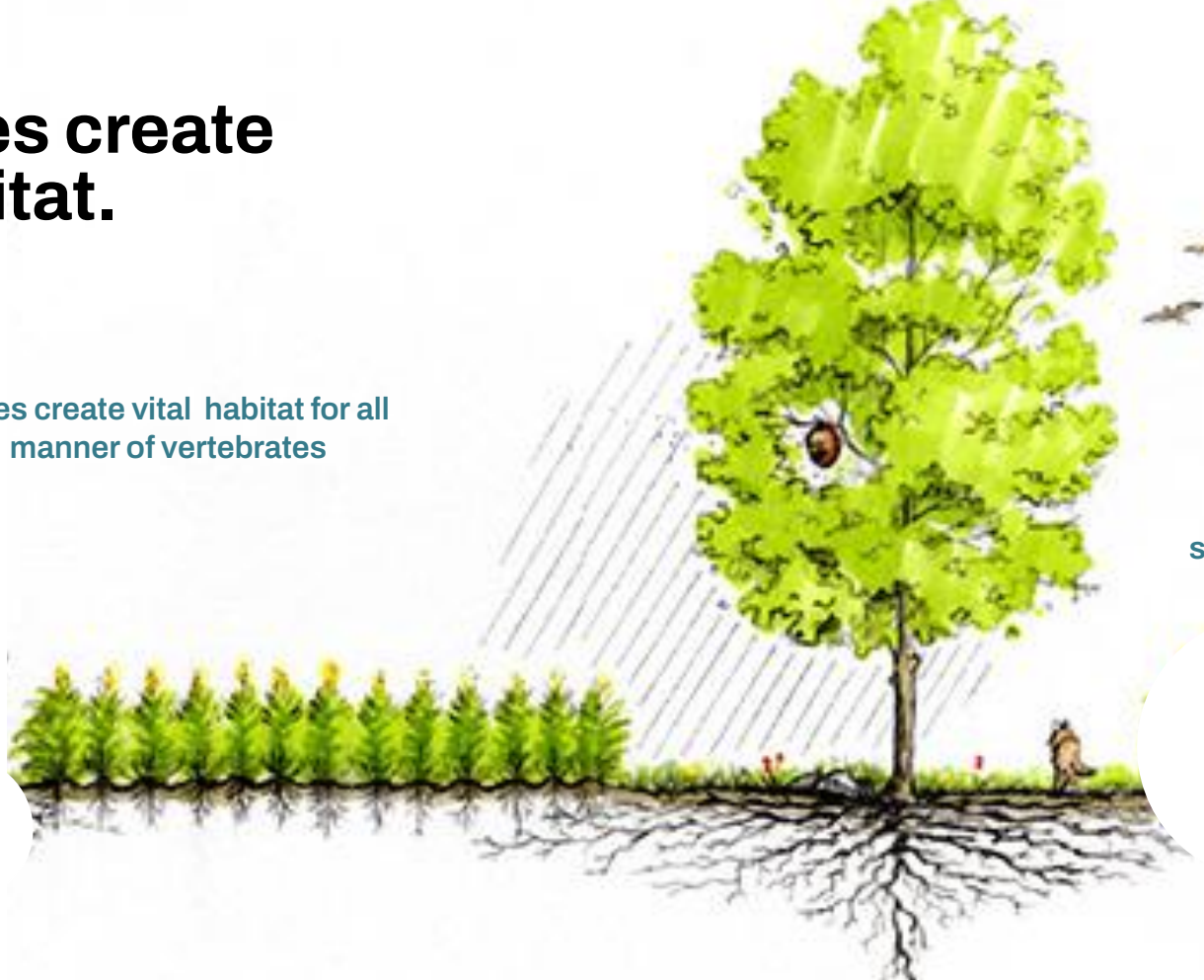
So why is Savanna Institute so focused on trees integrated with agriculture?



Trees create habitat.



Trees create vital habitat for all manner of vertebrates

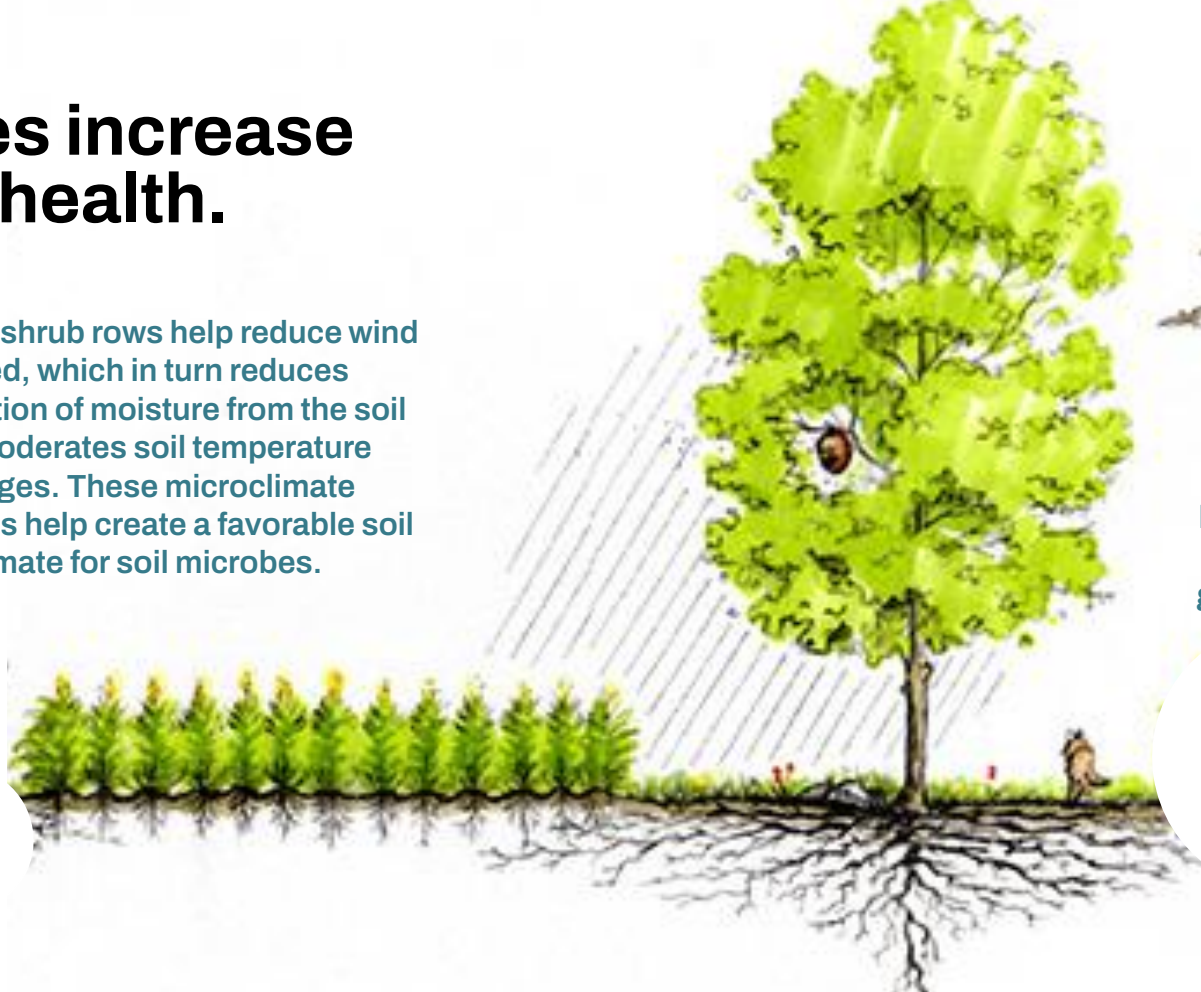


Trees increase biodiversity and supports both above ground and below ground communities of life

Trees support increased pollinator populations

Trees increase soil health.

Tree and shrub rows help reduce wind speed, which in turn reduces evaporation of moisture from the soil and moderates soil temperature changes. These microclimate influences help create a favorable soil climate for soil microbes.



Agroforestry systems create beneficial microclimates that help improve crop growth, yield and quality. This increased growth helps produce additional organic matter in the soil.

Deep tree roots support more robust nutrient cycling to support both tree and crop growth

Trees improve water quality

Trees slow runoff, encouraging deposition and infiltration



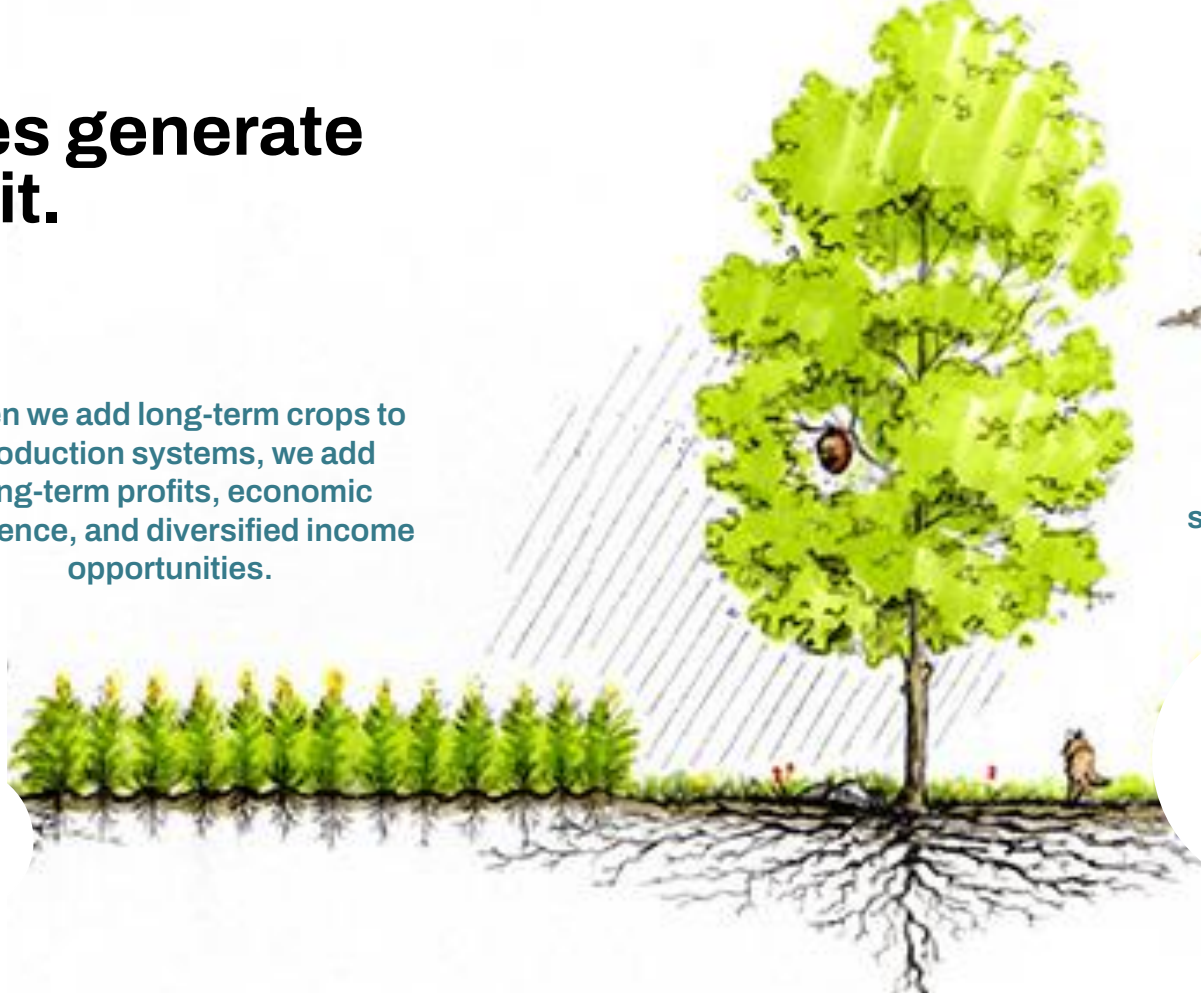
Nutrients from runoff are taken up by woody plants. Water and oxygen are released into the atmosphere

Contaminants and nutrients are processed by plants and microbes

Trees generate profit.



When we add long-term crops to production systems, we add long-term profits, economic resilience, and diversified income opportunities.

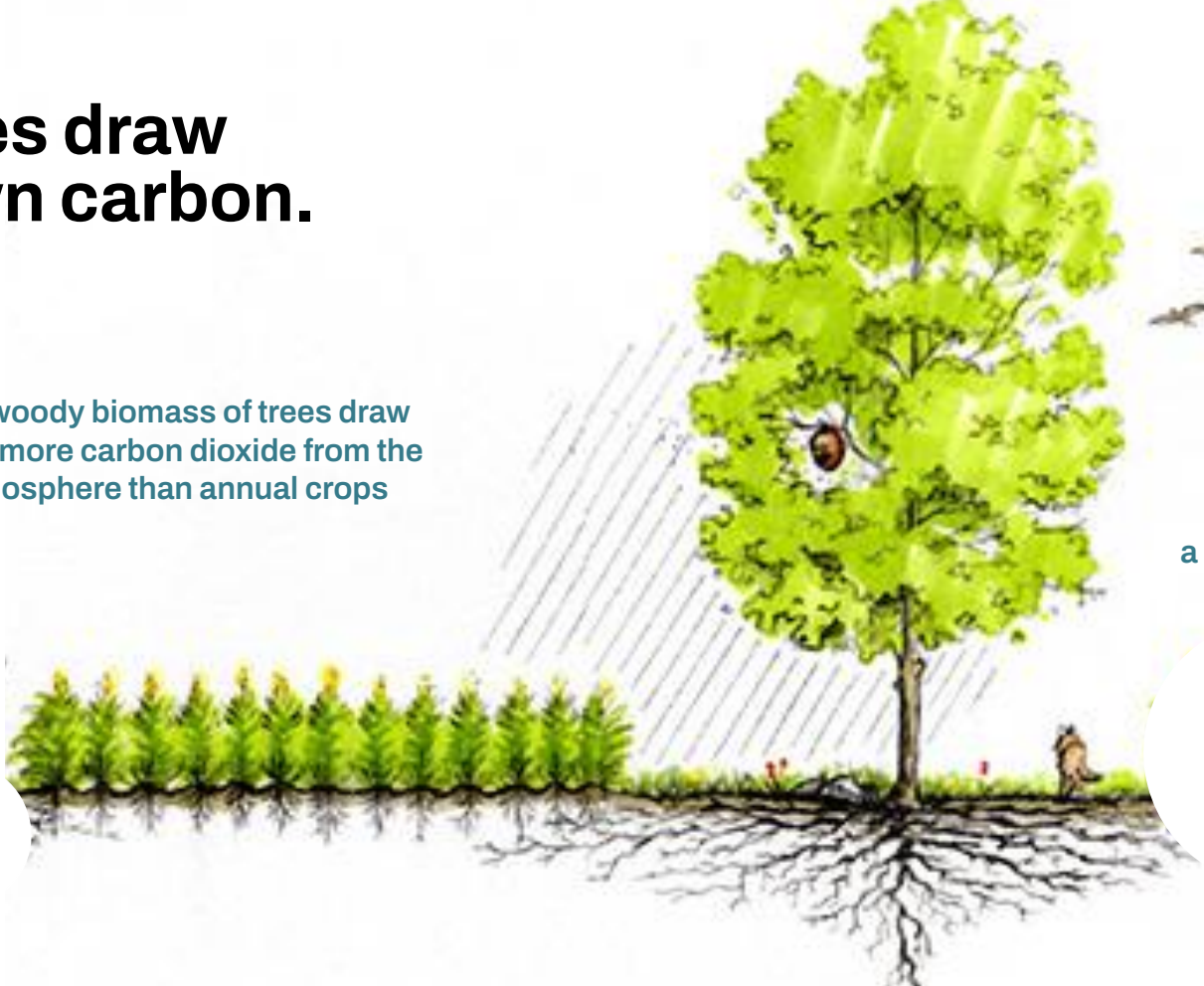


Tree based agricultural systems allow farmers to stack multiple enterprises on one landscape and open opportunity for multi-party systems and family succession.

There are multiple paths to fund establishment and cash flow the large upfront cost of perennial systems.

Trees draw down carbon.

The woody biomass of trees draw down more carbon dioxide from the atmosphere than annual crops

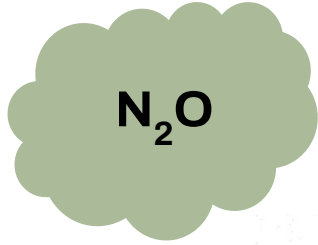


Forests and trees release less nitrous oxide, a greenhouse gas contributing to climate change

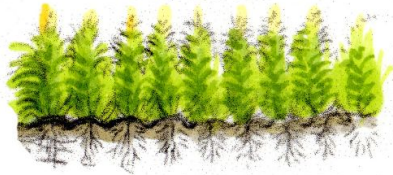
Deep tree roots sink more carbon into the soil at a deeper level

Why agroforestry?

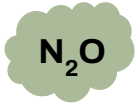
Tree crops sequester more carbon dioxide and release less nitrous oxide than annual crops.



Biomass



Soil carbon



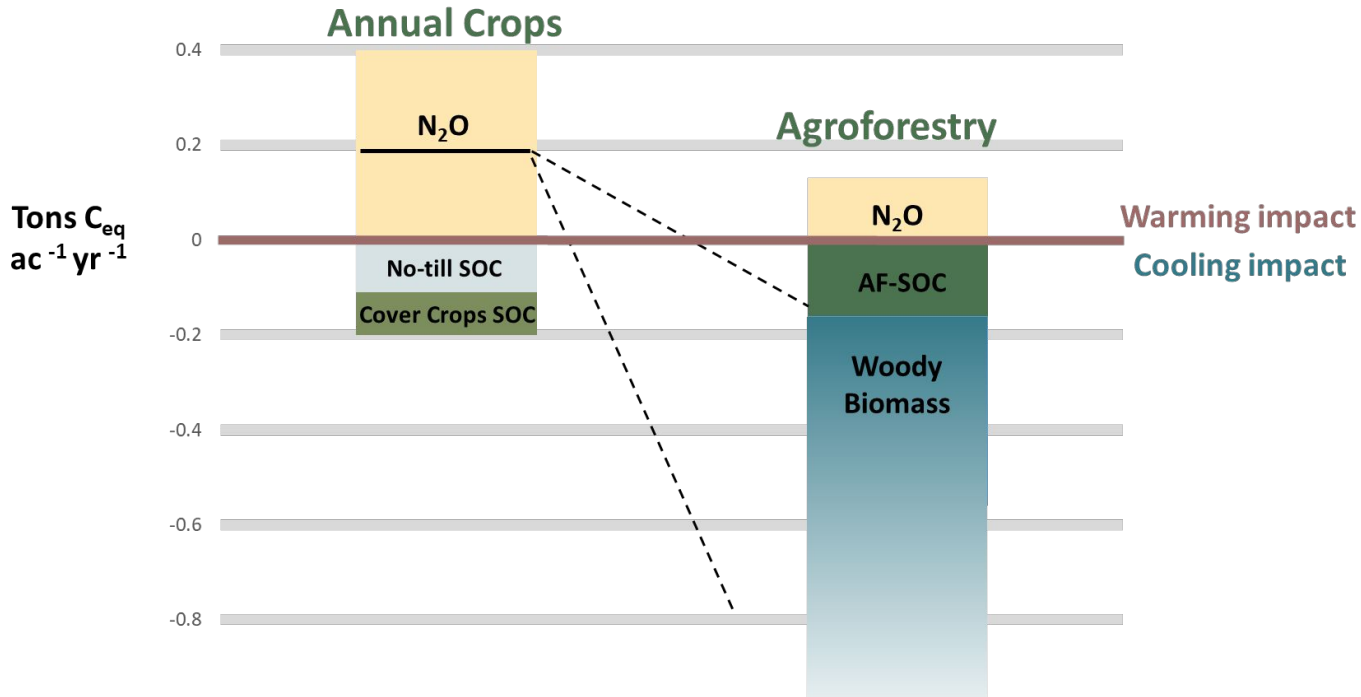
Biomass

Soil carbon

More carbon content helps regenerate soil

Why agroforestry?

Agroforestry has a net-cooling impact on the climate—absorbing more greenhouse gases than it emits.

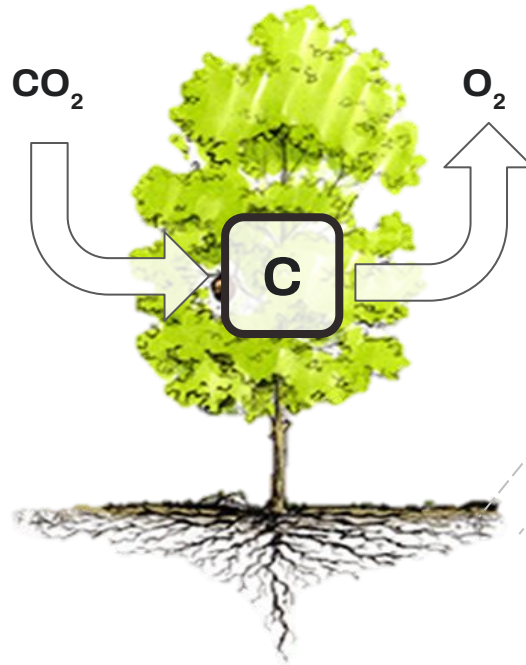


Compiled with data from Lawrence NC, Tenesaca CG, VanLoocke A, Hall SJ (2021), Ogle SM, Alsaker C, Baldock J, et al (2019), McClelland SC, Paustian K, Schipanski ME (2021), Wolz KJ, Branham BE, DeLucia EH (2018), Eddy WC, Yang WH (2022)

Trees cool the climate

MITIGATION

Action to limit climate change by reducing greenhouse gas emissions or removing these gases from the atmosphere



ADAPTATION

Adjusting or preparing for current or expected impacts of climate change





Inspired by the oak savanna ecosystem native to the region, the Savanna Institute conducts research, education, and outreach to support the growth of diverse, perennial agroecosystems in the upper Midwest.

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Theory of Change

We create the conditions for change through:

- **Crop development:** viable tree crops, value chains, and markets for agroforestry products
- **Stakeholder cultivation:** education, outreach, and support to key stakeholders, including a network of agricultural professionals with the capacity to support farmer adoption
- **Systems development:** systems-level demonstrations, pilots, and tools to facilitate adoption

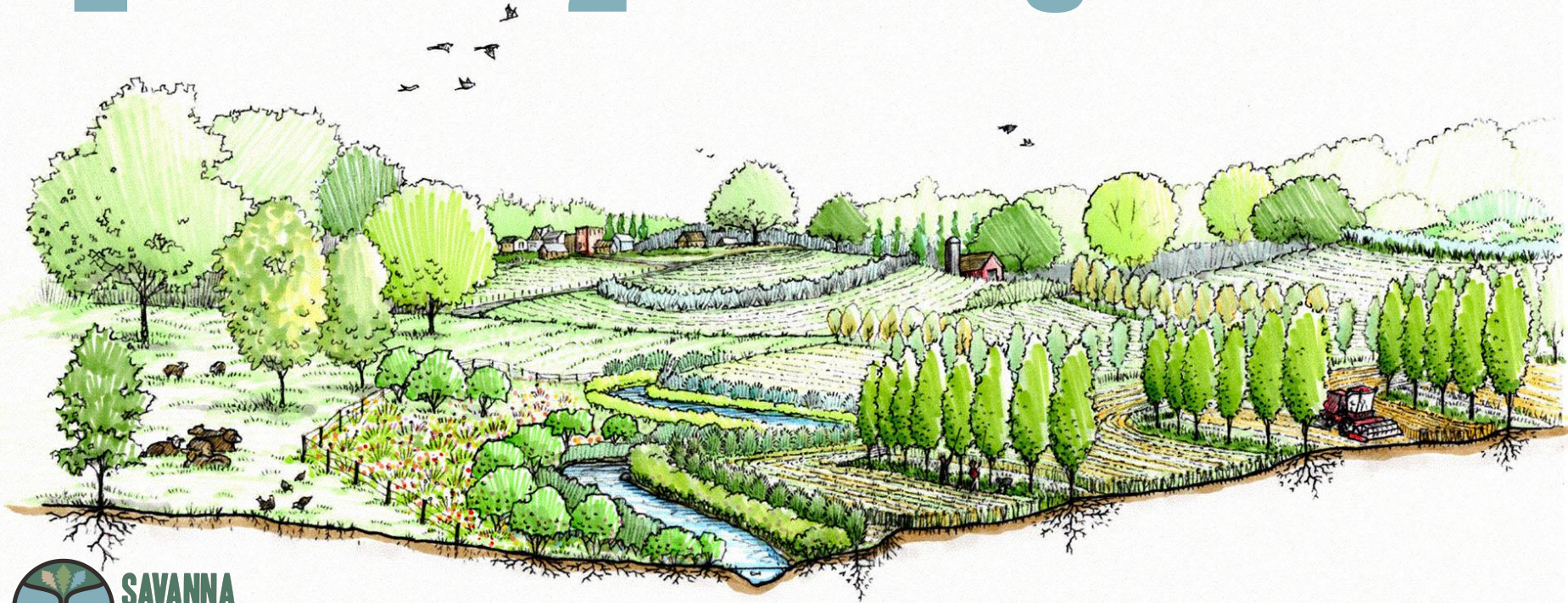


How can we reach the full potential of agroforestry?

1 De-risk adoption

2 Scale up now

3 Expand what's possible



How can we reach the full potential of agroforestry?

1

De-risk adoption

- Technical assistance



The Nature Conservancy 

 SAVANNA INSTITUTE

 ORGANIC VALLEY

How can we reach the full potential of agroforestry?

1

De-risk adoption

- Technical assistance
- Demonstration farms



Photo by Savanna Institute

How can we reach the full potential of agroforestry?

1

De-risk adoption

- Technical assistance
- Demonstration farms
- Access to markets, financing, and crop insurance



How can we reach the full potential of agroforestry?

2 Scale up now

- Pull with markets



How can we reach the full potential of agroforestry?

2

Scale up now

- Pull with markets
- Push with incentives



Photo by Canopy



How can we reach the full potential of agroforestry?

2 Scale up now

- Pull with markets
- Push with incentives
- Make it easy



Photo by Canopy



How can we reach the full potential of agroforestry?

3

Expand what's possible

- Tree crop research and development



How can we reach the full potential of agroforestry?

3

Expand what's possible

- Tree crop research and development
- Increase agricultural productivity



How can we reach the full potential of agroforestry?

3

Expand what's possible

- Tree crop research and development
- Increase agricultural productivity
- Renew social contract with farmers



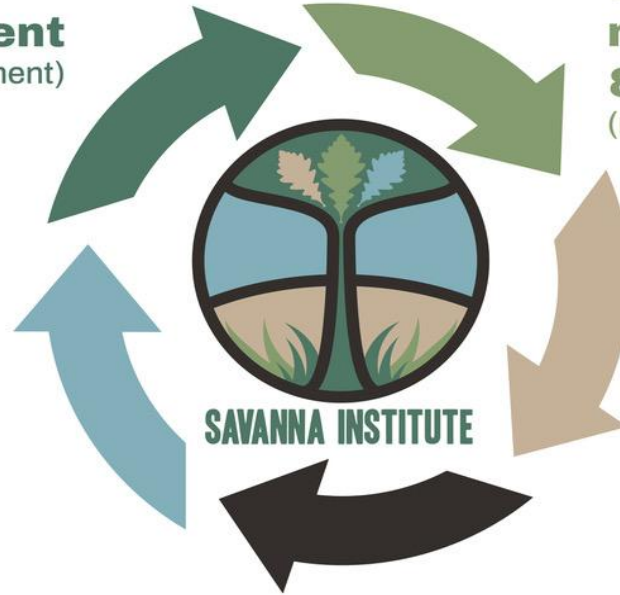
Savanna Institute Strategy

Attract Investment
(grants, donations, investment)

Development of scalable agroforestry models, materials, & markets
(research, demo, trees)

Demonstrated Mission Impact

Successful farmer adoption
(outreach, education, training, financing, tech support)



Mainstreaming
(communication, connection, coalition, culture change)





Alley cropping at Hudson Demonstration Farm near Urbana, IL

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Alley cropping at Hudson Demonstration Farm near Urbana, IL

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WANT HELP ADDING TREES TO YOUR FARM?

ONE-ON-ONE SUPPORT FOR FARM PLANNING

The Savanna Institute offers free technical service to landholders in Illinois and Wisconsin who want to integrate trees on their farms.

[SAVANNAINSTITUTE.ORG/TECHNICAL-SERVICE](https://savannainstitute.org/technical-service)





In 2022, the Savanna Institute's technical service providers worked directly with 43 farmers and landholders to adopt agroforestry on 2,588 acres.



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AGROFORESTRY APPRENTICESHIP PROGRAM

ON-FARM AGROFORESTRY EXPERIENCE

Each Summer, the Savanna Institute pairs apprentices with ten mentor farms across 6 Midwest states.



[SAVANNAINSTITUTE.ORG/APPRENTICESHIP-PROGRAM](https://savannainstitute.org/apprenticeship-program)



**Our Water Quality Program
conducts research and outreach
to increase agroforestry adoption
in the Great Lakes and upper
Mississippi River Basin
watersheds.**



SAVANNA INSTITUTE

Tree Crop Development

Our team of scientists develop new and improved cultivars, genomic sequencing, crop reports and ecosystem research.

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- The Problem of Invasive Species
- The Role of Genetic Diversity
- The Role of Ecosystem Services
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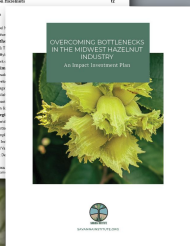
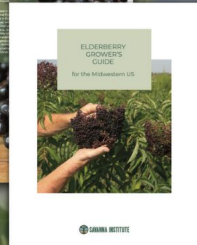
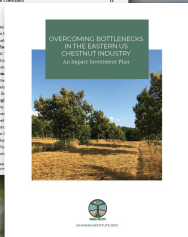


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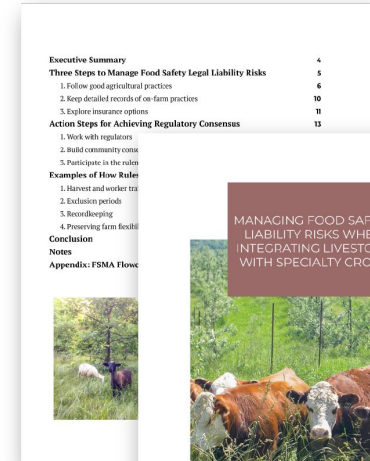
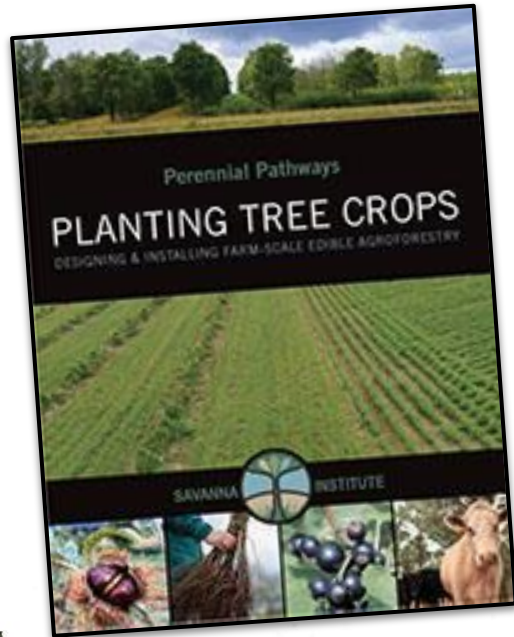


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Free online resources - from beginner to expert



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Perennial AF blog and podcast

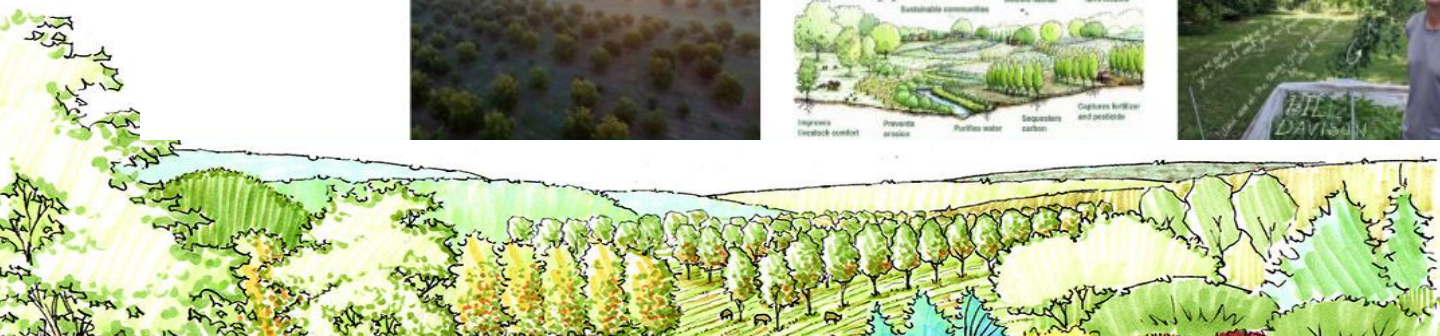
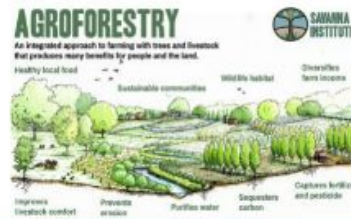


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An agroforestry podcast and blog by the Savanna Institute

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Free online course for beginning agroforestry farmers

AGROFORESTRY FOUNDATIONS

Learn about the foundations of agroforestry:

What is it?
How did it begin?
Where is it headed?

Online course series

PERENNIAL CROPS & PRACTICES IN AGROFORESTRY

Forest farming, alley cropping, windbreaks, silvopasture, and riparian buffers.

Online course series

LAND ACCESS & FINANCES IN AGROFORESTRY

Government programs, novel partnerships, leasing and financing options.

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AGROECOLOGY & CLIMATE CHANGE IN AGROFORESTRY

Sequestering carbon, supporting ecosystems, and building healthy lifestyles.

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SOCIAL JUSTICE IN AGROFORESTRY

Understanding historical context, land access, and creating equitable systems.

Online course series

MARKETING IN AGROFORESTRY

Advertising, setting, and delivering products to consumers or other businesses.

Online course series

+ an upcoming module to help you plan!

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In 2021, Savanna Institute and the Grantham Foundation launched Canopy, a perennial farm management business serving Wisconsin and Illinois.



Thank you!