

Using Agroforestry
and Sometimes
outside funding to
meet Farming Goals

An aerial photograph of a rural landscape. The scene is dominated by a large, vibrant green field in the foreground, which appears to be a cornfield. To the right of the field, there is a dense wooded area with various shades of green. In the background, a red barn with a white roof is visible, surrounded by more trees and a paved road. The overall atmosphere is peaceful and scenic.

Olivia's Orchard

Chestnuts and Pawpaws '17-'21

Very Thorny Timber

Yellowbud
hickory
harvest

Chestnuts- Direct seeded

'21 '21 '23

Hay

Butternut Trees

Hazelnut Variety Trial

Chestnuts
Pawpaws Direct
seeded '21

Chestnuts
and More '24

Apples, Pears,
Plums and
Pecans

Rotationally Grazed
Silvopasture/Timber

Chestnuts,
pawpaws
and more
'15-'19

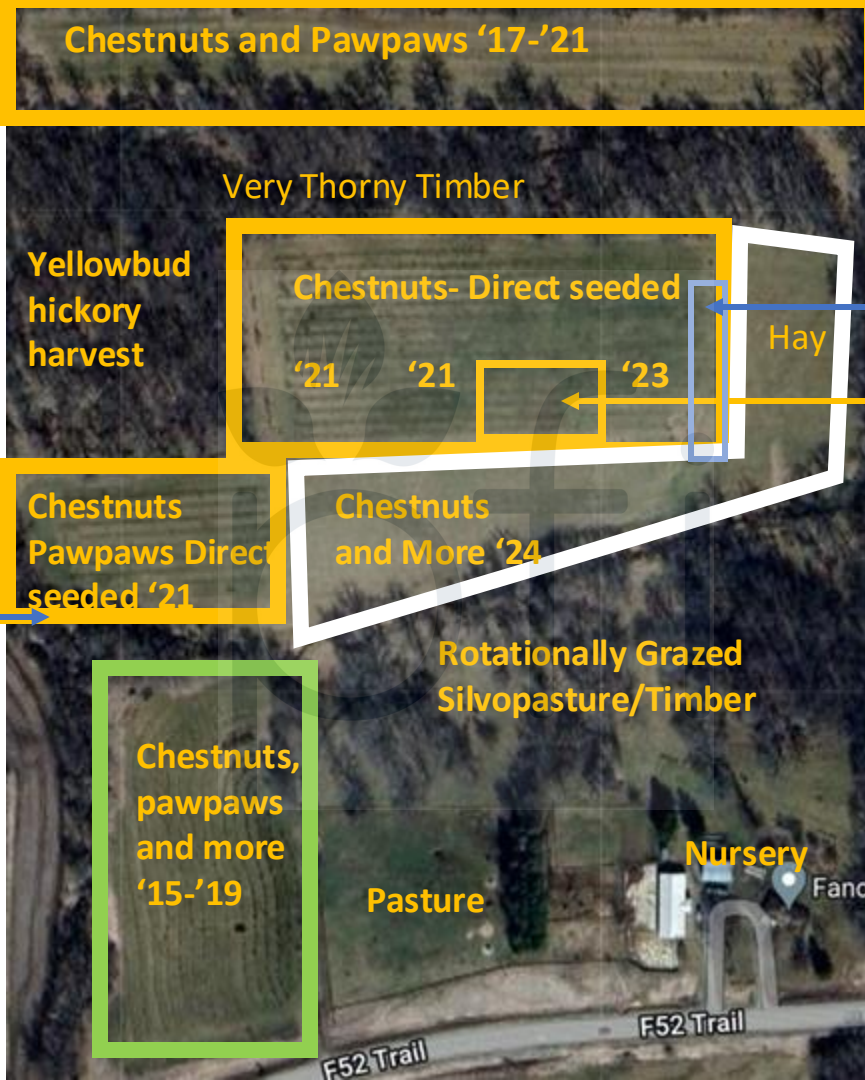
Pasture

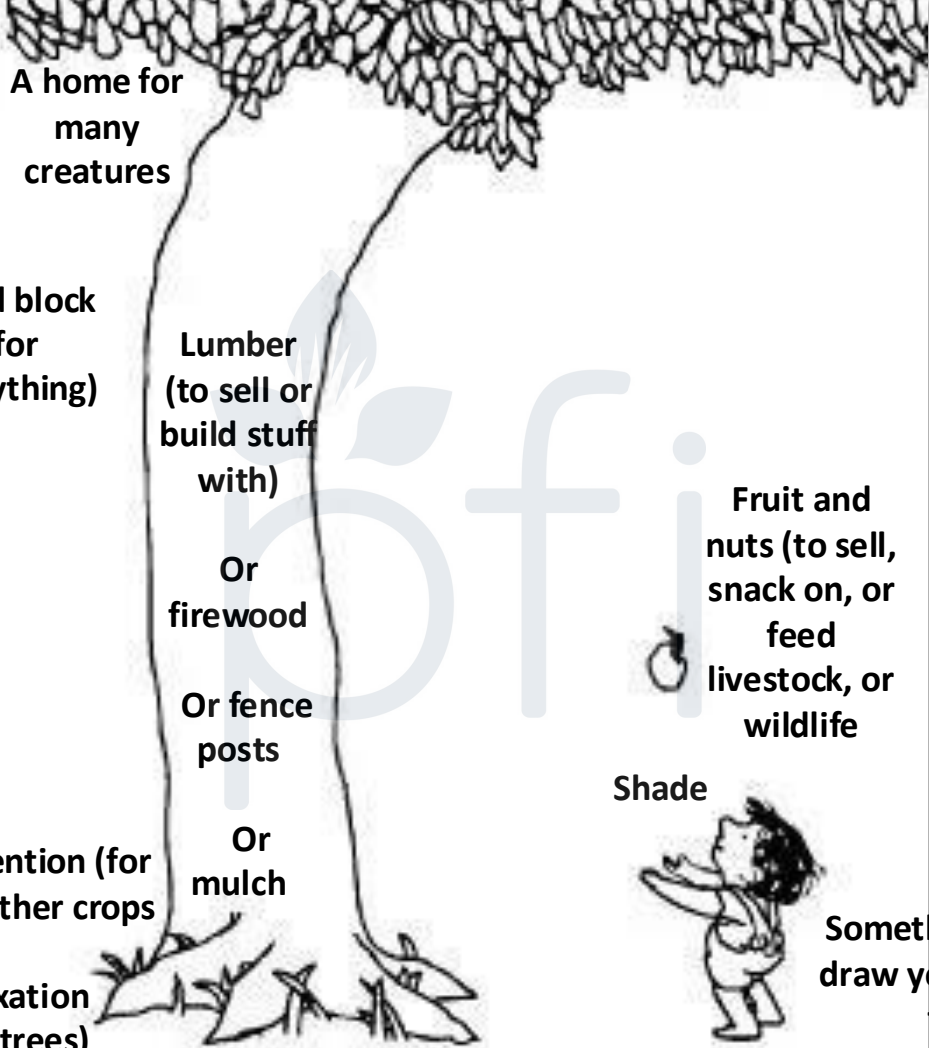
Nursery

Fanc

F52 Trail

F52 Trail





A home for
many
creatures

Leaves (to feed
livestock)

Wind block
(for
everything)

Lumber
(to sell or
build stuff
with)

Or
firewood

Or fence
posts


Or
mulch

Fruit and
nuts (to sell,
snack on, or
feed
livestock, or
wildlife)

Shade

Soil Water retention (for
hay, pasture, other crops)

Nitrogen Fixation
(only some trees)



Something that might
draw your kids back to
the farm

My Personal Farm Goals and Anti Goals

Goals

1. Profitable Business based on Food Production

1. Build and Improve soil

1. Life Flexibility

1. Work outside with trees, friends and family

Anti Goals

1. Avoid Debt

2. Avoid Machinery

3. Avoid systems that require large amounts of inputs to function

What are your goals and antagoals? Think farm and lifestyle

Write them down, I'll ask you to share some but not all :)



Profitable Food Production

- Not always the best way to make money on a farm
- Agrotourism (overnights, photo-ops, you-picks)
- Event space
- Hunting (habitat development)
- Education
- Products other than food (xmas trees, foraging, flowers, seed, nursery plants)
- Use agroforestry to enhance production of annuals (windbreak, snow fence, nitrogen fixers)
- Maybe you have a piece of land and profitable farm business isn't really your goal. That's okay.



Chinese Chestnuts- Medium scale, wholesale production

Goals

1. Profitable food Production: Can produce 2000-3000lbs per acre of high quality human food, sell for \$4/lb or more, demand is bigger then supply
1. Soil: Only have to dig a hole once, can keep the ground in continues perennial coverage
1. Flexibility: Can plant trees and walk away, take a trip, go to nursing school, snow bird, ect.
1. Outside and social: Planting trees and hand harvesting brings people together



Chinese Chestnuts- Medium scale, wholesale production

Anti Goals

1. Debt: Low-ish start up cost if you already own land or can lease land
2. Machinery: Can plant and harvest and do most everything by hand and the industry is small enough that you don't need to use machinery to be competitive
3. Outside inputs: Plant the tree, mulch, tree tube, visit it a few times a year for care- otherwise it will grow unassisted.



Chinese Chestnuts- Medium scale, wholesale production

Outside funding that I've used:

- Trees forever working watershed grant
- Savannah Institute Mentorship program, as Trainee at Red Fern Farm and as a trainer.

Outside funding that might have been or would be available to me if I were to start this project now.

NRCS

Savannah Institute connections



Foraged Finished Beef, Rotationally Grazed through Silvopasture

Goals

1. Profitable food: Local demand for grass-finished beef, I can sell it at a premium.
2. Soil: Intensive rotational grazing uses ruminates to trample grass into the soil (mulching) and adds poop and more microbes- one of the best ways to build soil.
1. Flexible: Single strand fencing, I can move them every day or every few days or put them in a “vacation lot”
1. Outside, Social: The cattle are what get my outside regularly, to every corner of the farm, climbing through ravines and into corners of the timber. Cattle are what guests and kids want to see when they visit.



Foraged Finished Beef, Rotationally Grazed through Silvopasture

Anti Goals

1. Debt: I personally started with just a few pair off craigslist. Single strand electric fencing is cheap. Already had some infrastructure
2. Machinery: I have someone hay for a portion of the hay, and set the bales up in a grid for me to winter graze. Borrow a trailer or hire someone to haul to the butcher.
3. Inputs: All they regularly need from off farm is some salt, mineral and a little bit of higher protein hay



Foraged Finished Beef, Rotationally Grazed through Silvopasture

Outside funding I've used:

PFI's rotational grazing infrastructure cost share

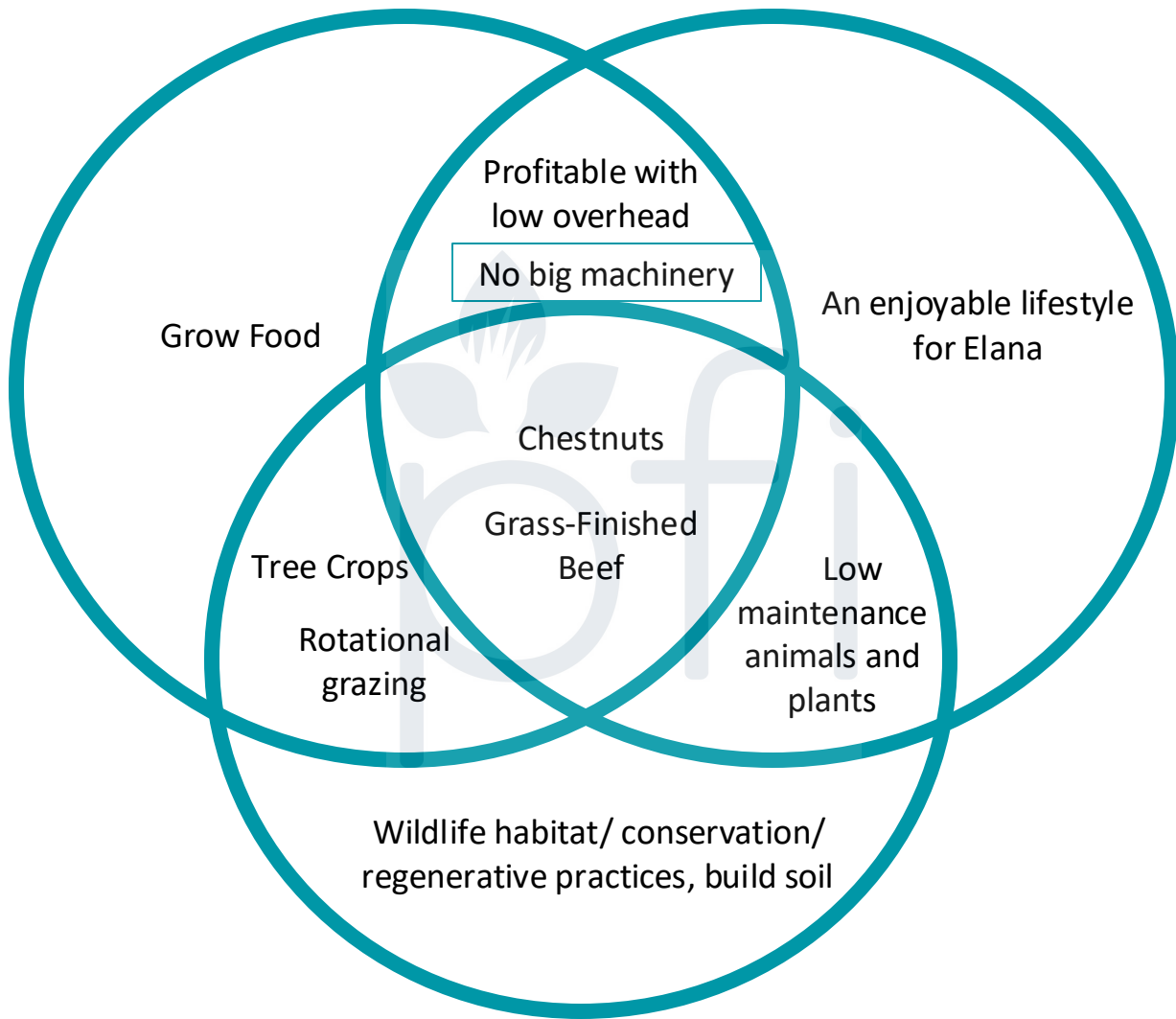
Other outside funding that could have been or would be available to me.

NRCS (equip? CSP)



Share some of the Goals you wrote down





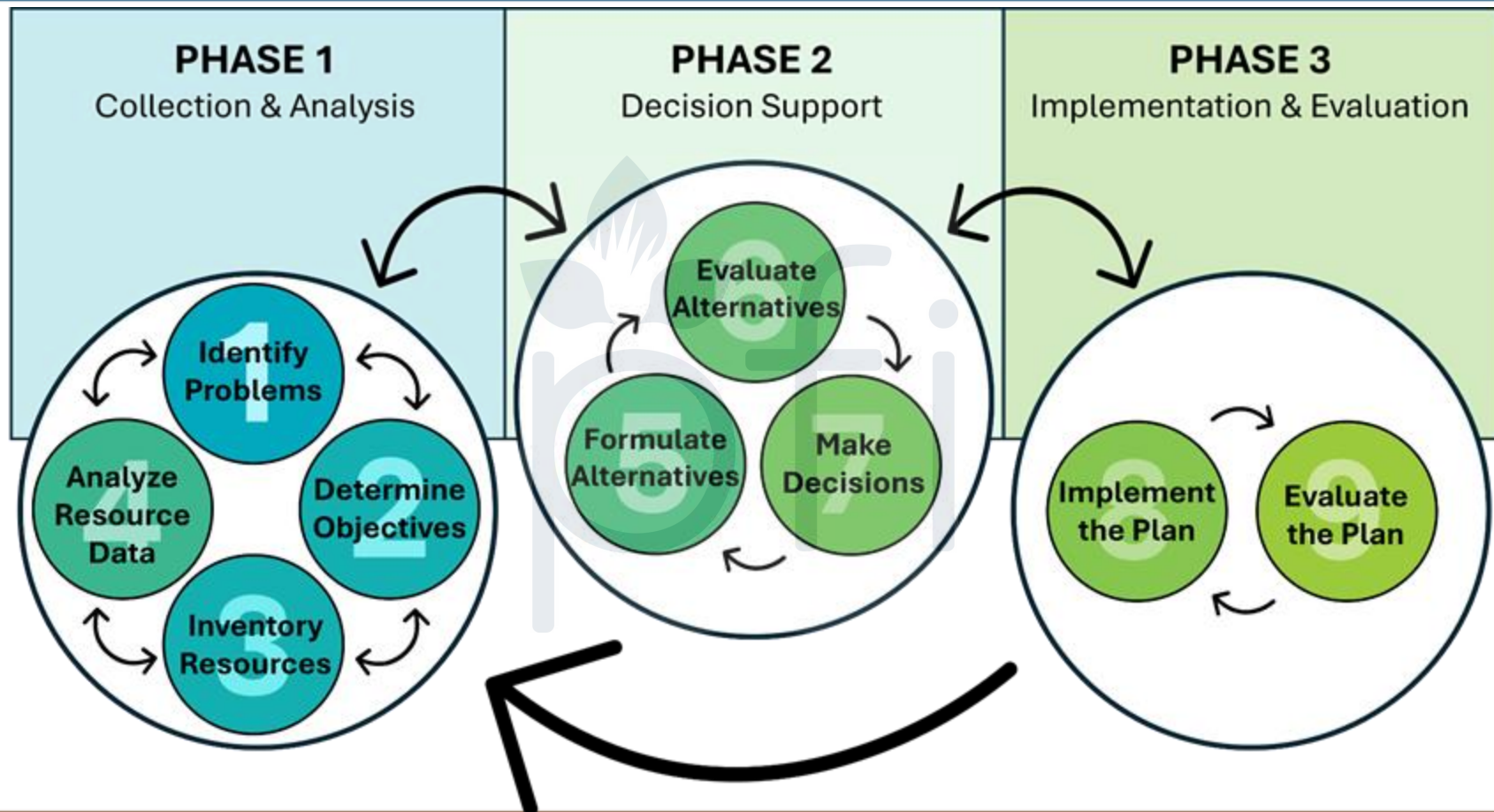
Financial Assistance Programs, do they align with your goals?

- 1. Don't change your practices to fit into any certain grant or cost-share programs**
- 1. Be aware of the potential for delayed timeline and how it might impact your project**
- 1. Know the repercussions if you do not complete your end of the agreement**

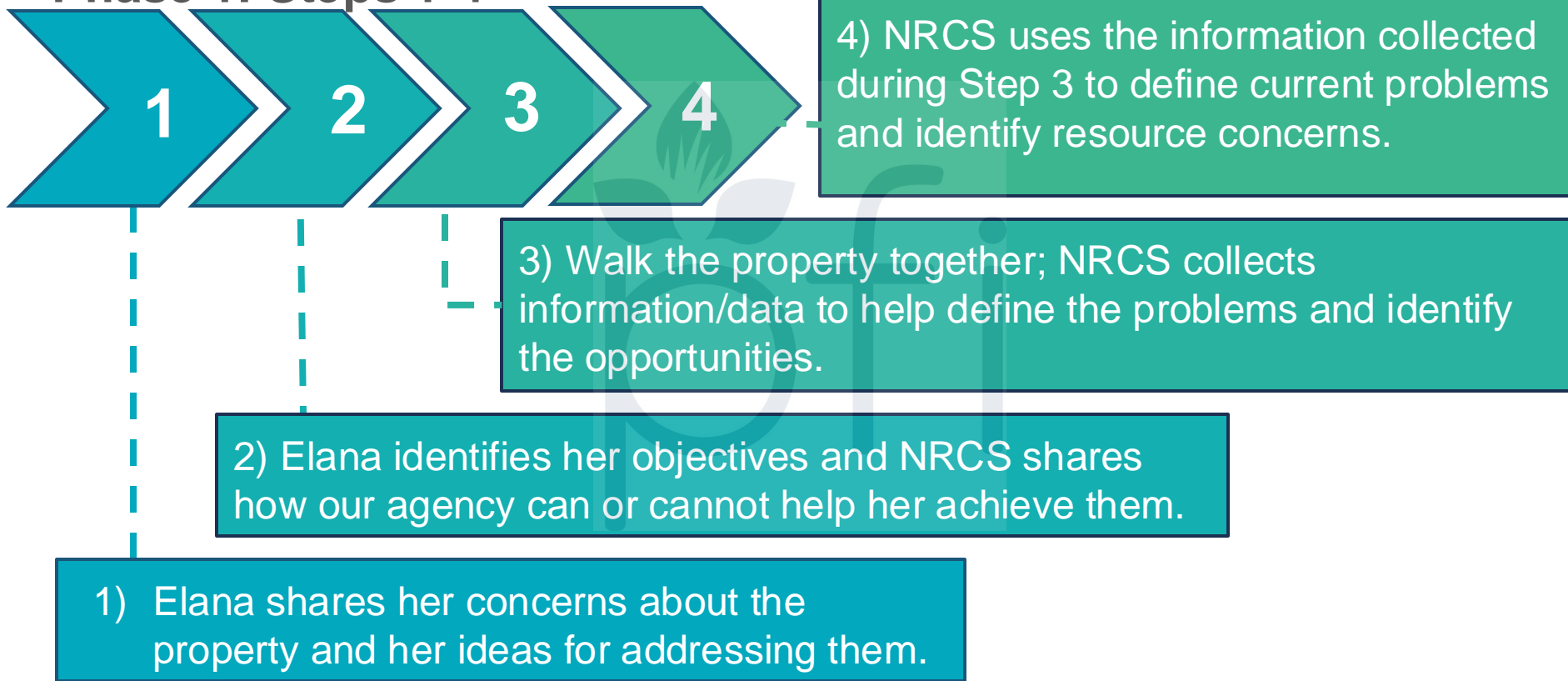


Financial Assistance for Agroforestry Practices
Bailey J. Yotter, Forester

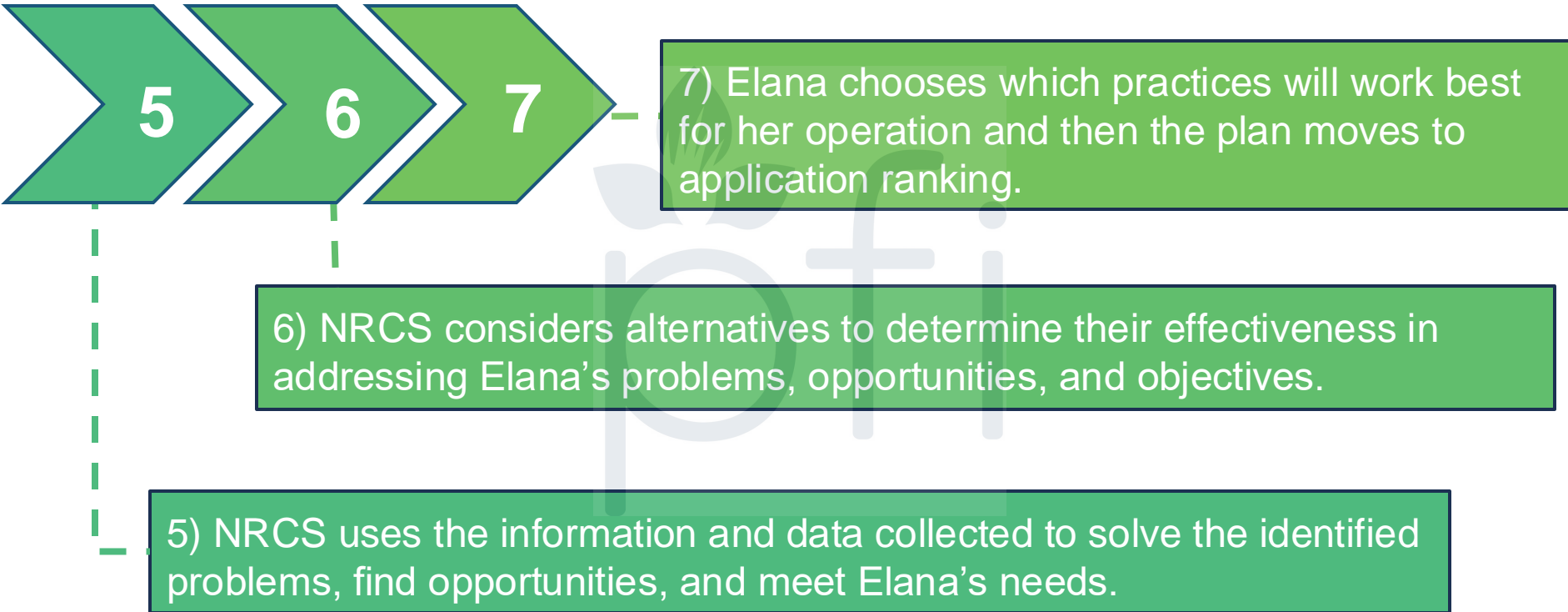
FARM PRODUCTION AND CONSERVATION
FSA | NRCS | RMA | Business Center



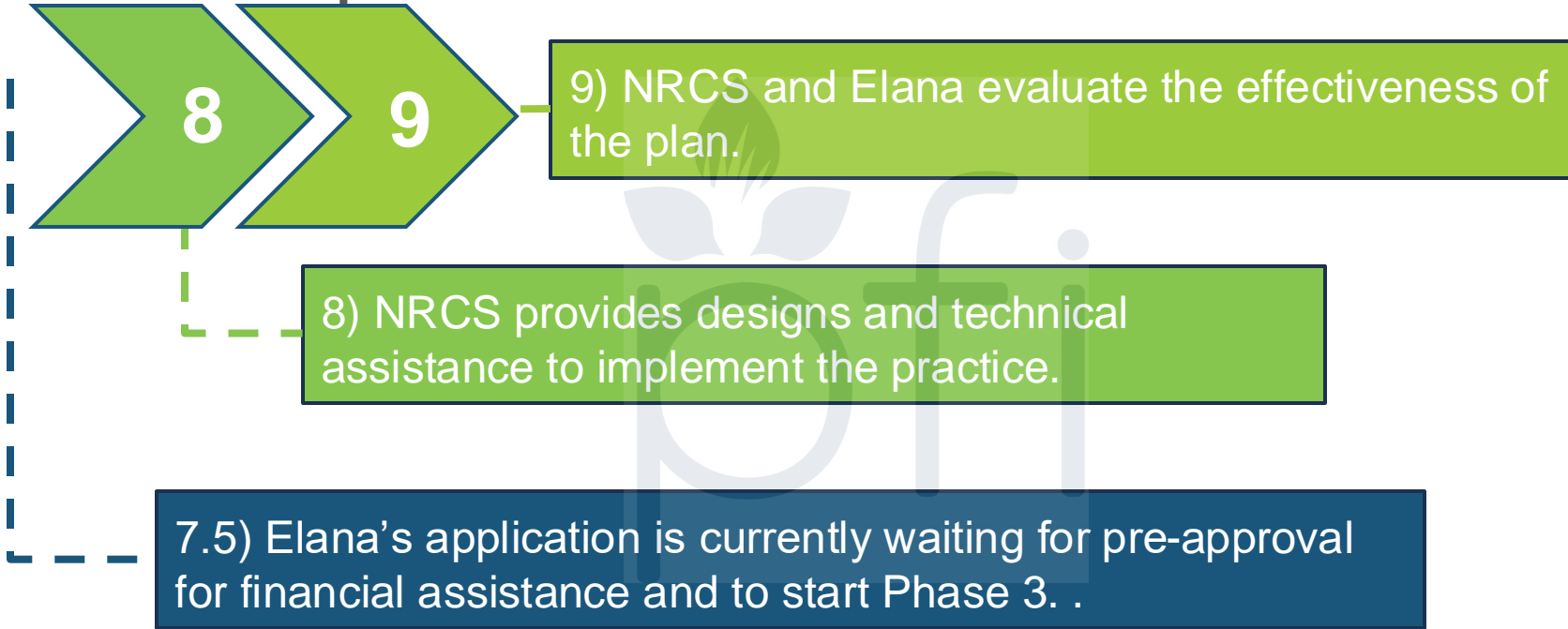
Phase 1: Steps 1-4



Phase 2: Steps 5-7



Phase 3: Steps 8-9



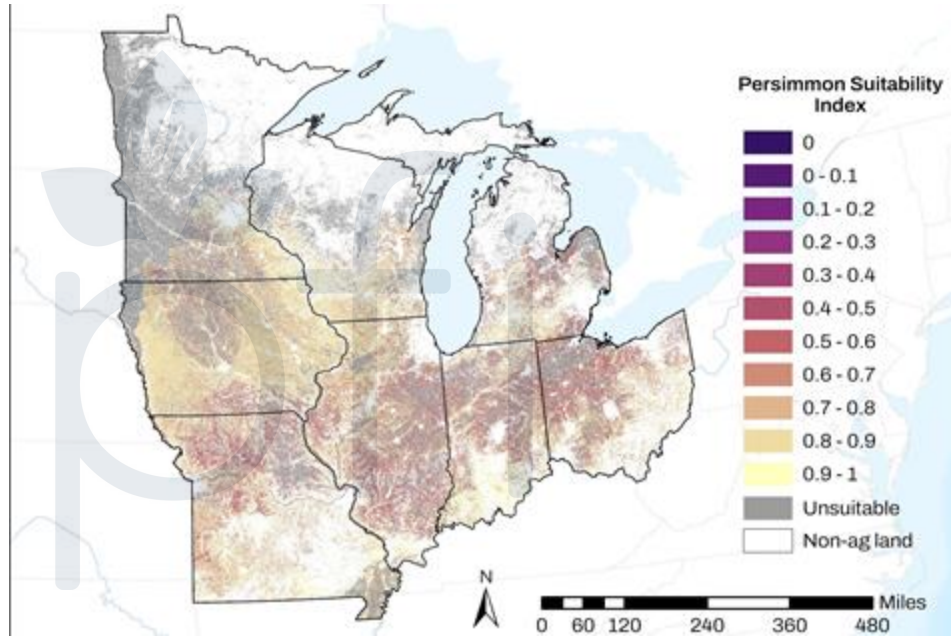
NRCS Agroforestry Practice FY19-FY24

Alley Cropping	3
Windbreaks	1023
Silvopasture	8
Riparian Forest Buffers	116
Grand Total	1150

- We have a lot of work to do.
- Actively expanding, learning, and increasing opportunities.
- What's next?
 - Urban/Small Scale and Organic RC
 - Improved Technical Assistance and planning.

What does Savanna Institute do?

- Research
- Demonstration
- Commercialization
- **Adoption**
- **Education**



Savanna Institute Technical Service Program



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Technical Service Program

What?

What are the client's goals?

What can grow on the site?

What funding is available?



The documents shown are:

- Installation Budget**: A form for recording client information and budget details.
- Agroforestry Tree Selection Tool**: A form for selecting tree species based on site characteristics.
- Farm Narrative Guidance Document**: A detailed plan for a "Tree/Shrub Establishment (612) Windbreak and Shelterbelt Establishment (380)". It includes a map of the farm with highlighted areas for tree and windbreak establishment, and a list of specifications: Tree/Shrub Establishment (612) 217 trees 0.72 acres; Windbreak (380) - Row 1 101 trees 0.24 acres; Windbreak (380) - Row 2 101 trees 0.24 acres. Total trees: 519; Total acres of windbreak area: 0.48.



Technical Service Program

Agroforestry Plan!

SAVANNA INSTITUTE Standard Operating Procedures

TREE PROTECTION
Tree Tube and Mulch Install

RECOMMENDATIONS

USDA National Resources Conservation Service

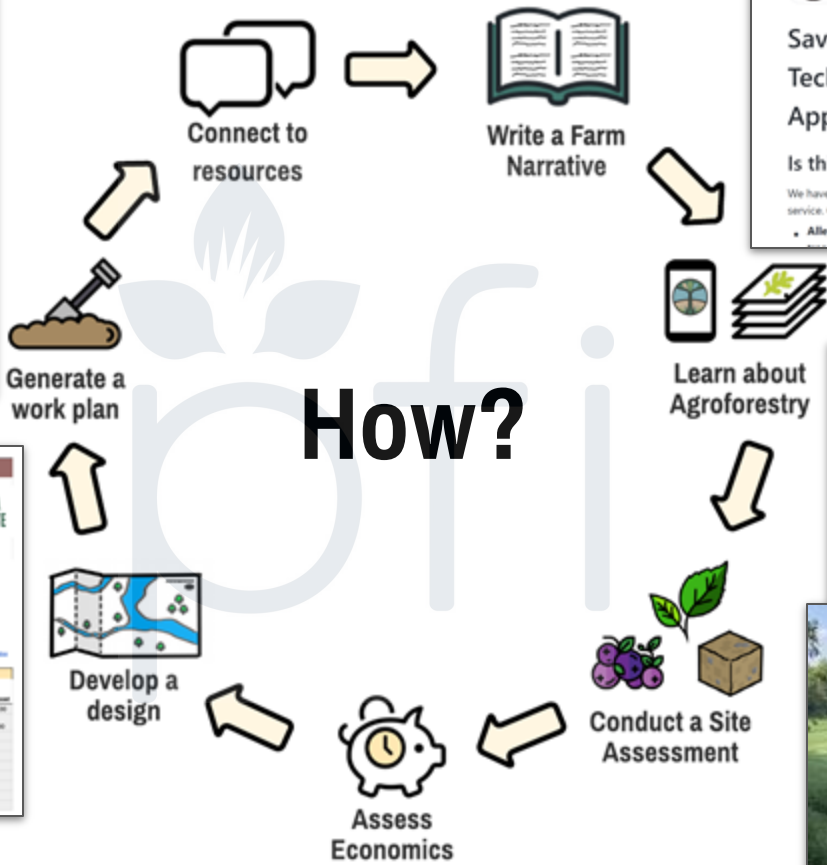
CONSERVATION PRACTICE

MAPS/LAYOUT

ALLEY CROP AND ALLEY WIDTH

Notes

Item	Unit	Price	Total
...
...
...



SAVANNA INSTITUTE

Savanna Institute Technical Service Application

Is this program...

Farm Narrative Guidance Document

Why a Farm Narrative?

Questions and Examples

Primary Decision Makers:

- Example: Landowner, business partner, farm, board members, etc.

Secondary Decision Makers:

- Example: Tenant, family members, neighbors, etc.

CANOPY COMPASS



Technical Service Program

Goal Setting - Agroforestry Specific

- [Savanna Institute's Farm Narrative Guidance Document](#)

Is agroforestry
a good fit?

Farm Narrative Guidance Document
Spring 2023
**Credit to [Interface Commons](#) for parts of this document (thanks!).*

Why a Farm Narrative?
Ultimately, the ideal plan for the land you steward is the one that best fits your goals. Filling out a Farm Narrative will help you identify what you want to do, who can help, and what resources are available. It's a critical step in making sure agroforestry is a great fit!

Questions and Examples

Primary Decision Makers: Who are the primary decision makers for your farm? Who has veto power? Please list them below and describe their role in the decision-making process.

- Examples: Landowner, business partner, bank, board members, etc.

Secondary Decision Makers: Please list them below and describe their role in the decision-making process.

- Examples: Tenant, family members, managers, etc.

People and Organizations of Influence: Who has helped you or inspired you along the way?

- Examples: NRCS, Soil and Water Conservation or Extension staff, other farmers, non-profit organizations

Statement of Purpose
WHY?

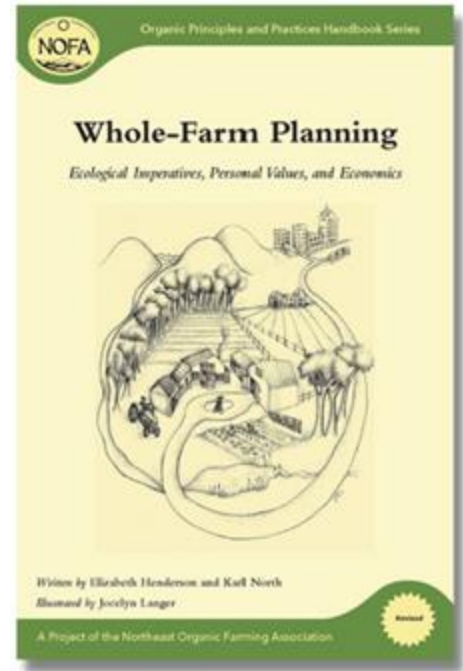
Goals WHAT?	Goals WHAT?	Goals WHAT?
Objectives HOW?	Objectives HOW?	Objectives HOW?
Objectives HOW?	Objectives HOW?	Objectives HOW?
Objectives HOW?	Objectives HOW?	Objectives HOW?



Interested? Great! But we don't have the capacity right now

What can you do in the meantime

- **Contact your local NRCS office** and determine their ability to offer cost share for these practices
 - Develop a **FOREST MANAGEMENT/ACTION PLAN** (ask Bailey)
 - **Enroll in Holistic Management Goal Setting** - Foundational HMI (worth the \$\$\$!)
 - (For silvopasture) develop a **GRAZING PLAN** with your local office
-
- Begin planning with the **Fruit and Nut Compass & Canopy Compass**
 - **Learn about the crops and practices** - *That's Savanna Institute! That's what we can do right now!*



Fruit and Nut Compass

File Edit View Insert Format Data Tools Extensions Help

100% Calibri

Content Map

Planning a perennial crop farm is exciting, and complex. You will need to estimate yields, sales and costs. Your detailed Compass Export will appear occasionally to offer guidance and encouragement. When you click me, a pop-up window will appear with important information and instructions.

STEP 1 Crop Timeline
STEP 2 Crop Acreage
STEP 3 Land Preparation
STEP 4 Planting Year
STEP 5 Crop Establishment
STEP 6 Harvest Years
STEP 7 Equipment & Infrastructure

STEP 8 Expense Timeline
STEP 9 Land and Overhead
STEP 10 Farm Assets
STEP 11 Marketing Costs
STEP 12 Projected Sales
STEP 13 Financial Timeline
STEP 14 Graph and Dashboard

Color Code

Printable User Guide

Fruit and Nut Compass User Guide

Fruit and Nut Compass

File Edit View Insert Format Data Tools Extensions Help

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STEP 1: Perennial Crop Timeline

Use this sheet you will list up to 12 crops that you plan to grow and then create a timeline for land preparation, planting, and how long each crop will take to establish and yield a marketable crop. First, you will be asked to establish some total parameters: the acres you plan to plant to perennial fruits and nuts and your beginning year for this 15-year marketing task.

Total acres you plan to plant to ALL perennial crops: 12.00
Year you will begin preparing land for planting, if no land prep: 2025

Name the crops you plan to grow, in the order they will be planted. You can name them all now or as you go.

Crop 1	Crop 2	Crop 3	Crop 4	Crop 5	Crop 6
Apple	Pear	Panama Red	Cherry	Honeyberry	Butternut
Crop 7	Crop 8	Crop 9	Crop 10	Crop 11	Crop 12
Walnut	Yeastwood				

Create a timeline for each crop before using the drop-down menu: from land prep to planting to crop establishment to harvest.

Crop	Calendar Year														
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Apple	LP	P	E	E	E	E	E	E	H	N	M	M	M	M	M

Use drop-down menus to enter codes for what will happen each year: preparing land, planting, establishment, harvest years, or crop termination.

Perennial Crop Information Resources

Perennial Pathways: Planting, Site Prep
Key Perennial Crop Factsheets

The Fruit and Nut Compass is a project of the University of Wisconsin in collaboration with the Savanna Institute. The end

User Guide - 1. Timeline - 2. Acreage & Notes - 3. Land Prep - 4. Planting - 5. Establishment - 6. Harvest Years - 7. Crop Equipment

Apple

Enter the cost of the trees/plants and also the cost of any temporary plant protection or plant support materials (tubes, stakes, ties, etc.). This is then converted to a per acre cost.

Acres	Item	#	Unit Cost	Total
13.45	Trees/Plants	2200	\$ 5.00	\$11,000
	Amortized cost of plants for this year			50
	Tubes/Stakes/Ties	2200	\$ 8.00	\$17,600
	Per Acre Plant and Plant Protection & Plant Support Expenses			\$1,309

5B. Planting Year per Acre Material Costs

Enter per acre material costs during the planting year. Do not include permanent irrigation system or trellis cost.

Other Planting Items	Total
Compost/Fertilizer	\$ -
Mulch	\$ 400
Pest Management Products	\$ -
Total per Acre Material Expenses	\$ 1,709

5C. Planting Year Labor Costs

Enter TOTAL labor costs during the planting year. These totals will be divided by acres to calculate a per acre cost.

Labor Type	Hrs/Yr	\$/Hr	Total
Hour Labor	500	\$10.00	\$5,000
Hand Labor	0	\$ -	50
Contract Hire			
Other Labor			
Total Labor Cost			\$5,000

5D. Total Labor Cost per Acre

Total Labor Cost per Acre	\$372
Total per Acre Planting Year Expenses	\$2,081
Total Planting Year Cost, All Acres	\$27,979

Secondary Enterprises

Will you use this same land during the planting year for a secondary enterprise? If so, estimate the income and expenses.

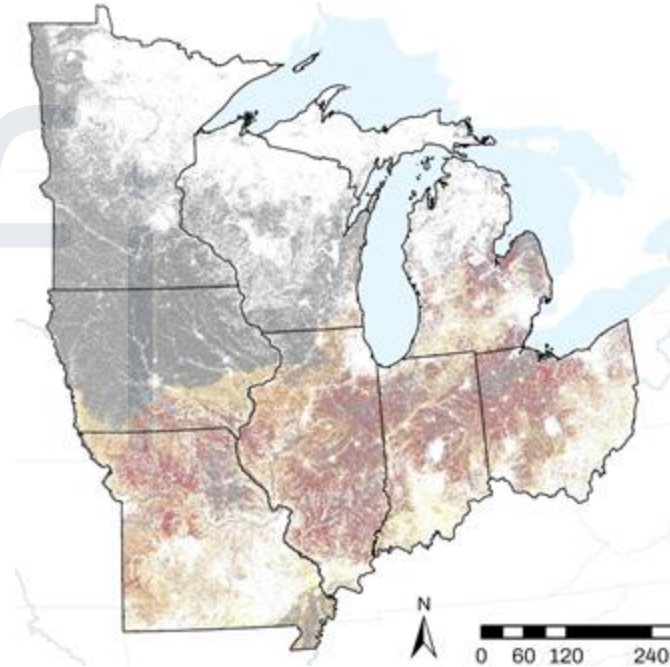
Income	\$3,000
Expenses	\$200
Net	\$2,800



Canopy Compass Powered by SI's Research

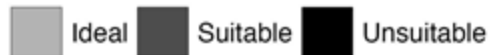
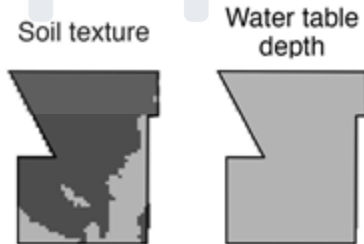
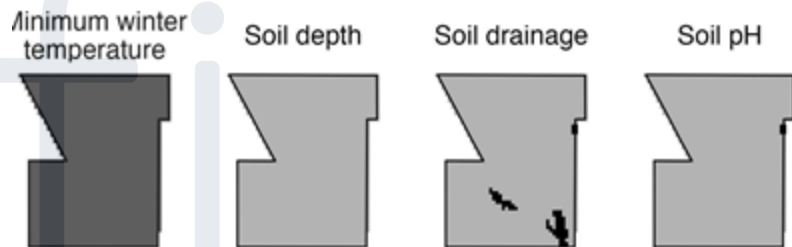
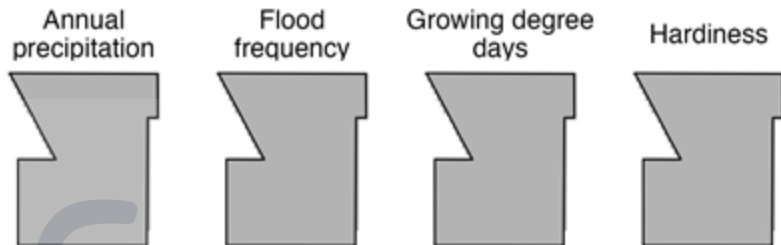
New website powered by custom-built software using public and private data

- Answer “Does this crop grow on my land?”
- Soil & climate
- Parcel & field boundaries
- Crop suitability maps
 - Based on 3 years of research at the Savanna Institute
 - Scientific literature
 - University extension publications
 - Interviews with experts

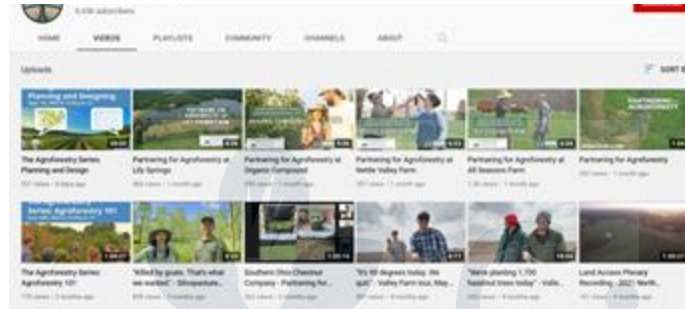


Crop Suitability Map

Chestnut Example



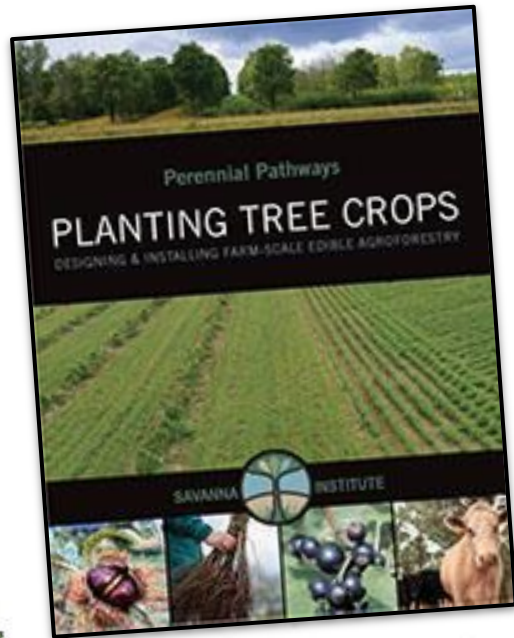
YouTube Channel @SavannaInstitute



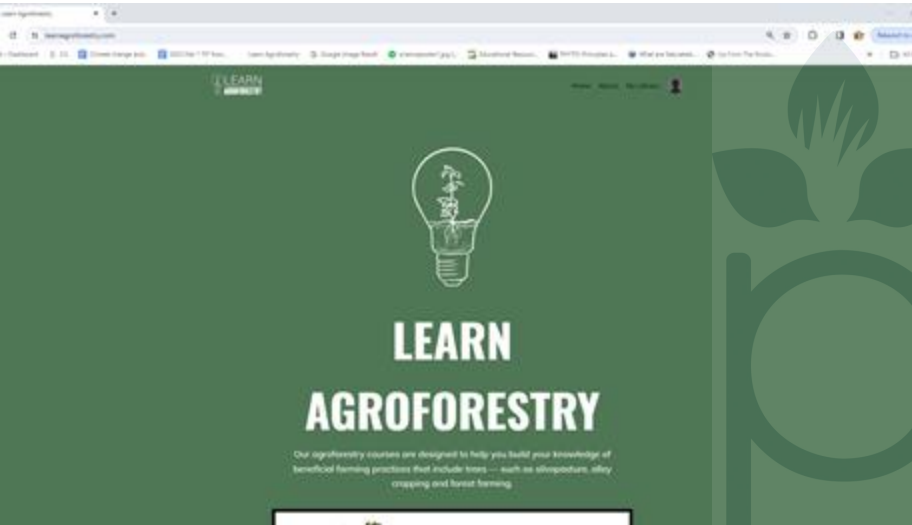
Perennial AF blog and podcast



Free online resources - from beginner to expert



www.learnagroforestry.com



FEATURED COURSE

AGROFORESTRY TRAININGS

FOR NATURAL RESOURCE PROFESSIONALS

This agroforestry training program is custom designed for individuals like you who work with land managers, with the goal of helping you expand your knowledge of agroforestry to better serve your clients and community. Six courses offer a deep-dive into key agroforestry topics: forest farming, silvopasture, and alley cropping and more.

LEARN MORE



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The Nature
Conservancy



Expanding Agroforestry Production and Markets

FOR PRODUCER PROFITABILITY AND CLIMATE STABILIZATION



Agroforestry helps increase producer's income, while mitigating climate change. Agroforestry in Hawaii © Troy Kielbaso

The Nature Conservancy (TNC) and multiple partners across the United States launched a project in early 2023 to expand agroforestry plantings across 30 states (see map, p. 2). The five-year project is designed to catalyze significant private investments into the agroforestry industry while increasing producers' incomes and delivering environmental benefits such as enhanced carbon sequestration, soil health, biodiversity, and water quality.

Funding for the *Expanding Agroforestry Production & Markets for Producer Profitability and Climate Stabilization* project is through the USDA's Partnerships for Climate-Smart Commodities, a funding initiative to drive natural climate solutions by financing partnerships that support the production and marketing of climate-smart agricultural and forestry commodities through pilot projects. In 2022, USDA announced more than \$3.1 billion in funding for 141 projects, with the requirement that each project include meaningful involvement of small and underserved producers.

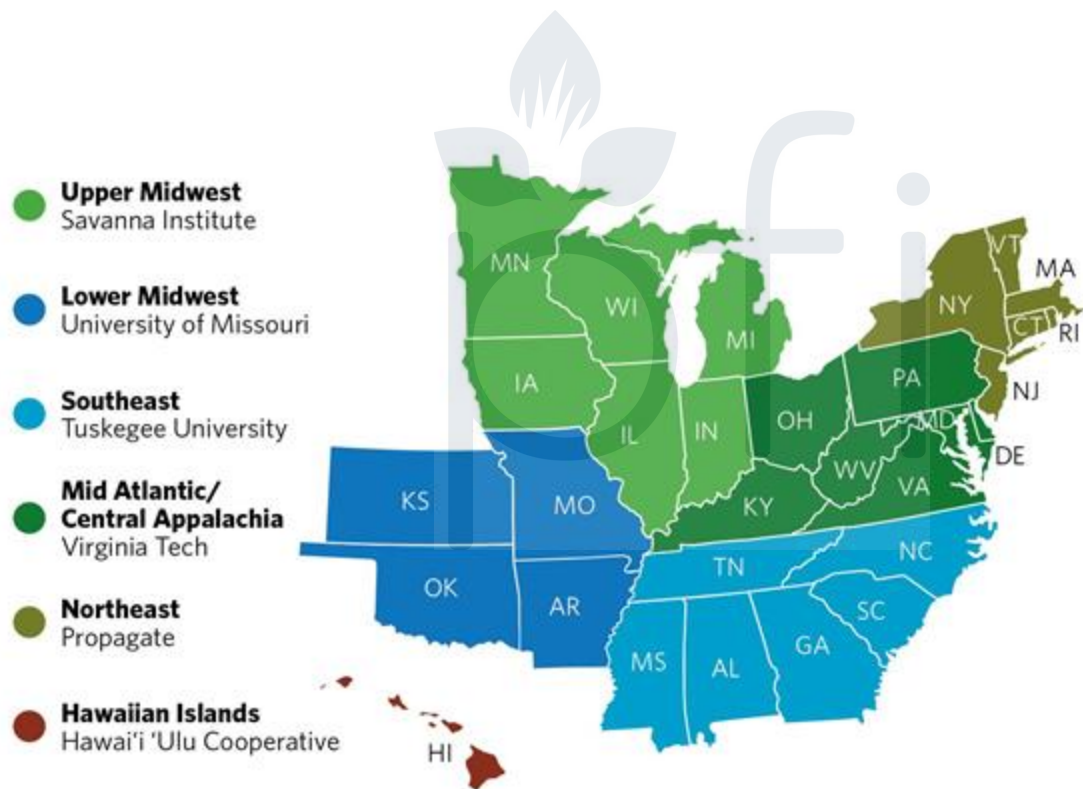
Climate Benefits of Agroforestry

In the United States, agriculture is responsible for almost 600 million tons of CO₂e emissions annually, or 11% of all the emissions in the U.S. Yet agroforestry has the potential to be a significant natural climate solution.

Agroforestry practices can sequester 2 to 4 tons of carbon per acre per year in plant biomass and soil, as well as through a reduction in practices



Expanding Agroforestry Project



Thanks for joining us!

