

Sustainable Canadian Agricultural Partnership

Competitive. Innovative. Resilient.

Silvopasture In British Columbia Information Series

Unit 4. Planning and Implementation



Acknowledgment

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Silvopasture in BC Information Series Content Guide



Core Units

0. Series Overview

1. Introduction

2. Science Behind SP

3.1. SP BMPs - part 1

3.2. SP BMPs - part 2

4. SP Planning

Case Studies

2.c.1 Production Synergies:
Kootenay Tree Farms

2.c.2 Riparian Silvopasture:
Silver Hills Ranch

3.c.1 Small-lot SP: Just Another
Weed Patch Farm

3.c.2 Mature Forest to SP:
Indian Gardens Ranch

4.c.1 Planning on Crown Land:
SP Pilot Project

4.c.2 Adaptive Management at
Aveley Ranch

Supplemental Units

1.s. History of SP in BC

2.s.1. Light & Microclimate

2.s.2. Hydrology

3.s. Managing Damage

Unit 4. Planning and Implementation

Goal

Learn the importance of planning and setting measurable goals.
Understand the five key areas to explore before establishing a silvopasture.

Prerequisites

Module 3: Silvopasture BMPs.

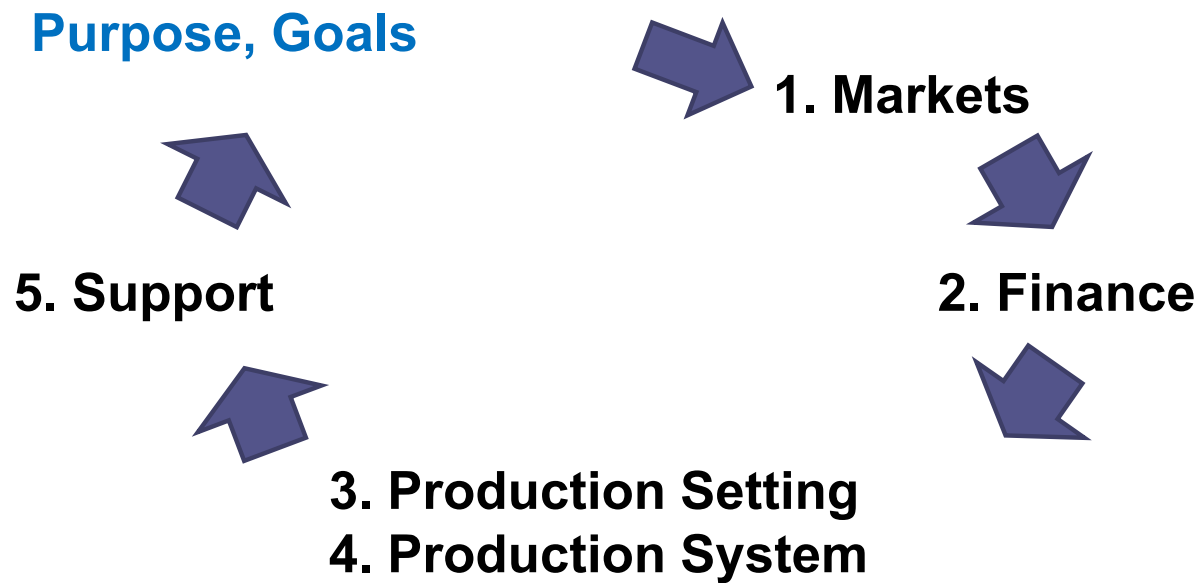
Content

1. Planning cycle as a foundation to manage risks;
2. Goals and management intents;
3. Assessing five key areas;
4. Evaluating your finances and resources;
5. Selecting a production setting and production system;
6. Evaluating support needed.



Silvopasture Planning Cycle

Five things to know before starting your silvopasture journey



Starting Point: Management Intent

Think Through and Write Down Your Goals

Begin with a purpose: Why are you interested in silvopasture?

Production diversification? Generate an income stream or offset costs?

Climate adaptation? Other conservation benefits?

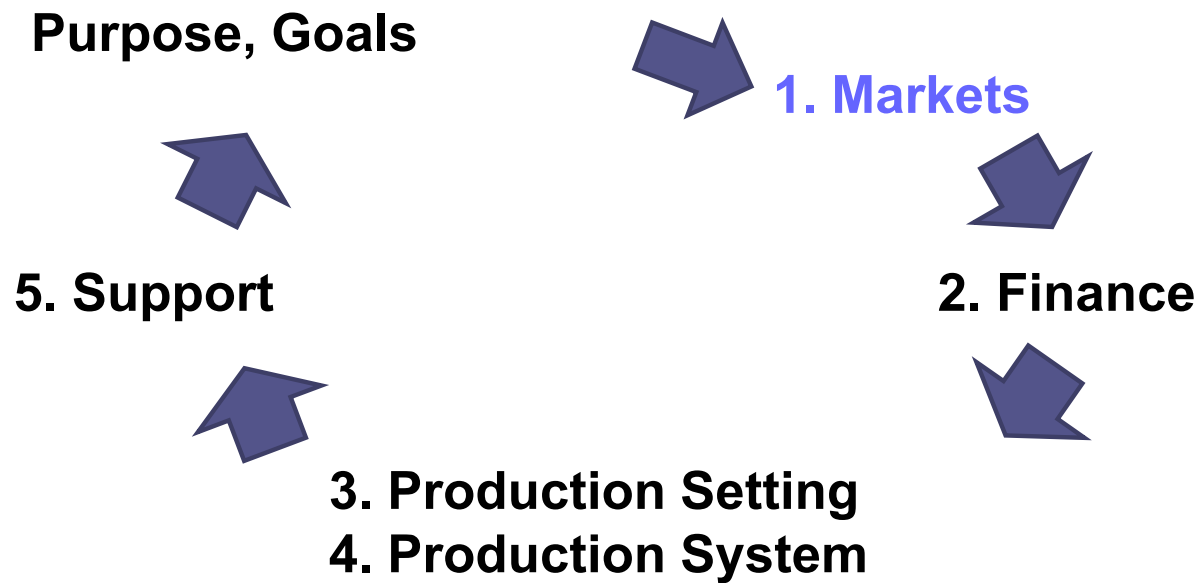
As a buffer or other landscape level tool?

A bit of each of these?



Silvopasture Planning Cycle

Five things to know before starting your silvopasture journey



Assess Markets and Marketing

Structure & Scale Production to Addressable Market

Research Market Options and Outlets:

- **Commodity** Markets
- Specialty/**Niche** Markets
- **Experiences**

Start at the Market and Work Back Towards Production



Assess Markets and Marketing

Structure & Scale Production to Addressable Market

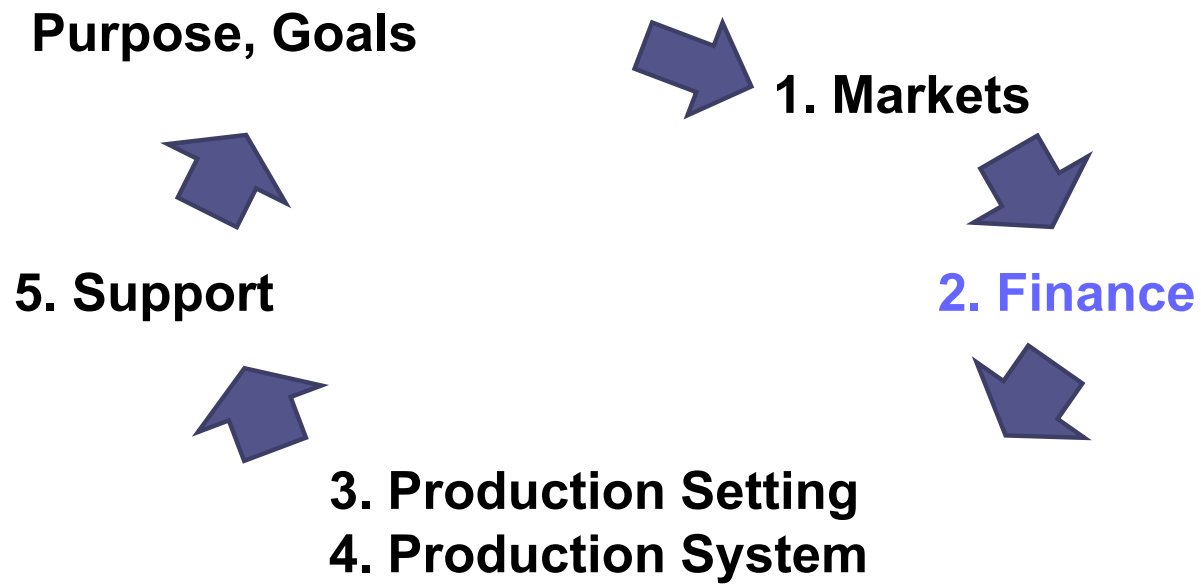
- Create a **Marketing Plan**



- Target markets
- Range of sales
- Minimum volumes
- Quality considerations

Silvopasture Planning Cycle

Five things to know before starting your silvopasture journey



Finance

How Will You Pay to Establish and Run Your Operation?

Start-up Funding

1. Self-funded;
2. Corporation or partnership, and sell shares;
3. Obtaining a term loan or line of credit.



Finance

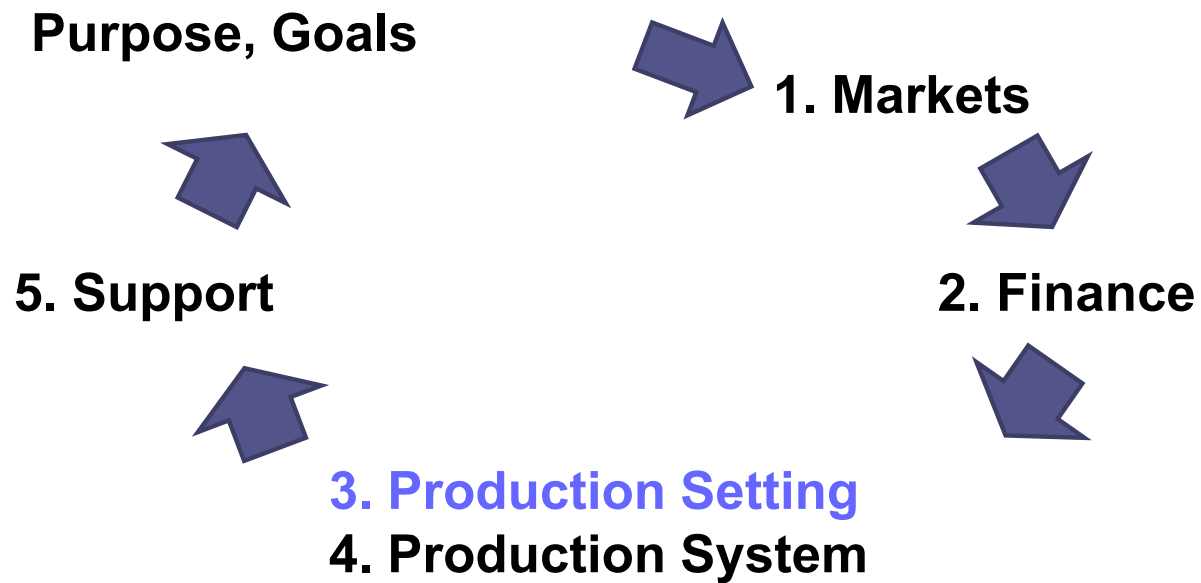
Other Financing Considerations

- **Cash flow needs:** costs up front, but returns may not start until years later.
- **Cost savings:** may not materialize until the silvopasture is well established.
- **Utilizing existing resources:** how does production fit with your equipment, facilities, labour pool?
- **Diversify, don't Di-worse-ify.**



Silvopasture Planning Cycle

Five things to know before starting your silvopasture journey



Silvopasture Production Setting

Private land, Lease or Crown Licence?

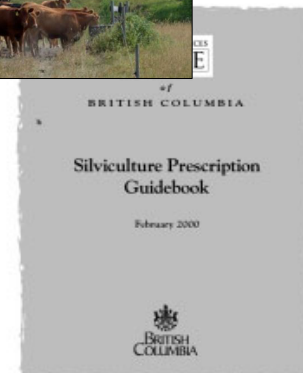
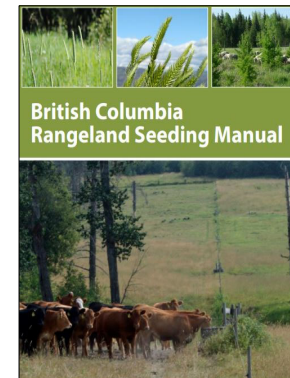
- Private land (and some leases): more control over management setting and operations.
- Crown lands: need to adhere to legislatively required licenses, planning and permissions.



Silvopasture Production Setting

Can I Grow What I Can Sell?

- Livestock: adaptable; consider water and predators.
- Forages: start with BC Rangeland Seeding Manual.
- Trees and shrub: adaptation to your farm site is key, start with Plant Hardiness Zones.
- Tree species selections can be obtained from provincial Silviculture Guidebooks.

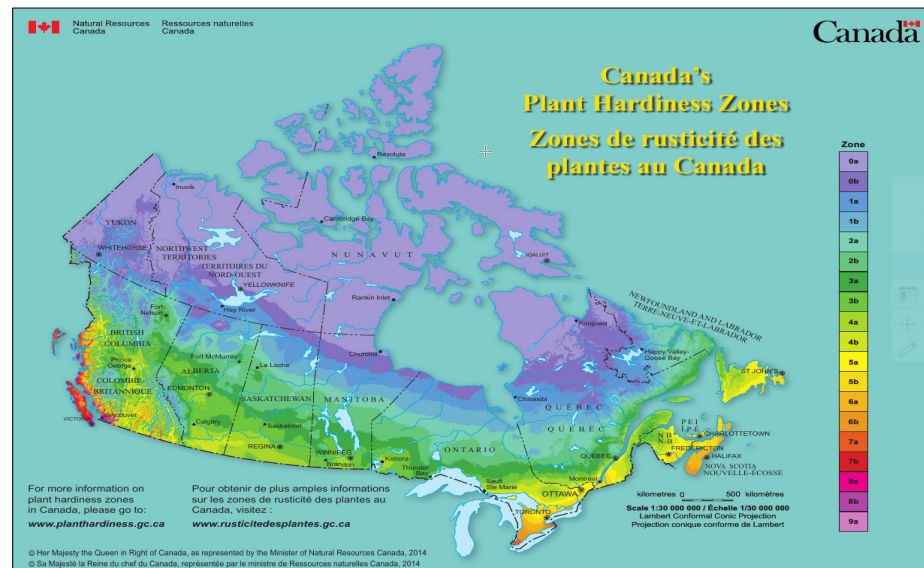


Silvopasture Production Setting

Can I Grow What I Can Sell?

Plant Hardiness Zones

- You want your crops to **Thrive**, not just **Survive**.
- Hardiness zones don't consider microclimates.



Silvopasture Production Setting

Site Preparations and Modifications

- Deficiencies can be overcome by inputs and other investments, but think cost-benefit.
- Agroforestry system will modify microclimate and resource availability as it matures.
- Sometimes you need to 'nurse' new plantings.



Silvopasture Production Setting

Other Considerations for the Location

- Climate Change: long-lived crops must consider beyond today's suitability.
- Assess if key infrastructure and other resources in place (e.g. water).
- Can you meet all the federal and provincial regulations, local by-laws?



Silvopasture Production Setting

Existing Land Cover and Use

Establishment Costs Vary Greatly

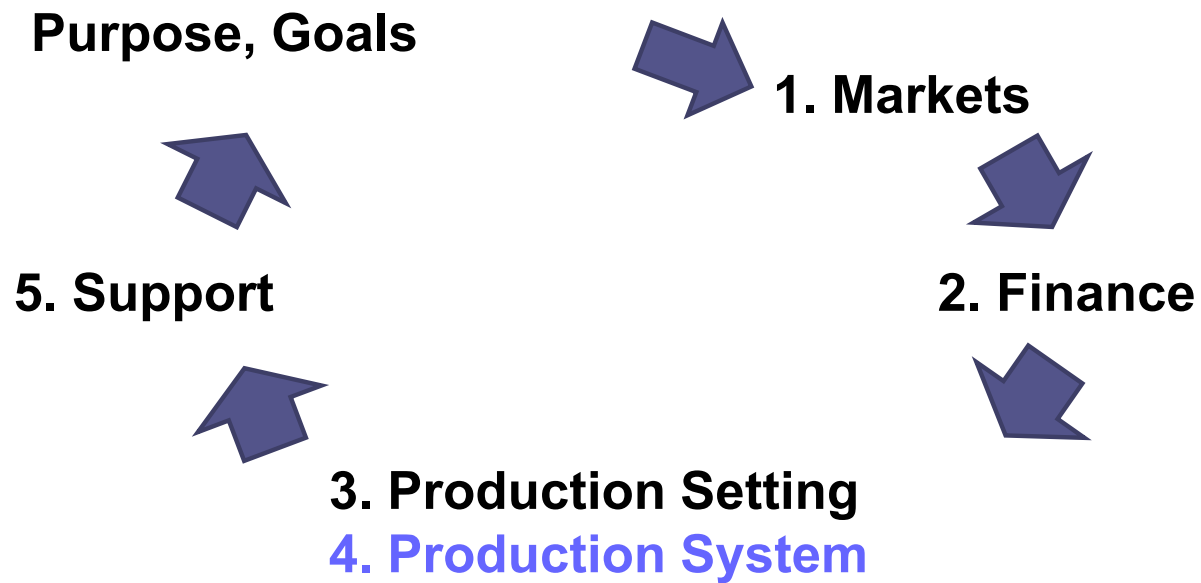
- Planting into a brown field or green field
- Thinning and pruning an immature forest
- Thinning and pruning a mature forest



Lower costs by not clearing entire area.

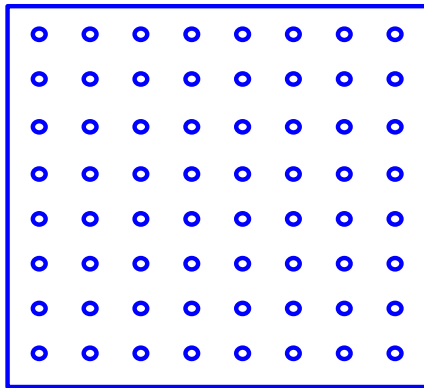
Silvopasture Planning Cycle

Five things to know before starting your silvopasture journey

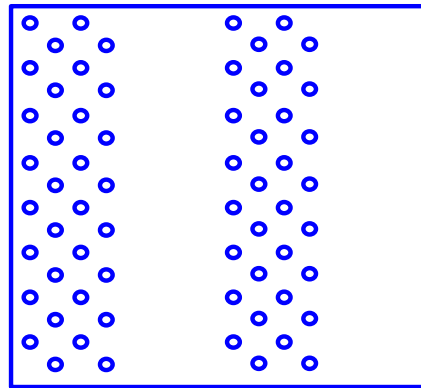


Silvopasture System Design

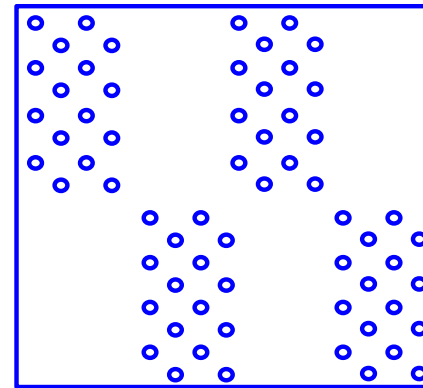
Three Patterns, With Many Variations



Grid



Multi Rows



Clusters



Silvopasture Production System

Choosing a Silvopasture Design

Consider three main elements:

- **Intent** (reason for using silvopasture, your management goals);
- **Components** (trees/shrubs, forage, livestock, secondary production); and
- **Interactions** (managing critical points of the development phases)



Silvopasture Production System

Map the Key Interactions

	Tree-Forage	Tree-Livestock	Forage-Livestock
Herbaceous	Critical	Critical	Important
Intermediate	Normal	Important	Normal
Arboreal	Critical	Normal	Normal

Silvopasture Production System

An example mapping of interactions: dairy cattle with a high-value hardwood

Phase	Trees	Forage	Livestock
Herbaceous	Competition; vegetation press; trampling damage	New stands susceptible to overgrazing	Trees not palatable: grazing reduces competition; Supplemental shelter
Intermediate	Soil-based competition; soil compaction	Improve soil tilth and nutrients	Grazing reduces competition; Supplemental shelter
Arboreal	Open-grown trees have poor form.	Light limits production.	May 'loaf' and overgraze sheltered areas

Silvopasture Production System

Design Choices – dairy cattle and high-value hardwood example

Herbaceous Phase

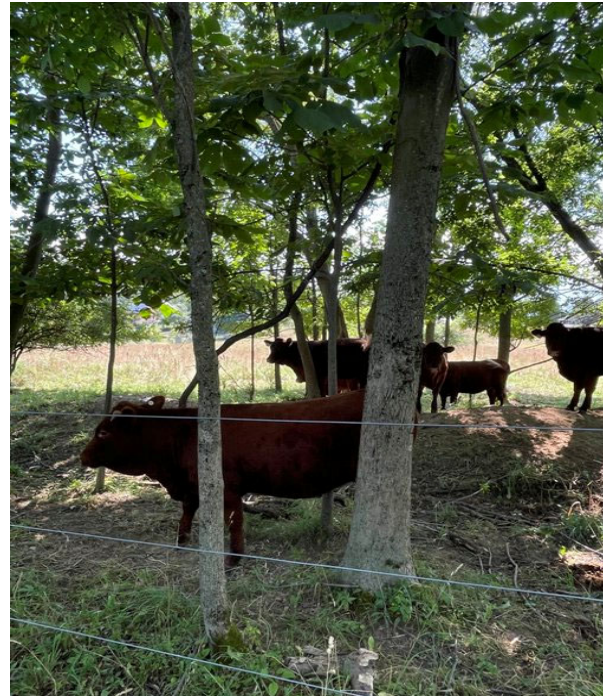
- Spatial design will not overcome critical interactions
- Use grazing for competition and tree guards to prevent damage

Intermediate Phase

- No interactions to manage.

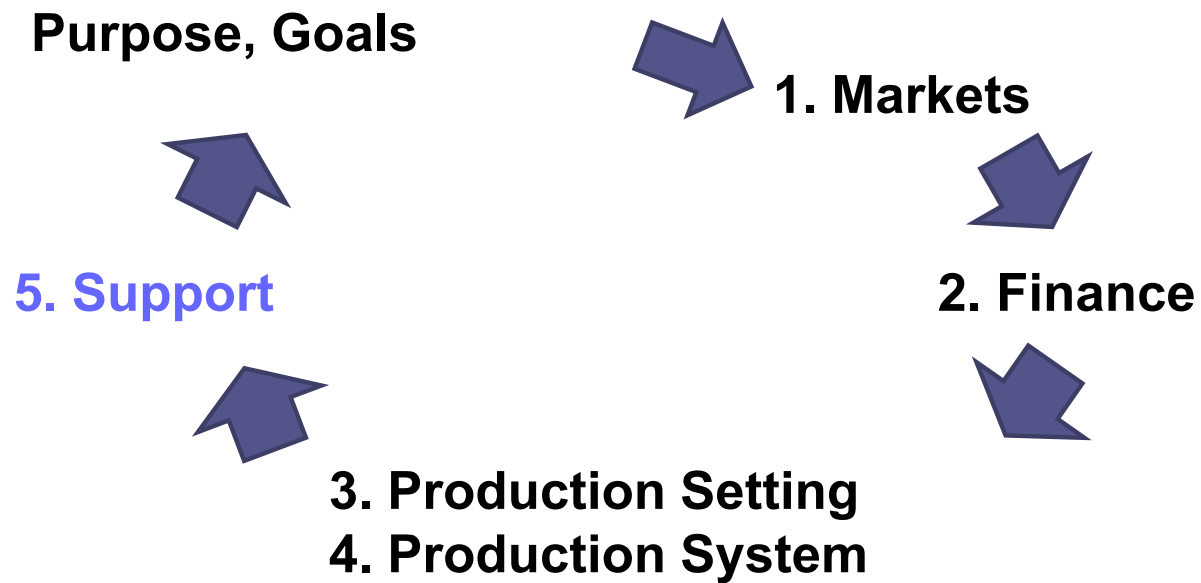
Arboreal Phase

- Pruning for tree form and light; or,
- Clusters or multi-row arrangements.



Silvopasture Planning Cycle

Five things to know before starting your silvopasture journey



Silvopasture Support

Where to Turn When You Need Help Moving Forward



**Agroforestry
Support?**



Silvopasture Support

Self Evaluation

- Leverage your own knowledge and skills.
- Make your plans adaptive and resilient.



Group Discussion

Share Your Experiences

Positive or negative outcomes from your silvopasture work help others assess suitability and build a more successful plan.



Silvopasture Support

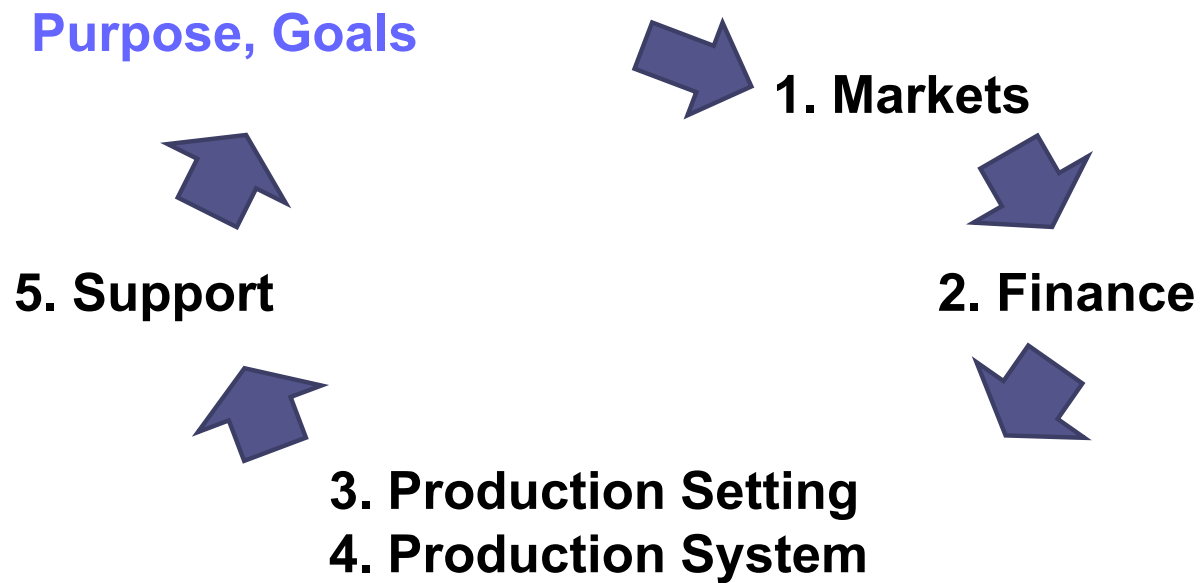
When Do You Invest in Support?

Self-Education vs Professional Assistance

	DIY, Invest in Self Education	Professional Assistance
Frequency of Information Needs	Ongoing	One-time or Special Situation
Regulations, risk management	Low	High

Silvopasture Planning Cycle

Five things to know before starting your silvopasture journey



Questions and Discussion

