

# Sustainable Canadian Agricultural Partnership

Competitive. Innovative. Resilient.

## Silvopasture In British Columbia Information Series

# Unit 1. Introduction



## **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

# Silvopasture in BC Information Series: Unit 1

## Goal

Introduce silvopasture terminology and provide the rationale and overview of the current and potential uses of Silvopasture

## Prerequisites

None.

## Content

1. Definitions
2. Advantages and Disadvantages of Silvopasture
3. Brief History of Silvopasture in BC
4. Present and Potential Uses of Silvopasture

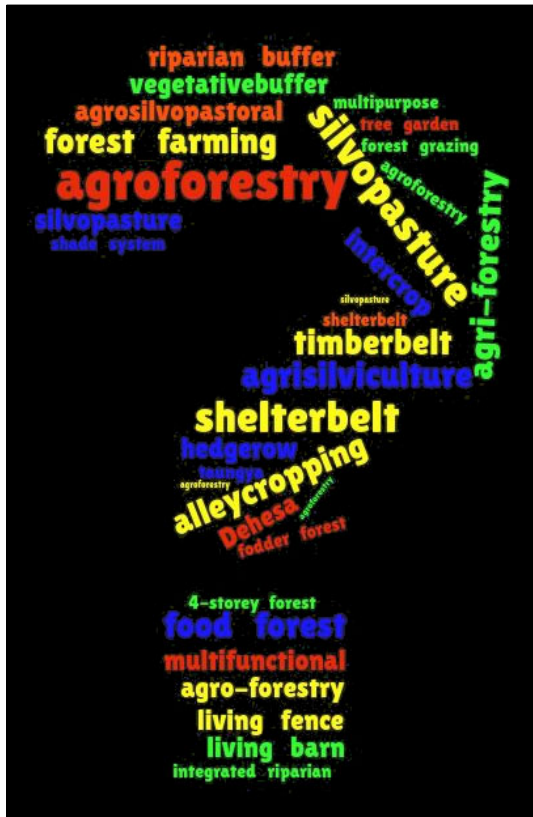


# Agroforestry

*Intentional planting or retention of trees or shrubs with other agricultural production to derive multiple benefits*



# Agroforestry



Intentions can become lost in jargon: focus on the desired outcomes



# Agroforestry and Silvopasture: Where does it fit in?

- ✓ *Sustainable Agriculture*
- ✓ *Organic Agriculture*
- ✓ *Regenerative Agriculture*
- ✓ *Conventional Agriculture*

## Silvopasture: Agroforestry for Pastures and Range



Managed Grazing + Trees and Shrubs + Forages



## **Advantages and Opportunities**

1. Production Overyielding
2. Diversification
3. Economics
4. Animal Health and Welfare
5. Conservation
6. Climate Change Mitigation
7. Climate Change Adaptation
8. Social

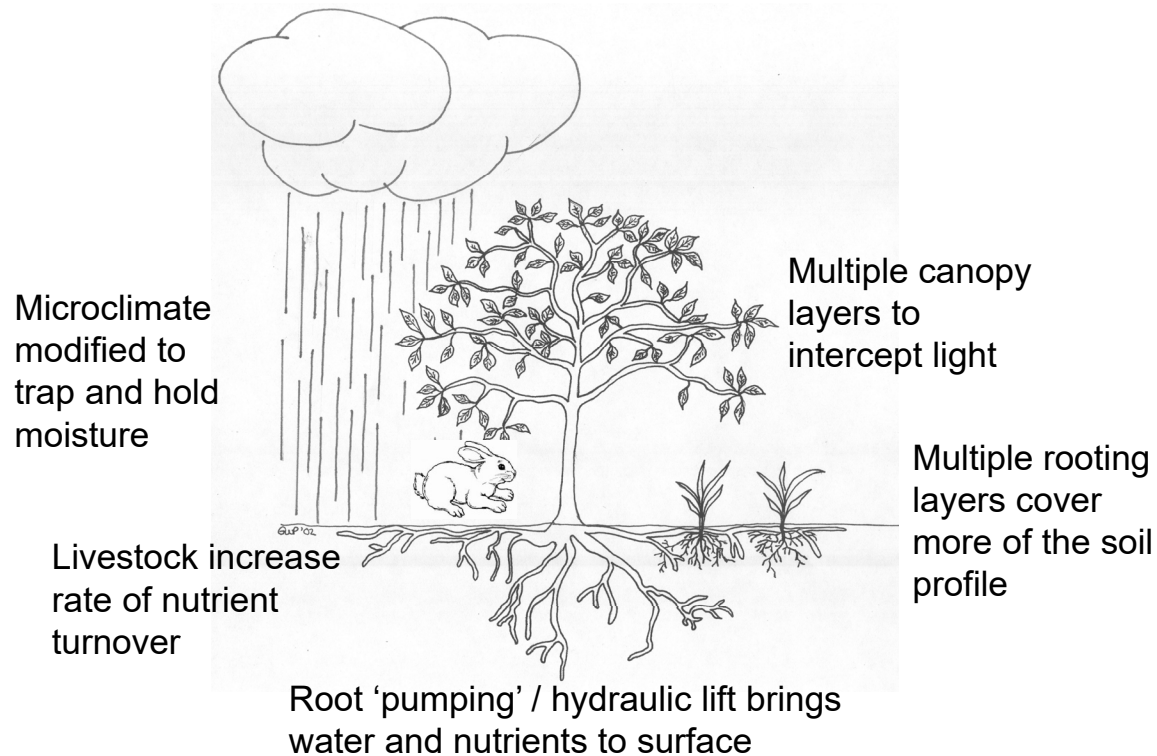
## **Disadvantages and Challenges**

1. Time
2. Complexity
3. Support



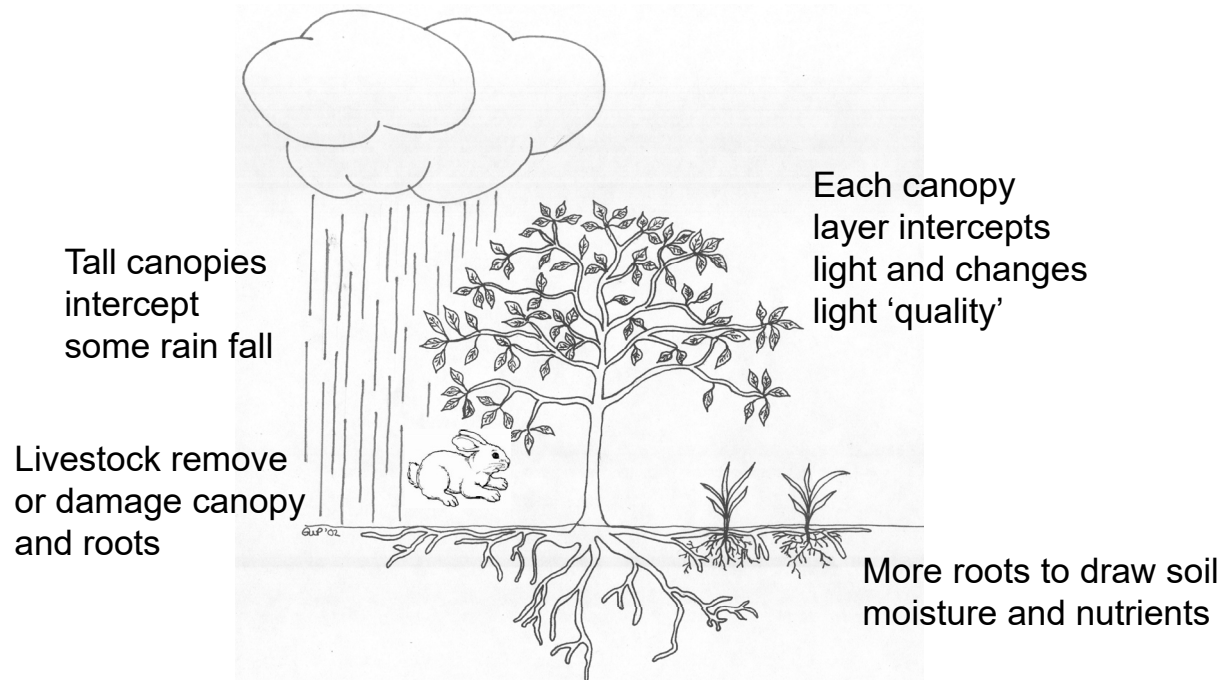
# Advantages and Opportunities: Overyielding

Better Resource Capture, Retention and Cycling  
Increased Total Production Per Unit Area



# Advantages and Opportunities: Underyielding?

However, each layer can also interfere with the others.



**Net positive outcomes result from careful design and management**

## Advantages and Opportunities: Diverse Production

Delayed forage maturity provides high quality grazing in late summer or during drought.



## Advantages of Silvopasture: Economic

- Income diversification
- Cash flow
- Full use of invested capital



*Girl With a Basket of Eggs - Joachim Beuckelaer (1707)*

## Advantages of Silvopasture: Animal Health and Welfare

- Trees and shrubs moderate body temperatures
- Trees and shrubs in livestock diets can reduce parasites & bloat
- Some livestock are 'happy' forest dwellers



# Advantages of Silvopasture: Conservation

Silvopastures can add:

**Diversity** in agricultural landscapes.



## Advantages of Silvopasture: Conservation



Silvopastures can add:

**Habitat** and travel  
corridors for wildlife.

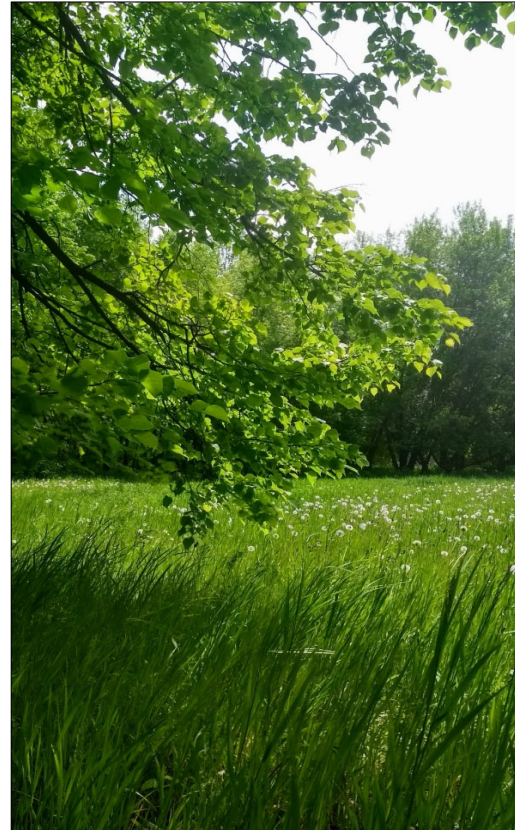




## Advantages of Silvopasture: Conservation

Silvopastures can add:

**Protection** for soil and water.



## Advantages of Silvopasture: Climate Action

Mitigation: Woody species in agriculture can be an important carbon-sink.

*Rules of thumb:*

- 50% of the dry weight of trees and shrubs is carbon.
- Each cubic metre of wood can store 1.3 tonnes of CO<sub>2</sub> emissions.
- Each mature tree removes about 30 kg CO<sub>2</sub> emissions every year, not including carbon additions to the soil.



## Advantages of Silvopasture: Climate Action

Adaptation: Helps buffer extreme weather and adjust to a changing climate.

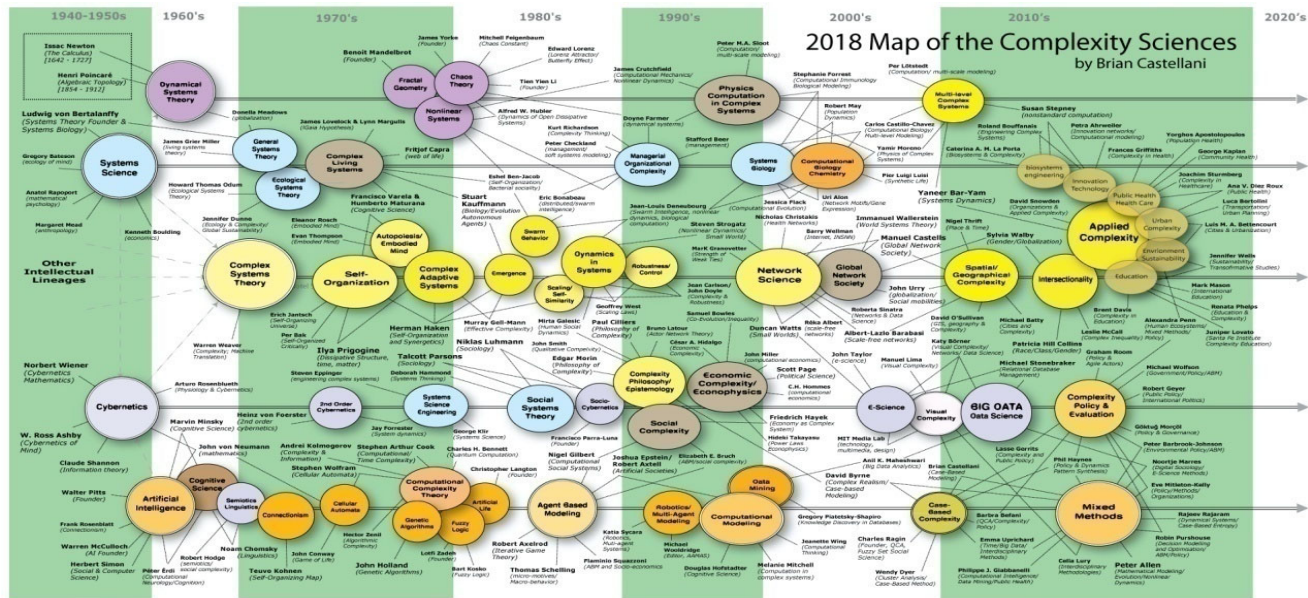


## Advantages of Silvopasture: Social Benefits



- Support rural economies
- Integrate multiple resources and multiple values
- Landscape buffers

# Challenges of Silvopasture: Complexity



**Silvopasture will not be appropriate in all situations, nor suitable for every manager.**

## Challenges of Silvopasture: Time

Very long production cycles do not suit every management goal.



# Challenges of Silvopasture: Available Support



## Break for Questions





## A Brief History of Silvopasture in BC

- BC has a long history of blending grazing and trees, starting with Indigenous people.
- Late 1800s and early 1900s: exploitation on Crown lands led to conflicts.
- Research and policy worked to ensure compatible, multiple use.
- More recently, silvopasture seen for its opportunities in creating multi-functional landscapes.



# History of Silvopasture in BC

For a detailed history please refer to supplementary module 1.s.



*1860s cattle drive to Barkerville in the Cariboo goldfields.*

## Silvopasture in Action: BC Examples



1. Overyielding: Kootenay Tree Farm, Cranbrook
2. Watershed Stewardship: Vernon Creek Silvopasture Pilot Project
3. Integrated Enterprises: Jay Springs Lamb, Pinatan Lake
4. Small-lot Silvopasture: Just Another Weed Patch Farm, Gabriola Island
5. Wildfire Fuel Breaks: Targeted Grazing, BC Cattlemen's Association
6. Incremental Forage: Timber Range Impact Mitigation Committee, Peace Forest District
7. Integrated Enterprises: Big Bear Ranch, Horsefly

## Silvopasture in Action: Overyielding



### **Kootenay Tree Farm, Cranbrook**

- Virtuous circle of production.



# Silvopasture in Action: Multifunctional Watershed Stewardship



## Vernon Creek Silvopasture Pilot Project

- Benefits shared across resource and natural values.

## Silvopasture in Action: Integrated Enterprises



### **Jay Springs Lamb, Pinatan Lake**

- Overlapping woodlot and range tenure held by same farm.
- Sheep for meat and wool, and also as a silvicultural tool.

## Silvopasture in Action: Small-lot



### Just Another Weed Patch Farm, Gabriola Island

- Transforming a 2-acre hayfield to a nut orchard with pasture-raised poultry.



## Silvopasture in Action: Wildfire Fuel Breaks



### **Targeted Grazing Pilot Project - BC Cattlemen's Association**

- Silvopasture used as a landscape buffer to lower wildfire risks.



## Silvopasture in Action: Incremental Forage



**Timber Range Impact Mitigation Committee, Peace Forest District**

- Forage alleys in dense aspen to manage livestock use

## Silvopasture in Action: Integrated Enterprises



### **Big Bear Ranch, Horsefly**

- Tree belts for multiple production and conservation benefits.

# Questions and Discussion

