



Silvopasture (CPS 381)

Part of Fibershed's Carbon Farming Education program, learn more online at: fibershed.org/carbon-farming



How are Silvopastures on working lands implemented?

- ▶ Silvopastures are managed intensively for multi use, such as forage, forest, fruit or nut products.
- ▶ These systems are established by either integrating forage and grazing into a woodland or orchard or by introducing trees into a pasture system.
- ▶ Create a grazing management plan for managing livestock grazing to maintain silvopasture productivity and function.



Benefits of Silvopastures

- ▶ Increases carbon sequestration in soils and vegetation
- ▶ Improves surface water infiltration and ground water recharge
- ▶ Recycles/enhances or improves nutrient availability from livestock excrement stimulating forage and tree growth
- ▶ Reduces erosion and improves soil and water quality
- ▶ Provides shade, protection and forage for livestock
- ▶ Enhances biological organisms, and quality and connectivity of pollinator and wildlife habitat
- ▶ Improves biological diversity
- ▶ Diversifies agricultural production and revenue streams
- ▶ Reduces fuel load and fire hazards through targeted grazing
- ▶ Reduces or eliminates chemical and mechanical vegetation (weed) control



Technical Support

- ▶ Resource Conservation District (see CARCD's [website directory](#) to find which one serves your area)
- ▶ Natural Resources Conservation Service (see NRCS's [service center](#) locator to find which office serves your area)
- ▶ University of California Cooperative Extension (UCCE) Livestock and Natural Resources Advisor (see UCANR's [website](#) to find your local advisor)



Complementary Practices

- ▶ Prescribed Grazing (CPS 528)
- ▶ Cover Crop (CPS 340)
- ▶ Forage/Biomass Planting (CPS 512)
- ▶ No-till or conservation tillage (CPS 329 and CPS 345)
- ▶ Supporting infrastructure such as: fencing (CPS 382), water development, shade points

"Agricultural land management practices can measurably increase rates of carbon sequestration, resulting in enhanced soil quality, soil water holding capacity, increased soil carbon and forage production."

– Ryals and Silver 2013



Installing and Managing a Silvopasture

Some basic questions and topics to consider when planning a Silvopasture

The Tree/Woody Plant Component

Native Woodlands, Established Orchards, or Pasture Settings

Is there existing livestock fencing around the designated area?

Can the wooded area be sub-divided to allow for Prescribed Grazing?

Water & Irrigation: How will you provide sufficient water access points for livestock in the silvopasture? Consider your access and terrain to determine the type of irrigation you will install for new plants. (For example: drip irrigation, hand water or pump water)

How will livestock access the area? Can they be walked to the area, or will they need to be moved there by other means?

For native woodlands or established orchards: Do you need to increase the available forage for the livestock in the wooded area? Can this be a cover crop that is planted with minimal tillage or disturbance? Can an alley crop be planted that will provide both forage and a crop? Is there a no-till drill for seeding available in your area?

Are there sufficient shade points for livestock if you are working with a pasture setting (livestock may need supplemental shade structures until new woody plants/trees reach maturity).

Woody Plant/Tree Species Selection & Planting

What will be the primary function of the woody plants/trees that you plant? (For ex. Provide habitat for native animals and pollinators; Provide food and/or dye crops; Provide supplemental forage for livestock) Choose plant species accordingly.

Choose plants species compatible with the soil, water, wind and light conditions of your site. (Soil samples can help assess potential nutrient deficiencies that may impact crop production and/or plant success rates)

Spacing and stand density: consider height and width of plants at maturity, and space requirements for equipment access

New plants require precautions to protect them from grazing pressure and rodents (exclusion/fencing), and a weed management strategy until they are established

If a crop will be harvested from the woody plants/trees: How will you access the site for harvesting and other maintenance (ie. pruning)?

The Livestock Component

If you already have livestock...

Do you have a Grazing Management Plan, or practice some type of planned grazing? How will you incorporate Prescribed Grazing practices into your management of the Silvopasture?

Do you have mobile electric fencing to make subdividing the silvopasture area and protecting the woody plants/trees easier?

Does the silvopasture site have heavy predator traffic? If yes, consider if you will need to use electric fencing, livestock guardian dog(s), and/or better permanent/perimeter fencing.

If you do not yet own livestock...

Are you interested in owning livestock?

YES

NO

Breed/Species selection: What is the desired primary function of the livestock (for ex. fiber, food or both; ecosystem services)? What breeds are well-adapted to your climate (for ex. ability to tolerate heat, humidity, etc)?

Are there contract grazers in your region that you can hire to graze the Silvopasture area?

Note: Livestock management will need to be adjusted to accommodate tree crops. No livestock should graze an orchard for up to 120 days prior to harvest for food safety law.



Cost References

- ▶ Cost can vary based upon trees or plants needed, livestock, and infrastructure
- ▶ California's Healthy Soils Program (2019) offers grants to reimburse silvopasture installation at a rate of \$193/acre, but silvopastures may still require additional cost share and labor input, depending on site location, infrastructure and selected plants.



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